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Risk Management Competency Development in Banks

An Integrated Approach



Eric H. Y. Koh

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ABSTRACT

Although risk management is a bank's core competence, banks still face a shortage of talent in this area. This problem cannot be addressed by short-term recruitment frenzies. Instead, one possible way is for banks to implement an integrated approach to risk management competency development which this book aims to achieve. Towards this end, we propose the pooling together of three interrelated concepts—core competencies, dynamic competencies and learning organization—because of their subtle similarities, subtle differences and complementary features.

Emanating from this aim are three objectives: (1) to operationalize the concepts by identifying the applicable indicators, (2) to assess whether banks' risk management competency development needs differ across bank demographics and (3) to assess whether we can summarize these indicators into a few meaningful themes.

To address the first objective, we reviewed studies in the context of banks or risk management which illustrate the three concepts' constituent variables. We also reaffirmed these findings through interviews with ten leading chief risk officers. This results in a compilation of 23 operational indicators which serves as a checklist.

Next, we analyzed the data obtained from a survey of 135 risk practitioners so as to address the latter two objectives. We identified the indicators whose scores significantly differ, both individually and combinatively, for three demographic differences: local- versus foreign-controlled banks, entrepreneur- versus non-entrepreneur-controlled banks and staff seniority levels. Finally, for the third objective, we summarized

the 23 indicators into five themes which are supported by statistical rules and business considerations. This provides an alternative principles-based approach for managers who may find this latter approach more flexible.

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Since young, I had dreamt of being an educator. I was inspired by dedicated teachers and lecturers. To this end, I set out to acquire industry or real-world knowledge and experience. I also embarked on further studies to broaden my options to serve in the field of education. Little did I realize that I would one day write a book which in part reflects my journey in competency development. In this endeavor, I owe so much to so many people that it would be impossible to name them all but certainly some deserve special mention.

This book traces its genesis to my PhD studies upon which I embarked after many years in the ‘real world’ of industry practice. I wish to specially thank my supervisors, Associate Professor Avvari Mohan and Professor Kim Tan, who helped me navigate the perplexing research terrain. My gratitude also goes to Dr Philip KS Tan, a dear friend who often gave wise counsel. That transition continued even upon graduation as I worked on publishing my papers. The seemingly endless editors’ rejections were heartbreaking. I was, however, fortunate to have inputs from the likes of Professors Chad Perry and Sieh Lee Mei Ling who guided and encouraged me to navigate the equally perplexing world of writing and publishing.

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Endorsements for *Risk Management Competency Development in Banks*

“An earnest attempt to broach a difficult and essential component of management. ...an admirable job by liberally peppering with real world examples that cross the boundaries of staid theories thus presenting a very pragmatic approach. Sets the tone for those who wish to master the science and art of risk management ...”

—Professor Bala Shanmugam PhD, FCPA, *SEGi University*

“I applaud Eric’s efforts in pooling together three relevant and interconnected concepts to facilitate competency development. Written in a reader-friendly manner to guide practitioners. It also discusses pertinent theoretical foundations and references for academicians.”

—Professor Kim Tan, *The University of Nottingham*

“A good and very meaningful endeavor to bridge the industry-academia gap. Written in an engaging manner by an ex-banker, it provides insightful perspectives based upon credible research and a rich hinterland for further study for both practitioners and academia alike.”

—Choo Yee Kwan, Former Chief Risk Officer of Maybank Group and Currently Non-Executive Independent Director, *HSBC Bank Malaysia Berhad*

“A great attempt to merge three concepts [for] ...risk management competency development. Offers very interesting reading and enriching learning experience!”

—Kasinathan Kasipillai, Former Group Chief Risk Officer, *Affin Banking Group*

“... a good job of laying out the theoretical approach for risk management competency development in banks. Risk practitioners and students will benefit from the concepts and ideas presented.”

—Stephen Louis Silva, Former Head, *Credit Risk Management, OCBC Bank (Malaysia) Bhd, Maybank Bhd and RHB Bank Bhd*

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CHAPTER 1

Introduction

Abstract Risk management weaknesses are key contributors to banks' financial woes. Despite being a bank's core competence, good risk management talent is scarce. One way of addressing this scarcity is to run the proposed integrated approach to competency development. This approach pools together three interrelated competency development concepts of core competency, dynamic competencies and the learning organization.

This book aims to build an integrated approach to facilitate continuous competency development for a bank's risk management function. We also specify three objectives, which emanate from this aim, namely, (1) to translate the concepts into actionable indicators, (2) to identify the indicators whose scores significantly differ across demographic group comparisons and (3) to summarize the indicators into a few themes.

Keywords Risk management • Competency development • Aim • Objectives

1.1 INCREASING IMPORTANCE OF RISK MANAGEMENT COMPETENCY DEVELOPMENT

The 2007–2009 Global Financial Crisis is the largest single economic upheaval since the 1930s Great Depression. Barely a decade earlier, the US property prices had reached dizzying heights and seemed to defy gravity. Many, lured by the property frenzy, borrowed heavily to supposedly invest. Many others rode on the property boom to refinance their homes with even larger loans. Meanwhile, banks were adding fuel to the fire through lucrative but complex products called exotic financial instruments. These exotic financial instruments attracted investors worldwide, and hence, the subsequent US property market crash would subsequently have global reach (Lund, Manyika, Mehta, & Goldshtein, 2018).

Furthermore, securitization accelerated the transmission of the property market crash. Securitization is the process of pooling together loans which are in turn repackaged into smaller units of securities. These securities are sold to investors who hope to receive future cash flows which emanate from the originating loan principal repayments and interest income. The proceeds from the sale of these securities effectively provided the banks with an easier alternative source of funding. In other words, the banks were able to pledge these securities as collateral so as to borrow more to fund their incremental lending activities. While loans extended to better credit quality borrowers had tapered off but with balance sheets still expanding, banks compromised their lending standards. They gave out increasingly more subprime loans, that is, to borrowers of lower credit quality. These subprime loans eventually entered the securitization process. In other words, banks went to the extent of ‘borrowing by pledging bad loans as collateral’ (Shin, 2018, p. 2). Hence, the effect of the subprime and bad loans was magnified and transmitted more quickly in the banking system.

Moreover, mortgage brokers who originated the mortgage loans were quickly churning fees by selling mortgage-backed securities to investors. But often, these brokers did not properly assess a borrower’s underlying creditworthiness. This is because these brokers were incentivized by sales volume rather than the borrower’s creditworthiness. They wanted to quickly sell off the securities rather than really having the investors’ interest at heart. These brokers were also encouraging households to unduly stretch their borrowing capacity to take up mortgage loans, a problem compounded by lax regulations on the originator brokers (Mishkin, 2016).

When the US property prices crashed, many people lost their jobs because of the depressed economy. Many could not repay their loans and banks took possession of their homes. As a result, ‘millions lost their jobs, their homes, and their savings’ (Lund et al., 2018, p. 1). Banks became more cautious and it became harder to obtain loans. Consequently, the economy suffered a liquidity crunch and went on a downward spiral. The Global Financial Crisis also led to the fall or near-failure of once highly respected global financial giants, such as Lehman Brothers, Bear Stearns and Citigroup (*Bloomberg*, 2012, p. 516). The effects were far-reaching, and the US government alone spent some USD 475 billion in bailouts (Pizzani, 2012; U.S. Department of the Treasury, n.d.).

Despite the lessons learned and regulatory reforms, leading global banks still hog the headlines for the wrong reasons. Over the ten years following the Global Financial Crisis, regulators worldwide fined banks more than USD 375 billion for various misconducts (Wright, 2017). Some examples include Barclays and HSBC being charged for manipulating interbank rates reporting and money-laundering financing, respectively. Further, JP Morgan Chase, widely regarded as a global role model for risk management, suffered a USD 6 billion trading loss and was fined USD 750 million for engaging in securities fraud (Hurtado, 2013). In fact, Gordon Brown, the former British prime minister during the Global Financial Crisis, laments a decade later that the British banking system ‘has failed to learn many of the lessons from the 2008 financial crisis’ (Arnold, 2017).

Drawing from the above discussions, we see many reasons for the banks’ woes. These include the unprecedented property market crash, mismanagement of complex exotic financial instruments and the securitization of bad loans—all of which point mainly to the banks’ lack of risk management competency. And this lack of risk management competency persists even after the Global Financial Crisis. Banks find it hard to source suitably qualified risk management professionals because (1) the demand for risk management professionals has increased very sharply, (2) university curricula have not kept up with the changing needs of risk management and (3) the compensation packages are unattractive (Arnold, 2017; Tadros, 2018). This is both ironic and disturbing since risk management lies at the core of banking business. Today, in the midst of global economic uncertainties and challenging global banking regulatory requirements, banks are cutting back on investment banking operations but desperately scouting for good risk management professionals. But such

knee-jerk reactions in the form of recruitment frenzies are by themselves insufficient for at least three reasons. First, relentless staff pinching leads to increasing demands of an increasingly scarce resource. This causes risk professionals to demand skyrocketing pay packages which are not sustainable for the banks. Second, increasing staff turnover may shorten the risk management professionals' stint with each bank. Shorter stints may in turn mean that these professionals at the junior and middle management levels may have inadequate depth in skills or knowledge when other banks desperately poach them for more senior positions. Third, even if good risk professionals are recruited, they would be ineffective if they have wrong attitudinal traits, such as being overly individualistic rather than being team players. This would result in the recruiting bank being unable to properly integrate such risk management professionals.

The foregoing discussions suggest that banks need a more deliberate, proactive and sustainable longer-term solution to develop their risk management competency instead of a knee-jerk short-term reaction. A widely accepted definition of 'competency' is that it refers to the appropriate knowledge, skills and attitude to perform a job well. In short, competency refers to the right traits of the head, hand and heart. Competency relates not only to abstract head knowledge. Knowledge without skills (i.e. taking appropriate action in an organizational setting) is not of much use. Likewise, if one has the right skills to perform a job but has a bad work attitude, this may not benefit the firm. Finally, if one has the right attitude but does not have, or is not given, the opportunity to acquire the right knowledge and skills, one may not perform well too. Hence, all three aspects of competency, namely, the right knowledge, skills and attitude, are needed. Indeed, banks need an integrated approach to competency development—one that is more overarching, comprehensive and sustainable—which is what this book endeavors to discuss in a more granular, user-friendly and practical manner.

1.2 CAN BANKS HAVE A SUSTAINABLE RISK MANAGEMENT COMPETENCY DEVELOPMENT APPROACH?

The ongoing debates over the banking debacles seem to cast doubts as to whether banks will ever learn from their mistakes (Aitken, 2014) or can regain public confidence. If a bank needs an integrated or a more comprehensive approach to competency development, where should it begin and

what should it do? Would a bank be caught up in overwhelming details such that it misses the forest for the trees?

Perhaps, three examples of unlikely sports heroes may offer some indicative guidance, hope and motivation. The first is Croatia's soccer team's amazing exploits at the 2018 World Cup soccer tournament. Croatia, a small, young and previously war-torn country, created shock waves at the world's largest sporting event, the World Cup soccer tournament. It did not have much funds, infrastructure and long-term plans for sporting prowess. Yet, Croatia defied the odds by beating highly ranked teams before losing to eventual champion and seasoned campaigner, France, in the finals. Croatia's remarkable achievement is attributed to several reasons. Most of its players play in top foreign clubs across Europe. These players sharpen their skills by learning from good foreign coaches, practicing and competing alongside some of the world's best players. Moreover, they demonstrated tremendous teamwork. Its captain, the gifted Modric, led by example as evidenced by his widest field coverage during the tournament, often taking on roles beyond his midfielder position's responsibility. Indeed, all the players 'pull[ed] hard in the same direction' (Lewis, 2018). Additionally, the players' inner strength and determination were molded by their growing-up years during the bloody Balkan War.

The second example is Denmark's 2016 Thomas Cup badminton victory. Denmark became the first non-Asian badminton team to win the coveted Thomas Cup since its inception in 1949. Despite hailing from a much less populous country (of 5.6 million) and from a region where soccer dominates, the Danes beat their more fancied rivals from badminton-crazy Asian nations, such as Indonesia and Malaysia which have populations of 250 million and 30 million, respectively. Again, this was not achieved overnight. The Danes achieved success only after their ninth attempt as a Thomas Cup finalist, finally breaking the jinx of being the nearly team. Denmark's vast network of badminton clubs throughout the country helps facilitate the continuous development of talent. They also benefited from the 22-year guidance of a Chinese national coach who infused new techniques and customized programs to stretch the individual top players' potential.

The third example is English football club Leicester City's triumph in the 2016 English Premier League soccer. It won for the first time in its more than 20-year history dominated by the 'Big Four' clubs of Arsenal, Chelsea, Liverpool and Manchester United. In fact, Leicester City was

almost relegated from the prestigious league a year earlier. Its players were fairly unknown, and its recruitment cost dwarfed in comparison with those of other major star-studded teams. The secret to their success was their regular team reorganization to maximize joint team performance. Leicester City's manager was also able to mobilize the players such that they played not as individuals but as one cohesive team. Moreover, its then owner, Thai tycoon Vichai Srivaddhanaprabha, connected well with the team and endeared to the local fans. This provided inspiring leadership, hope and local support to the team.

In brief, these three sports examples provide some guidance, hope and motivation for the many banks which may be grappling with risk management challenges. Just as Rome was not built in a day, tackling a bank's risk management challenges is not an instant fix. Instead, it calls for an effective competency development program which facilitates the continual flow, renewal and revitalization of talent pools. And when seemingly ordinary individuals are properly mobilized or integrated into a team, together, they could move mountains. We can also infer from these sports examples that such competency development programs may contain features such as being able to leverage talent diversity, stretch competencies, infuse new techniques even from external sources and prioritize joint team performance over individual glory.

1.3 THE AIM OF THIS BOOK

While much has been published on attributes of a good risk professional, there is little user-friendly guidance on an integrated approach to competency development at the risk management function level. Existing publications tend to focus on specific aspects. For instance, banking publications such as Bessis (2015) or Jiang, Yao and Feng (2013) focus on technical finance, regulatory or risk matters but not on the softer but important human development aspects. Next, human resource and organizational learning publications, such as Schilling and Kluge (2009) or Chiva, Ghauri and Alegre (2013), focus on human engagement or development notional concepts but not on how these may be applied to facilitate continuous competency development in the context of a bank's risk management function.

Further, although strategy publications discuss firm-wide competency matters, they also focus on specific aspects. There are three popular strategy concepts which discuss competency matters. They are core competen-

cies, dynamic competencies and the learning organization popularized mainly by Hamel and Prahalad (1994); Teece, Pisano and Shuen (1997); and Senge (2006), respectively. While these concepts are widely accepted, the publications are still conceptually oriented and lack granularity (Ambrosini & Bowman, 2009). Besides, the illustrations have been mainly in the contexts of tangible product-based industries but not much in the context of intangible service industries such as banking (den Hertog, van der Aa, & de Jong, 2010).

Moreover, although these concepts provide useful insights, each seems to progress in isolation. For instance, the core competencies concept studies how some less-established Japanese electronics firms overtook their more-established US competitors (Hamel & Prahalad, 1994). The Japanese firms delighted customers by introducing products with superior functionalities which customers loved but were not yet able to envision or articulate. The core competencies concept focuses on how a firm should continuously stretch its competencies so as to extend its product offerings. It promotes the formation of cross-functional teams so as to break down silo views typically found within each department. With diversity of views and competencies from cross-functional team members, they challenge one another's views. In the process, the firm stretches its competencies and extends its product offerings as seen in the case of Canon's multifunctional copier-printer-scanner machines and NEC's foresight in leveraging the convergence of computers and communications.

While the core competencies concept focuses on continuous stretching of competencies and extending products being offered, it does not discuss how a firm should build its fundamental or baseline competencies which are equally, if not more, important. This aspect is covered in the dynamic competencies concept which focuses on how firms can adapt well to external changes. This is done by considering external developments and how such developments may affect the firm. The firm should then build or acquire pertinent competencies so as to adapt to such external developments (Helfat et al., 2007). The firm should also reconfigure its competencies regularly such that irrelevant competencies are removed. Additionally, it should also actively and regularly reexamine and rearrange its competency profiles so that it is able to adapt well to dynamic external changes.

Both the core competencies and dynamic competencies concepts, however, seem silent on the sociopolitical aspects which may affect firm-wide competency development (Wilden, Gudergan, Nielsen, & Lings, 2013).

After all, the human behavioral aspects may reinforce or hinder the impact of competency development initiatives. These aspects are discussed under the learning organization concept for which there are at least three slightly different definitions found in Senge (2006), Marsick and Watkins (2003) and Garvin, Edmondson and Gino (2008). Nonetheless, they converge in that they focus on a firm's ability to learn continuously and collectively.

Senge's notion considers one more item: the staff members' engagement in crafting the firm's desired future outcome. In this book, we adopt Senge (2006) because of this additional consideration and also because of its popularity. The learning organization concept focuses on building an environment which is conducive to firm-wide continuous learning. It considers three aspects: aspiration, reflection and conversation and understanding complexity.

First, aspiration refers to the idea that each staff member should expend his personal capacity to achieve output which is consistent with what matters most deeply to him. And what matters most to him and to each of his colleagues should largely align toward that of the firm. It is only when individual and collective firm aspirations align that individuals are truly motivated to deliver what matters most to the firm. Second, reflection and conversation call for the framing of mental models which are continuously being reflected upon and refined. Moreover, the staff members converse, learn and think together beyond individual silos and in coordinated ways so as to generate excellent outputs for the firm. Third, understanding complexity or systems thinking calls for the staff to view events beyond narrow individual perspectives. They should consider how these events may interrelate as part of a larger system. This enables staff to act more in tune with the bigger picture of events. The learning organization concept, however, appears to rely on internal resources. It seems silent on the use of external means to sense external developments as explicitly promoted by the dynamic competencies concept.

The foregoing discussions of these three strategy concepts suggest that they complement one another because each concept focuses on one aspect of competency development. The core competencies concept focuses on the stretching of competencies, while the dynamic competencies concept focuses on adapting to external changes and the learning organization concept focuses on building an environment which is conducive to continuous learning. But all the three aspects are required to facilitate continuous competency development. At the same time, there are also subtle similarities and differences. For instance, all three concepts are subtly simi-

lar in that they promote collective learning. The core competencies concept promotes the adoption of a non-silo view by forming cross-functional teams. Likewise, the dynamic competencies concept calls for staff members to work together to build competencies. And the learning organization concept encourages reflection and conversation among staff members to foster continuous learning. Yet, they also differ subtly because the learning orientations differ. The core competencies concept promotes cross-functional debates to enhance learning. The dynamic competencies concept explicitly includes learning from and leveraging external parties. And the learning organization concept focuses on firm-wide learning in coordinated ways.

These three concepts should be integrated to address the aim of this book because all three aspects should be considered. Moreover, although the concepts are subtly similar, they have subtle differences too; hence, integrating them would not result in duplication. It follows, therefore, that this book aims to build an integrated approach which facilitates continuous competency development. This is done by integrating three inter-related strategy concepts—core competencies, dynamic competencies and learning organization—as opposed to studying each in isolation. In addition, we strive to discuss this integrated competency development approach in a user-friendly manner with minimal allusions to complex theoretical and statistical matters. This departs from typical academic journal articles which tend to assume some background knowledge because of the need to be succinct. These articles also tend to be complex in terms of their theoretical and statistical content.

1.4 THREE SPECIFIC OBJECTIVES

More specifically, this aim will be discussed under three objectives. First, extant studies on these three concepts have been mainly conceptual and abstract in nature (Ambrosini & Bowman, 2009; Danneels, 2010). Hence, the first objective is to translate the three concepts into actionable or operationalized indicators which can be applied to the context of competency development for a bank's risk management function. This provides granular guidance akin to that of a checklist. Without such guidance, the discussion would merely be conceptual in nature and may not provide sufficient help to the risk management function.

Second, this book aims to assess whether the importance attached to the indicators significantly differ across demographic groups of banks. The

first demographic comparison pertains to ‘local- versus foreign-controlled banks’. The foreign-controlled banks are perceived to have advantages such as having access to their parent banks’ heightened resources and competencies. However, the foreign-controlled banks may have less depth in understanding local markets and customer relationships. Further, since the foreign-controlled banks are part of their respective international banking groups, they are more vulnerable to international risks because of exposures to larger international operations (Adams-Kane, Caballero, & Lim, 2013; Daniel, 2011; Harle et al., 2010). Although there are banking publications on local- versus foreign-controlled banks, such as those cited above, there is no known empirical-based publication which discusses the differences in their competency development needs.

The second demographic comparison pertains to ‘entrepreneur- versus non-entrepreneur-controlled banks’. Entrepreneur-controlled firms may take an intergenerational or longer-term sustainability approach when compared with their institutionally controlled counterparts (Thomas, 2009; Wong, 2010). Hence, the entrepreneur-controlled banks may be more conservative in their risk perspectives. But Haw, Ho and Hu (2009) find that banks which have larger shareholder concentrations generally have higher insolvency risks. This risk is, however, driven by the nature of the controlling owners and the institutions in the countries concerned. It is, therefore, unclear as to whether and how these banks may differ in their competency development needs.

The third demographic comparison relates to ‘seniority levels’ of staff members. Most management guidelines and competency frameworks outline the different levels of proficiency expected of different staff seniority levels. The junior staff would tend to perform the more routine, structured or operational tasks, while the more senior staff would perform more complex tasks which require a greater sense of judgment. Since staff of different seniority levels perform different tasks and are exposed to issues of differing dimensions, they may have different perspectives of a bank’s competency development needs or emphasis. In sum, this book is likely to contribute toward understanding the different competency development needs of banks according to three demographic group comparisons, namely, the local- versus foreign-controlled banks, the entrepreneur- versus non-entrepreneur-controlled banks and staff of different seniority levels.

Finally, the third objective is to explore the feasibility of grouping together correlated indicators to meaningfully summarize them into a more manageable list of themes. This is because it is likely that there may

be many indicators which constitute a long checklist. While this checklist may help provide granular guidance, we may want to explore whether we have an option to adopt an alternative approach involving a shorter broad-based list of themes. This is based on the preceding discussion that some indicators may correlate because the concepts have some subtle similarities. Furthermore, the indicators which correlate may converge on similar themes.

From the foregoing discussions, we may specify the three research objectives as follows. In the context of a bank's risk management function, we endeavor to:

- RO1. Translate the competency development concepts into operationalized indicators
- RO2. Assess whether different bank demographic groups attach different levels of importance to the indicators
- RO3. Explore the feasibility of summarizing the indicators into a few meaningful themes

Figure 1.1 summarizes the foregoing discussions by illustrating the book's aim and the three emanating research objectives.

1.5 EXPECTED CONTRIBUTION

The three main contributions that can be expected from this book are as follows. First, it aims to develop an integrated approach to competency development. The pooling of three concepts—core competencies, dynamic competencies and learning organization—differs from existing publications which have hitherto studied each concept separately. Second, this book discusses the differences in the importance of the indicators as accorded by respondents of banks in different demographic groups. The impact of demographic differences provides useful insights into the differing priorities and, hence, facilitates planning for different types of banks. Third, since the three concepts are interrelated, some of their conceptual variables and indicators are also probably interrelated. Hence, the grouping together of like indicators into a few themes may help enhance the clarity and efficiency in prioritization and ease of expandability on a regular basis.

These three expected contributions correspond to the three specific objectives which emanate from the aim of this book. To address these

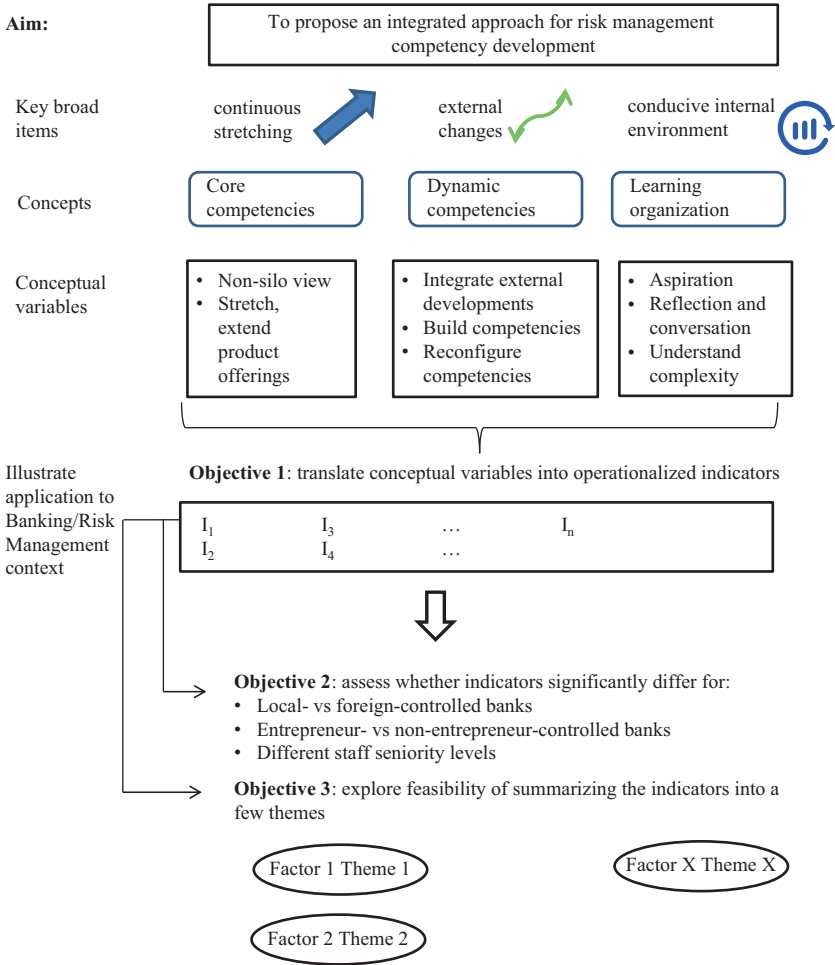


Fig. 1.1 Aim and objectives of this book

objectives, we review publications—not only in the three strategy-related concepts but also those in the banking or risk management context. The understanding obtained through this review of publications was verified through an analysis of interviews with ten leading chief risk officers (or their appointed representatives) of banks located in Malaysia. Malaysia was chosen because its banks generally adopt global best practices in banking

(The World Bank & International Monetary Fund, 2013). Moreover, it is an emerging economy which is transforming into a high-income nation. Thus, the findings from a study of banks located in Malaysia are likely to be relevant to both developed and emerging economies. Finally, in order to obtain a wider reach, we survey risk management professionals in Malaysia via a questionnaire. We study the data from the survey using discriminant and factor analyses to address the second and third objectives, respectively.

1.6 ARRANGEMENT OF THIS BOOK

The remainder of this book is arranged as follows. Chapter 2 focuses on the findings and implications thereof pertaining to the first objective, namely, to translate the conceptual variables into actionable indicators applicable to the context of a bank's risk management function. It also outlines the work done to identify the indicators in the first objective. Chapter 3 focuses on the findings pertaining to the second objective, namely, to identify the indicators which significantly differ across different bank demographic groups. It also discusses how practitioners and public policy-makers may use these findings.

Chapter 4 focuses on the findings pertaining to the third objective, namely, to meaningfully summarize the indicators into a few themes. It also describes how practitioners may use this summarized version for brainstorming and updating competency development initiatives. Besides, we outline the work done to summarize the indicators into a few themes. Finally, Chap. 5 concludes by summarizing the findings in relation to the aim and objectives. It also reflects on the limitations of this book and potential areas for future work.

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Formulating the Risk Management Competency Development Indicators

Abstract This chapter seeks to address the first objective of operationalizing the three competency development concepts and their conceptual variables into actionable indicators. Section 2.1 traces the evolution of these key competency development concepts. It culminates in three pertinent strategy-related concepts and discusses their respective key themes and conceptual variables. Section 2.2 summarizes the strengths, foci and limitations of each concept. It argues that the concepts are uniquely inter-related and complement one another. This leads to a proposed integrated framework which pools together the three concepts toward addressing the aim of this book. Section 2.3 discusses how we translate the variables into operationalized indicators through literature reviews and experts' reaffirmation.

Keywords Operationalized indicators • Interrelated concepts • Integrated framework

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2.1 THE THREE CONCEPTS AND THEIR VARIABLES

2.1.1 *Background*

The motivation for studying competency development is to sustain and enhance a firm's competitive advantage. This significantly departs from the early 1800s agrarian era during which economists, such as Ricardo, point to natural endowments as the main source of competitive advantage. In fact, economist Auty, who coined the term 'the natural resource curse' in 1993, argues that many resource-rich countries tend to underperform compared with their resource-poor counterparts. Among the reasons for this apparently counterintuitive phenomenon is the tendency to crowd out industrialization efforts, the tendency for armed conflicts to control these resources and the lack of impetus toward building stronger institutions (Frankel, 2010).

Schumpeter argues that in the 1930s and 1940s, economic development was driven by competitive forces. More specifically, in order to stay ahead, Selznick asserts that in the 1950s a firm needed distinctive competence. Meanwhile, during that decade too, Penrose proposed a theory of the firm. Penrose claims that a firm's possession of, and how it uses, its unique resource bundles lead to different firm growth trajectories. In fact, Penrose's idea of unique resource bundles should also extend to firm competencies because the latter are also firm resources which can be used to build competitive advantage.

In the 1980s, Porter's influential work on an industry's competitive structure and how a firm should position itself seems to have overshadowed Penrose's theory of the firm. Porter's work departs from the theories thus far which focus on a firm's internal resources. Instead, Porter stresses the importance of studying the five forces which drive an industry's competitive structure, namely, threats arising from product substitution, barriers to entry, intra-industry rivalry, bargaining power of buyers and bargaining power of suppliers. In light of these five forces, Porter proposes that firms should position themselves appropriately to derive sustainable competitive advantage.

Despite being popular till today, Porter's proposition of external repositioning is much more challenging to execute in environments of extreme market volatility and uncertainty. Thus, the study of a firm's internal resources seems to have resurrected. Building on Penrose's work, Wernerfelt and, subsequently, Barney popularized the notion of the resource-based view of the firm. This view analyzes resources and the special attributes thereof to facilitate the attainment of sustainable competi-

tive advantage. The VRIN special attributes relate to resources which are valuable, rare, inimitable and non-substitutable. Barney reasons that firms which have or have access to VRIN resources would have opportunities to enjoy at least a decent period of sustainable competitive advantage.

It was only in the 1990s that practitioners took notice of competency development concepts via Prahalad and Hamel's breakthrough *Harvard Business Review* article on core competencies which was presented in 'a compelling managerial style' (Wernerfelt, 1995, p. 171). The following subsections discuss, in a cumulative manner, Prahalad and Hamel's core competencies concept and two other pertinent streams, namely, dynamic competencies and the learning organization.

2.1.2 Core Competencies

Prahalad and Hamel had studied how some lesser known Japanese firms leapfrogged their more-established American competitors in the electronics industry. Somewhat akin to the David versus Goliath showdown, the Japanese firms' feats were all the more amazing because they were smaller and had far less resources compared with their American competitors (Hamel & Prahalad, 1994). These firms' success stories were attributed to their abilities to launch products which took the market by storm. The products had superior functionalities which were not yet articulated by customers.

For instance, how did Canon displace Xerox (a firm ten times its size) as the world's best-selling photocopiers? In the 1970s and 1980s, Xerox was a long-established top producer of bulk photocopy machines. Canon, on the other hand, started off as a camera company but went beyond the conventional narrow end-product view as a leading camera producer. Instead, Canon viewed its core competence as 'imaging and microelectronics and [hence]...will take up any opportunity to leverage that competence' (Hamel, 1993, p. 151). Put another way, Canon saw itself as comprising various competency bundles rather than silo product divisions. Canon used these competency bundles efficiently across various product lines, such as cameras, copiers and printers. Canon also stretched its core competencies to launch superior products, such as the personal multifunctional machine which copies, faxes, prints and scans documents.

The ideas behind such products came from the multifaceted views of cross-functional teams. Canon's success, like most other cases cited, stems from two items which we will refer to as conceptual variables. These two variables are the adoption of a non-silo view and the continuous stretching of competencies so as to extend product offerings. First, the non-silo view

approach means that these firms do not restrict their product functionalities or offerings along the conventional boundaries of product lines. Instead, they pool together diverse views and competencies from various business units. They facilitate rich cross-functional debates toward creating superior products.

Second, these firms encourage their staff to continuously challenge, stretch, improve and extend their firm's vision. The discussions among the diverse groups of staff facilitate the attainment of deep industry foresights, which go beyond incremental thinking. This may be done through open dialogues, job rotations and healthy internal rivalry, all of which are collaborative efforts aimed at continuously energizing the staff to continuously stretch the firm's vision and, hence, extend its product offerings.

While the core competencies concept provides guidance as to how a firm may continuously stretch its competencies, it appears to be silent on at least three areas. First, it seems silent on how a firm may develop its fundamental or baseline (as opposed to stretched) competencies. The continuous stretching of competencies in search of newer and better products creates exciting endeavor which may raise firm-wide enthusiasm because it involves staff across various functions. Nonetheless, a firm also needs to ensure its pertinent fundamental or baseline competencies are maintained, if not improved. This is especially important in today's environment of increasingly high staff turnover and attrition. Hence, in the exhilarating endeavors of stretching competencies, a firm must also continuously develop its baseline competencies which will remain relevant and important for some time.

Second, the core competencies concept seems internally focused and seems silent on dealing with external parties or changes. It seems to focus on internal debates involving staff from various functions. While this is enriching as it provides various perspectives, it still seems restricted to internal staff members. It does not seem to discuss how a firm may enhance its ability to more proactively scan the fast-changing external dynamics and plan ahead accordingly. Besides, internal staff may have, knowingly or unknowingly, some levels of bias and limited perspectives because of entrenched firm culture and perspectives. Hence, a firm may need to extend beyond internal resources. It may need to consider better ways of dealing with external parties and fast-changing external changes so as to have an even more comprehensive and updated perspective of its competencies.

Third, while the core competencies concept emphasizes the importance of collective learning through cross-functional teams, it seems silent as to

how a firm may create a conducive learning environment. To build a conducive learning environment would include consideration of how a firm may reduce barriers to communication, sharing and learning among staff members across various functions and backgrounds. This goes beyond the hard and technical aspects of strategy and delves into the soft but equally important sociopolitical aspects of strategy because it involves people and team dynamics. The next concept, dynamic competencies, discusses the first two limitations while the subsequent concept, the learning organization, discusses the third.

2.1.3 *Dynamic Competencies*

While several definitions exist, they are quite similar and converge on a common theme, that is, the dynamic competencies concept seeks to change a firm's resource base (Ambrosini & Bowman, 2009). It seeks to continuously enhance a firm's resources, including competencies, so as to sustain competitive advantage even as the external environment changes. Moreover, the classic definition remains largely relevant (Ambrosini & Bowman, 2009; Fischer, Genauer, Gregory, Ren, & Fleisch, 2010) and is, therefore, used in this book. The classic definition of dynamic competencies is the 'ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments' (Teece, Pisano, & Shuen, 1997, p. 516).

Thus, the dynamic competencies concept consists of three variables. First, 'integrate' refers to the ability to incorporate and adapt to fast-changing external environments. The changing externalities provide both opportunities and threats which must be identified and acted upon (Helfat et al., 2007). The dynamic competencies concept enhances the core competencies concept by explicitly considering the fast-changing or dynamic external environments. It also emphasizes a deliberate and distinct stream of activity: the continuous sensing of external changes and the required action arising from these changes.

The second variable, 'build competencies', means that the firm needs to continuously develop pertinent competencies. Such competencies include both new and enduring fundamental or baseline competencies (Doving & Gooderham, 2008). This enhances the core competencies concept in two ways. First, the concept focuses on leveraging internal competencies to develop new products. However, it seems silent on

building fundamental or baseline competencies on which the dynamic competencies concept explicitly focuses. Second, the core competencies concept focuses on rich internal cross-functional debates to extend product offerings. The dynamic competencies concept, however, extends beyond internal resources. In fact, it explicitly incorporates external value chains or exposure through various alliances, such as customers, suppliers, competitors and regulators (Edwards & Wolfe, 2006; Helfat & Raubitschek, 2000; Vieth & Smith, 2008).

Finally, the third variable, ‘reconfigure’, calls for regular reviews of competency profiles. These reviews often lead to the addition, recombination or removal of resources and competencies (Eisenhardt & Martin, 2000). We need to remove irrelevant competencies so as to avoid accumulation of core rigidities which in turn hinders firm development. The removal of irrelevant competencies calls for deliberate and collective efforts to eliminate and forget outdated routines and competencies. This would in turn facilitate the building of new, pertinent competencies (Martin de Holan & Philips, 2003).

In sum, the dynamic competencies concept addresses two (of the three) limitations inherent in the core competencies concept. These two limitations are the development of fundamental or baseline competencies and the incorporation of changing external environments. First, we discuss that the core competencies concept focuses on stretching its competencies but it does not adequately discuss how a firm should build or maintain its fundamental baseline competencies which remain relevant for some time. Conversely, the dynamic competencies concept explicitly discusses the need to ‘build’ such competencies.

Moreover, the core competencies concept seems to focus on internal resources and formulation of foresight through cross-functional debates but it does not seem to discuss the need to explicitly consider external changes or even tap on external parties to sense external changes. In this regard, the dynamic competencies concept seems to extend beyond internal resources.

Finally, the third limitation remains, that is, how a firm should build an environment which would be conducive to continuous learning. The dynamic competencies’ three variables—integrate, build and reconfigure—do not seem to explicitly discuss how one can build such a conducive learning environment. This is addressed by the learning organization concept in the following paragraphs.

2.1.4 *Learning Organization*

People are generally keen to learn; however, non-conducive firm environments often hinder the learning process. Hence, the learning organization concept studies how people would be motivated to develop their own mastery and to work collaboratively by exchanging views on the firm and external environment, all of which aim to continuously build the firm's competitive advantage (Yeo, 2005).

There are several ways of defining the learning organization concept, some of which are as follows:

- a firm whose staff keep enhancing and using their competencies to build the firm based on shared aspiration, keep coming up with and developing new thoughts and keep learning together (Senge, 2006)
- a firm which has a right environment which facilitates continuous learning and transformation (Marsick & Watkins, 2003)
- a firm where its staff do well in creating, acquiring and transferring knowledge (Garvin, Edmondson, & Gino, 2008)

Although there are some minor differences, all the three definitions above focus on the firm's continuous and collective learning. Furthermore, Senge's definition explicitly includes the staff members' personal ownership of the firm's future. Hence, for parsimony, this book uses Senge's popular concept as the basic building block. We also include, where appropriate, the other thoughts of Marsick and Watkins and Garvin et al. The learning organization concept comprises five intertwining disciplines. These disciplines or variables are outlined in Table 2.1.

The first category, 'aspiration', resembles the 'stretched vision' variable in the core competencies concept. A common aspiration or stretched vision energizes the staff to drive the desired change. If the staff's desires align with those of the firm's, the staff would willingly and earnestly strive to achieve these goals with a sense of individual ownership and engagement. It differs, however, from the 'stretched vision' of the core competencies concept in at least two ways.

First, the main goal of 'stretched vision' in the core competencies concept is to extend a firm's product offerings. The learning organization concept's main goal, however, is to encourage continuous firm-wide learning to head toward a meaningful common destiny. This destiny need not necessarily be confined to the extension of product offerings per se.

Table 2.1 The learning organization variables

<i>Category</i>	<i>Discipline</i>	<i>Brief description</i>
I. Aspiration	1. Personal mastery	Expend personal capacity to achieve output which represents what matters most deeply to the staff
	2. Shared vision	Staff are committed toward a desired future direction to shape the future voluntarily
II. Reflection and conversation	3. Mental models	Strong anchor which is continuously being reflected upon and refined, in terms of how one understands the world and takes appropriate actions
	4. Team learning	Staff discuss, learn and think together beyond individual silos, in coordinated ways, which produce extraordinary results due to synergistic effects
III. Understanding complexity	5. Systems thinking	Staff view and understand elements of interrelated components as part of a system This understanding enables staff to see how to change systems more effectively and to act more in tune with the bigger picture

Source: adapted from Senge (1990, 2006)

Second, the ‘personal mastery’ subcomponent or discipline in the learning organization concept appears neither in the core competencies nor dynamic competencies concepts. Hence, this subcomponent is a unique contribution of the learning organization concept.

The second category, ‘reflection and conversation’, represents frames of reference to facilitate discussions and better appreciation of business dynamics. It resembles the ‘integrate’ variable of the dynamic competencies concept in terms of understanding external developments and how these developments may impact the firm. Such discussions connect staff members and build a collective infrastructure for continuous learning (Senge, 2006). Since this collective infrastructure fosters learning beyond individual silos, it also resembles the ‘non-silo view’ of the core competencies concept.

There are, however, some subtle differences in terms of emphasis and orientation. First, both the core competencies and learning organization concepts seem internally focused. While the core competencies concept emphasizes rich cross-functional team debates, the learning organization concept emphasizes learning in coordinated ways. The dynamic competencies concept, however, explicitly considers learning from external par-

ties. Second, in terms of orientation, the dynamic competencies concept considers external developments when planning competency development. The learning organization concept, however, promotes deep reflections and institutionalized learning within the firm. Institutionalized learning means learning beyond the individual staff member level; it calls for firm-wide learning.

Finally, the third category, ‘understanding complexity’, calls for systems thinking. It goes beyond superficially addressing apparent symptoms or noises. Instead, it entails detecting interrelationships and patterns of enduring changes by viewing things in a comprehensive or holistic manner. While this resembles the ‘non-silo view’ of the core competencies concept, its aims differ. The learning organization concept aims for effective learning and taking appropriate action by addressing the underlying root cause rather than merely treating the symptoms. The core competencies concept, however, aims to extend the firm’s product offerings.

2.2 POOLING TOGETHER THE CONCEPTS

Three observations emanate from the foregoing discussions in Sect. 2.1. First, the variables in these three concepts have some subtle similarities and subtle differences in terms of goals, emphases, orientation or aims. Second, each concept has a unique contribution which is not apparent in the other two concepts. Each concept has a variable or it explains or explores an aspect which is not available in the other two concepts. Finally, no single concept by itself can adequately address the aim of this book, that is, to guide risk management competency development in a more comprehensive manner. In sum, these concepts are uniquely interrelated and complement one another. At the same time, they are not completely identical. Hence, pooling together these concepts would provide a more effective approach to address the aim of this book.

2.3 FROM CONCEPTUAL VARIABLES TO RISK MANAGEMENT COMPETENCY DEVELOPMENT INDICATORS

The variables relating to the three concepts identified in Sect. 2.2 seem generic and theoretical. Hence, we translate these variables into actionable or operationalized indicators for a bank’s risk management function through a two-stage process. First, we review bank and risk management context literature to identify pertinent indicators which illustrate the

conceptual variables. Second, as a sanity check, we interview ten leading chief risk officers so as to reaffirm the findings obtained from the first stage.

Figure 2.1 shows the operationalized indicators as inferred from the two-stage process.

Of the 23 indicators, the first 17 were identified through literature reviews and reaffirmed via interviews with the ten chief risk officers. The remaining six indicators (#18 to #23) are additional items inferred from the interviews with the chief risk officers. Although these six indicators were not apparent from the literature reviews, each can be matched to at least one conceptual variable. Hence, our approach of using the three competencies concepts and their variables adequately guides competency development. The process of operationalizing the conceptual variables into granular indicators merely illustrates how we can use this guidance to help generate, produce or develop an implementation checklist (Box & Platts, 2005). Nonetheless, the rapid changes in the banking industry and each bank’s unique context render it impossible to have a complete checklist that can endure the test of time (Walter, 2009). Hence, the checklist should be used together with the conceptual variables, rather than by itself

	Core competencies	Dynamic competencies	Learning organization
VARIABLES	C1. non-silo view	D1. integrate external developments	L1. aspire
	C2. stretch competencies	D2. build competencies D3. reconfigure competencies	L2. reflect and discuss L3. understand complexity
INDICATORS	1. enterprise-wide risk management		13. codify and institutionalize knowledge
	2. cross-functional team discussions		14. risk awareness culture
	3. business unit partners		15. reflect on past experiences in other functions
	4. external value chains		16. exercise judgment in using model results
	5. new risk techniques—aware		17. adopt a comprehensive view
	6. new risk techniques—build competencies		18. keep abreast of regulatory developments*
	7. new products—aware		19. keep abreast of international developments*
	8. build new relevant competencies		20. proactive self-development*
	9. regularly revisit relevance of competency profiles		21. induction*
	10. align goals—risk management and business functions		22. learn by developing own risk models*
	11. discuss and reflect on past lessons learned		23. leverage quantitative skills*
	12. discuss and reflect—possible future scenarios		

* inferred from interviews with the chief risk officers

Fig. 2.1 The concepts, variables and operationalized indicators

in isolation or removed from the broader guiding framework. The indicators serve as a descriptive checklist. However, one must note that this list is neither static nor exhaustive. Meanwhile, the conceptual variables may be seen as a principles-based compilation which serves as a broader framework from which the indicators emanate.

The following paragraphs discuss how these 23 operationalized indicators relate to the 8 conceptual variables (C1 to C2, D1 to D3 and L1 to L3) in the context of competency development for a bank's risk management function. The first variable, C1 'non-silo view', may be illustrated by adopting an integrated or enterprise-wide risk management approach (indicator #1). This approach takes cognizance that the various risk categories (i.e. credit, market, operational and liquidity risks) are interrelated rather than exist in isolation (Ai, Brockett, Cooper, & Golden, 2012). Hence, they should be managed together rather than in isolated or departmental silos of each risk category. This approach would enable the risk management function to adopt a bank-wide view of risk which looks beyond its own direct locus. Further, we should encourage more discussions among staff across different functions of the bank (indicator #2) so as to obtain different perspectives, get a more comprehensive picture and enhance understanding of risk matters (Kaplan, Mikes, Simons, Tufano, & Hoffman, 2009). This is particularly more important in today's challenging environment where no one single person can see all the risk perspectives.

The second variable, C2 'stretch', may be operationalized by taking on the roles as effective business unit partners (indicator #3). The risk management function should neither be seen merely as a necessary evil nor as one subservient to the business functions. Instead, the risk management function should work alongside business functions so as to continuously add value to the bank such as exploring ways to expedite new product development or even exploring forays into new markets (Bugalla & Kugler, 2009; Lund, Manyika, Mehta, & Goldshtein, 2018).

The third variable, D1 'integrate', calls for working with external parties through symbiotic value chain relationships (indicator #4) so as to sense external changes (Vieth & Smith, 2008). This implies that it is difficult for a firm to be able to sense or scan external changes by using only its internal resources. Instead, it would be more effective if firms engage in ongoing dialogues with external parties to see the broader picture of external changes. This variable D1 'integrate' also calls for the need to keep updated with developments, both in terms of regulatory matters (indicator #18) and international trends (indicator #19). In fact, we would

expect regulatory pressures to increase as regulators implement new regulations and monitor banks much more closely (Koh, 2019). This is because of the riskier business environments which operate in a more globally connected setting.

The fourth variable, D2 ‘build’, entails being aware of new risk management techniques and products (indicators #5 and #7) and building competencies thereof (indicator #6) (Herring, 1999). Further, one should also build new relevant competencies (indicator #8) beyond technical risk management matters; this includes pertinent soft skills so as to communicate, educate, negotiate and influence top management more effectively (Mikes, Hall, & Millo, 2013). The fifth variable, D3 ‘reconfigure’, calls for regular reviews or revisits to check the relevance of the risk management competency profiles (indicator #9). This includes removal of items which may hamper innovation and instead adopt a flexible approach to integrate new competencies (Eisenhardt & Santos, 2002).

The sixth variable, L1 ‘aspiration’, requires that goals of the risk management and business functions are aligned (indicator #10). It is important that both units share a common goal or direction so that the bank progresses in a coherent manner (Mishkin, 2016; Wright, 2017; Yi, 2008). The absence of such shared aspirations would render the environment not conducive to developing risk management competencies. The notion of shared aspiration should not be confined only to the bank functions but it should be applied equally at the individual staff level too. For instance, if the staff truly believe in the risk management function’s aspirations, they would find it meaningful and worthwhile to expend efforts to proactively develop themselves (indicator #20). Besides, pre-joining induction sessions (indicator #21) are useful to ensure that a potential new staff is aware of, and subscribes to, the risk management function’s aspirations.

The seventh variable, L2 ‘reflect and discuss’, entails dialogues on both hindsight reflections within risk management (indicator #11) (Garvin et al., 2008) and pertinent experiences in other job functions (indicator #15) as evidenced by Goldman Sachs’ practice of moving traders to risk management (*The Economist*, 2010a). In fact, it is also useful to reflect on lessons learnt from past experiential lessons. Besides learning from the past, one should also think about and discuss forward-looking possibilities (indicator #12) (Garvin et al., 2008; Senge, 1990; *The Economist*, 2010a). Further, for a bank to retain competencies, it would be better to codify and institutionalize knowledge (indicator #13) so that it remains with the bank instead of being temporal tacit knowledge residing only in a few

personnel (Holland, 2010). Above all, a prerequisite of having a conducive environment for risk management competency development is to instill a risk awareness culture (indicator #14) whereby all bank staff truly learn, embrace and practice key risk principles (Bank Negara Malaysia, 2013). Furthermore, if a risk professional were to participate in developing his bank's own risk model, he would have the opportunity to 'reflect and discuss' various risk and banking aspects with the project team in the course of developing the model (indicator #22). This would enhance his appreciation of risk drivers, parameters and interrelationships, all of which serve to continuously develop his risk management competencies.

Finally, the eighth variable, L3 'understand complexity', promotes the idea of exercising reasonable judgment (indicator #16) rather than making decisions based purely or mechanically on quantitative risk models outputs. In other words, the risk models should be at best decision-aiding rather than decision-making tools. This is because some items cannot be quantified and risk models can neither be static nor perfect (Grant & Venzin, 2009; *The Economist*, 2010b).

In fact, risk management professionals must view events and phenomena in a comprehensive way (indicator #13) instead of a superficial view of what is apparent and on an individual item in isolation. They need to detect and appreciate the trends and interactions which may impact the bank's risks (Kaplan et al., 2009). The notion of viewing from a comprehensive perspective also extends to staff recruitment and interactions. Recruitment should not be confined to professionals from the conventional banking disciplines. Some chief risk officers interviewed suggest recruiting professionals with sophisticated quantitative skills (e.g. from mathematics, physics or engineering disciplines) and leverage these skills to facilitate risk analysis of complex derivatives (indicator #24). In fact, indicator #24 also relates to variable C1 'non-silo view' which encourages one to look beyond individual silos. These findings further reaffirm the earlier observation that the three concepts are uniquely interrelated.

2.4 CONCLUSION

This chapter discussed the three pertinent competency development concepts of core competencies, dynamic competencies and learning organization. It argues that these concepts are uniquely interrelated and when pooled together form a more potent approach to developing competencies in a more comprehensive manner. Besides identifying the concepts

and their constituent variables, we also translate them into 23 operationalized indicators relevant to the risk management function of banks, thus addressing this book's first objective. The next chapter aims to address the second objective, namely, to identify the indicators which significantly differ across a few selected bank demographics.

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Risk Management Competency Development Indicators: Differing Importance Across Demographics

Abstract This chapter seeks to address the second objective. It seeks to assess whether the importance attached to the indicators significantly differs across the three demographic groups of banks, namely, (1) local-versus foreign-controlled banks, (2) entrepreneur- versus non-entrepreneur-controlled banks and (3) different staff seniority levels. These findings may help guide managers and regulatory authorities to a better understanding of the different emphases which these banks may have. The findings are based on a survey analysis of 135 risk management practitioners. The responses sought are measured on a five-point Likert scale with a score of ‘1’ being effectively ‘not a great deal’ and ‘5’ being ‘to a great extent’. The survey questionnaire was in turn developed based on the operationalized risk management indicators identified in Chap. 2. The questionnaire is shown in Appendix.

Keywords Demographic groups • Survey • Likert scale

3.1 ANALYTICAL TECHNIQUES

We analyze the differences in the respondents’ indicator scores across the demographic groupings, both on an individual and on a combinative basis. Prior to running the analyses of the questionnaire response data for

this chapter and also the next, we examine the reliability and validity of the questionnaire. Reliability refers to the robustness of the questionnaire. It studies the extent to which the questions and response scales in the questionnaire are error-free and therefore capable of producing consistent results across different timeframes and contexts (Field, 2009; Saunders, Lewis, & Thornhill, 2009; Zikmund, 2003). In other words, it is reproducible. As an analogy, consider a coach who takes the height of his athlete using an appropriate measuring device. If other sports authorities obtain the same height output of the same athlete when they use the official devices, then we may conclude that the coach's device is a reliable instrument.

Validity, on the other hand, assesses whether the questions and response scales in the questionnaire actually measure what it is intended to measure. While reliability refers to consistency of the measures, validity relates to how well the questionnaire items capture the intended meaning and extent of the indicators (Hair, Black, Babin, & Anderson, 2010; Zikmund, 2003). We examine the reliability and validity of the questionnaire so as to provide confidence that it is properly serving its function of gathering and measuring appropriate data for the intended analysis. We address the questionnaire reliability and validity by ensuring that the indicators and questions have sufficient theoretical backing. We also perform pretests with subsamples of the intended target audience and incorporate the feedback obtained.

3.1.1 Differences on an Individual Indicator Basis

This subsection outlines the techniques used to pick up the individual operationalized indicators to which the different bank demographic groups accord substantially different levels of importance. In statistical terms, we seek to identify the indicators whose scores significantly differ on an individual basis.

Following an inspection of the pertinent techniques in Davies (2007), we run the widely used parametric t -test and also a non-parametric method, the Mann-Whitney U test, for the first two demographic group comparisons. While the parametric t -test is more powerful, it requires stricter dataset prerequisites such as data normality. On the other hand, while the non-parametric test may be less powerful, it does not require conformance to strict data normality assumptions. Hence, we also run the non-parametric Mann-Whitney U test to provide a sanity check of the

parametric t -test findings. This is to help improve the robustness of our findings because as in most social science studies, our dataset may not strictly meet all the requirements for an accurate parametric test.

As to the third demographic group difference, we use the parametric ANOVA (analysis of variance) instead of the t -test, following Field (2009). This is because each of the earlier two demographic group differences compares only one category, namely, local- versus foreign-controlled banks and entrepreneur- versus non-entrepreneur-controlled banks. The third demographic group difference, however, contains five categories of staff seniority levels as defined by the respondent's number of levels below the chief risk officer or the head of risk management (i.e. more than three, three, two, one and zero at which the respondent is the head). If we were to run t -tests, we would have to run ten different combinations of paired comparisons (i.e. categories 1 versus 2, 1 versus 3, 1 versus 4, 1 versus 5, 2 versus 3, etc. to 4 versus 5). This would weaken the accuracy of the findings by exaggerating the error rate caused by running ten t -tests. Hence, we run ANOVA to simultaneously compare the five categories. Just as in the case for the first two demographic group comparisons, we also run a corresponding non-parametric method called the Kruskal-Wallis test to enhance the robustness of our findings.

Prior to performing the parametric tests, we conduct diagnostic tests on the data distribution to check on data normality. As in most social science studies, the raw data for some indicators seem non-normal but approximated normality after we transform them, following Hair et al. (2010). Hence, we can reasonably run the parametric tests. Nonetheless, we still run the non-parametric tests to provide a sanity check of our findings.

3.1.2 *Differences on a Combinative Basis*

This subsection outlines the technique used to address this question: for each demographic group comparison, which combination of the operationalized indicators best differentiates or discriminates between the groups being compared? In statistical terms, this technique, discriminant analysis, seeks a combination of indicators which forms a regression equation (also called a discriminant function) that best predicts the pertinent membership category (Field, 2009; Hair et al., 2010; Malhotra, 2007).

For instance, in the first demographic group comparison, the pertinent discriminant function identifies the indicators which combinatively best differentiate a local- from a foreign-controlled bank. This differs from our

approach in Sect. 3.1.1 which seeks to identify the individual indicators whose scores significantly differ between the local- and foreign-controlled banks. In this subsection, however, we seek a combination of indicators that answers this question: if a bank chalks up lower scores for these indicators, is it most likely a local- or foreign-controlled bank? The same applies to the second demographic group comparison of entrepreneur-versus non-entrepreneur-controlled banks.

The third comparison pertaining to seniority levels, however, presents a different challenge, just as in the case of the individual indicators as discussed in Sect. 3.1.1. Since there are five categories of seniority levels, each level would have a small subsample size. This small subsample size would in turn reduce the accuracy and appropriateness of the discriminant analysis technique. To overcome this problem, we collapse these five categories of seniority levels into two, namely, ‘below middle management’ and ‘above middle management’. In order to help us decide on the categories which should be deemed ‘below middle management’ (and the others being ‘above middle management’), we run a separate ANOVA, followed by Scheffe’s pairwise comparison (Hair et al., 2010; Ramanujam, Venkatraman, & Camillus, 1986). Based on these analyses, we set the cut-off score at ‘3’ which corresponds to ‘two levels below the head of risk management’. In other words, respondents whose scores are ‘4’ and ‘5’ (which correspond to ‘one level below the head’ and ‘head of risk management’, respectively) are deemed ‘more senior’.

This complex analytical technique requires judgment calls to decide on matters such as the statistical sub-method to be run (simultaneous versus stepwise), the level of statistical stringency in setting cutoff thresholds and whether to include or exclude the indicators which may be less prevalent in Malaysia (i.e. Q23 and Q25, together with the preceding filter questions, Q22 and Q24, of the questionnaire in Appendix). On the basis of these considerations, we run a total of six different discriminant functions for each demographic group comparison. We subsequently choose the best function for each demographic group comparison based on the best possible trade-off combination of theoretical and statistical considerations.

3.1.3 *Putting Together Both Individual and Combinative Comparisons*

Some of these indicators may significantly differ between the bank demographic groups on the following three bases: (1) on an individual basis

only, (2) on a combinative basis only and (3) on both individual and combinative bases. This book focuses on the last mentioned basis because these are the indicators which truly differ between the bank demographic groups, both individually and combinatively. The diagnostic tests, sample size requirements, data transformation process and the analytical techniques were run by adapting the guidelines given by widely used books on social science research and statistical methods, such as those cited in Sects. 3.1.1 and 3.1.2. Additionally, we run the above using the *SPSS* software, adapting the steps and procedures from *SPSS* guidebooks, such as George and Mallery (2009) and Pallant (2005).

3.2 LOCAL- VERSUS FOREIGN-CONTROLLED BANKS

Table 3.1 presents the list of operationalized indicators whose scores significantly differ between the local- and foreign-controlled banks, on both an individual and combinative basis.

Other pertinent statistical findings for the discriminant analysis are as follows:

- Eigenvalue: 0.439
- Canonical correlation: 0.552
- Wilks' lambda: 0.695; chi-square transformation at 7 degrees of freedom: sig. = 0.000
- Function at group centroids: local -0.485 , foreign $+0.883$
- Proportions of correct classifications computed under:
 - Original grouped cases 77.2%
 - Cross-validated grouped cases 73.4%

Table 3.1 shows that the mean score differentials (mean for local-controlled minus mean for foreign-controlled banks) are negative. Likewise, the function at group centroids in the discriminant analysis function shows that on a combinative basis using the discriminant function, the lower scores are likely to be from the local-controlled banks. Hence, the foreign-controlled banks implement these indicators to a larger extent than the local-controlled banks. This may explain why foreign-controlled banks in developing countries, such as Malaysia, are generally superior compared with their local counterparts.

Next, the discriminant analysis suggests that a combination of three indicators (Q6, Q13 and Q21), as shaded in Table 3.1, best differenti-

Table 3.1 Operationalized indicators whose scores significantly differ for the local- versus foreign-controlled banks, both individually^a and combinatively

Indicator # (Fig.2.1)	Question # (Appendix 1)	Keywords	Individually different			Combinatively different	
			Mean difference	t-test	U test z score	Standardized discriminant function coefficients ^b	Discriminant loadings ^c
2	5	Cross-functional discussions	-91.57	-2.22	-2.12	Did not form the selected discriminant function	
19	6	International developments ^d	-21.95	-2.64	-2.53	0.648	0.420
11	7	Past lessons learned	-0.49	-3.72	-3.74		
12	8	Discuss and reflect on future	-1.64	-2.16	-2.73		
14	9	Risk culture	-0.55	-3.66	-3.57		
3	10	Business partner	-0.56	-3.87	-3.86	Did not form the selected discriminant function	
4	11	External value chains	-0.62	-4.05	-3.86		
6	12	New techniques—build competencies	-0.65	-4.12	-3.86		
8	13	Build new competencies	-0.64	-4.24	-3.98	0.495	0.443
13	21	Institutionalize knowledge	-0.78	-4.47	-4.54	0.571	0.583

^aAt the 5% significance level

^bThe discriminant coefficients indicate the relative importance of the indicators in contributing toward the discriminant function's discriminating power

^cThe loadings indicate the variance that the indicators share with the discriminant function. As a rule of thumb, a value of 0.4 or greater is considered substantive or meaningful

^dThis indicator was transformed by raising the data to the power of three so as to bring it closer to normality as discussed in Sect. 3.1

ates between the local- and foreign-controlled banks in a meaningful way. These three indicators not only form the regression equation but also substantially reflect the discriminant function's variance. Moreover, it is also these same three indicators which differ both individually and combinatively. As a result, these three indicators are of most concern. The following paragraphs discuss the possible insights into why each of these three indicators significantly differs between local- and foreign-controlled banks.

First, foreign-controlled banks, as members of international banking groups, are more exposed and more sensitive to 'international developments' than local-controlled banks. They are more exposed to cross-

border deals with international customers and, hence, more vulnerable to cross-border risks (Chen & Liao, 2010; Committee on the Global Financial System, 2010). Consequently, risk management professionals in foreign-controlled banks would evaluate, monitor and discuss international developments more intensely than would their counterparts in local-controlled banks.

Further, the availability of international expertise (Daniel, 2011; Harle et al., 2010) facilitates dissemination of international developments in various forms, such as news and analysis on economics, products, competition and changing trends in customer behavior. Events happening in other parts of their bank's network would also impact the operations of the respondents' respective banks. Therefore, when compared with local-controlled banks, foreign-controlled banks seem more sensitive to 'international developments'.

Second, foreign-controlled banks are exposed to more complex or quicker-changing emerging international trends. Examples include international customers with more complex needs, more sophisticated products or more complex business deals—all of which provide opportunities to 'build/acquire new competencies'. Indeed, the challenges arising from such complexities or trends motivate the foreign-controlled banks to continuously 'build/acquire new competencies' across their international networks. The higher emphasis on building/acquiring new competencies leads to the foreign-controlled banks' superiority in developing better and more innovative products and services (Claessens & van Horen, 2012). Moreover, the greater diversity of staff across their international network provides a ready source of diverse competencies and fresh perspectives. The regular interaction and sharing of such competencies and perspectives would also shed light on the ongoing need for new competencies.

Third, foreign-controlled banks may be more inclined to 'institutionalize knowledge' because they need clearer and more consistent communication in situations such as postcrisis restructuring coordination efforts, dissemination of knowledge or best practices from the home to host countries and adaptation to various events affecting their international network. This need may arise because of the higher incidence of staff movements across countries (or functions) and the greater diversity of operating environments. Some examples illustrating the inclination to 'institutionalize knowledge' include new risk management policies or guidelines, new risk management systems or risk models, lessons learned and operating procedures.

3.3 ENTREPRENEUR- VERSUS NON-ENTREPRENEUR-CONTROLLED BANKS

This section suggests that the nature of the controlling entrepreneurs may drive differences in the risk profile or appetite of the entrepreneur-controlled banks. Hence, this section begins with an analysis of the risk appetite perceptions of the entrepreneur-controlled banks. The establishment of risk appetite perceptions provides a better context in which further comparative analyses are performed. That is, we seek to identify the indicators which significantly differ between the entrepreneur- and non-entrepreneur-controlled banks.

Table 3.2 shows the frequency distribution of risk appetite among the respondent scores for entrepreneur-controlled banks.

A review of Table 3.2 suggests that the entrepreneur-controlled banks are generally conservative for two reasons. First, the scores are heavily concentrated in '(2) somewhat conservative' and '(3) about right'. Second, there are only three cases whose scores exceeded '(3) about right'. In fact, all three exceptional cases have scores of '(4) somewhat aggressive', and none have scores of '(5) very aggressive'.

The finding that the entrepreneur-controlled banks are generally conservative is probably due to two reasons. First, the controlling entrepreneurs are highly respected, seen as seasoned veterans and long-established players who have experienced several cycles of economic booms, recessions and crises. Hence, they are more likely to tread cautiously. Second, these entrepreneurs have actively driven their banks' early formation and growth. Indeed, they continue to drive even current daily activities and growth. Hence, these banks are probably more conservative as they adopt a longer-term sustainability perspective rather than a short-term or more aggressive approach. We also note that the entrepreneur-controlled banks in Malaysia are controlled by the ethnic Chinese; hence, it may reflect some ethnic Chinese sociological and historical backgrounds and values (Koh, 2018).

Table 3.2 Risk appetite profile of entrepreneur-controlled banks

<i>Score</i>	<i>Description</i>	<i>Frequency</i>	<i>%</i>	<i>Cumulative %</i>
1	Very conservative	6	15	15
2	Somewhat conservative	18	44	59
3	About right	14	34	93
4	Somewhat aggressive	3	7	100
5	Very aggressive	0	0	100

The foregoing discussions clarify the research context; that is, the entrepreneur-controlled banks seem generally conservative. With this in mind, the following paragraphs discuss the findings pertaining to the indicators whose scores significantly differ between the entrepreneur- and the non-entrepreneur-controlled banks.

Table 3.3 shows the list of operationalized indicators whose scores significantly differ between the entrepreneur- and non-entrepreneur-controlled banks.

Other pertinent statistical findings for the discriminant analysis are as follows:

- Eigenvalue: 0.544.
- Canonical correlation: 0.593. Hence, 35% (or 0.593^2) of the variance in the dependent variable (i.e. entrepreneur- or non-entrepreneur-controlled bank) was accounted for by the discriminant function.

Table 3.3 Operationalized indicators whose scores significantly differ for the entrepreneur- versus non-entrepreneur-controlled banks, both individually^a and combinatively

Indicator # (Fig.2.1)	Question # (Appendix 1)	Indicators	Individually different			Combinatively different	
			Mean difference	t-test	U test z score	Standardized discriminant function coefficients ^b	Discriminant loadings ^c
5	2	New techniques—aware	-0.67	-2.75	-2.64	0.556	0.431
12	8	Discuss and reflect on future ^d	-1.45	-2.29	-2.28		
13	21	Institutionalize knowledge	-0.37	-2.06	-1.95		Did not form the selected discriminant function
22	25	Learn—develop models	Not significantly different			0.773	0.439

^aAt the 5% significance level

^bThe discriminant coefficients indicate the relative importance of the indicators in contributing toward the discriminant function's discriminating power

^cThe loadings indicate the variance that the indicators share with the discriminant function. As a rule of thumb, a value of 0.4 or greater is considered substantive or meaningful

^dFor the purposes of parametric approaches such as the t-test, this data item was transformed (by raising to the power of 1.5) to bring the data closer to being normally distributed. The other data items transformed were Q5 to Q7 and Q10

- Wilks' lambda: 0.695; chi-square transformation at 7 degrees of freedom: sig. = 0.000.
- Function at group centroids: entrepreneur-controlled banks: -0.930 ; non-entrepreneur-controlled banks: $+0.570$.
- Proportions of correct classifications computed under:
 - Original grouped cases 77.2%
 - Cross-validated grouped cases 73.4%

Table 3.3 shows that the Mann-Whitney U test results largely reaffirm the t -test results. The only exception is that while Q21 is marginally significant in the t -test (0.042), it is marginally insignificant in the Mann-Whitney U test (0.051). In other words, the three indicators of Q2, Q8 and Q21 differ significantly (on an individual basis) between entrepreneur- and non-entrepreneur-controlled banks. On a combinative basis, the lower scores for Q2 and Q25 are likely to be from the entrepreneur-controlled banks. As was done in Sect. 3.2, the emphasis is on the items which significantly differ both individually and combinatively. In the case of the entrepreneur- versus non-entrepreneur-controlled banks, it is only indicator Q2 (the extent to which the risk professional or function is proactive in terms of being aware of new risk management techniques) which fit this criteria.

There are two possible reasons as to why indicator Q2 significantly differs between the entrepreneur- and non-entrepreneur-controlled banks in both bases, that is, (1) individually and (2) substantive and combinative. First, the controlling entrepreneurs remain actively involved in their respective banks' daily activities. Given their conservatism, they probably emphasize a more personal touch to risk management. This may manifest in various ways. For instance, these entrepreneurs may insist on tighter internal controls, be more personally involved in the business deals or monitoring of risks and rely more on their personal business insights or network (Koh, Avvari, & Tan, 2016).

Second, the controlling entrepreneurs may be more conservative in terms of spending or allocating resources for new risk management techniques. They may emphasize conservative and time-tested techniques which focus on fundamental issues rather than newer, less-proven risk management techniques. In other words, these entrepreneur-controlled banks reflect some ethnic Chinese values. These values include *paternalism* (because these entrepreneurs portray patriarchal dominant figures),

personalism (because they rely more on personal business involvements and networks) and *insecurity* (because they tend to be more conservative as a result of their historical background as migrants) (Koh, 2018).

3.4 STAFF SENIORITY LEVELS

The target population for this study is the risk management professionals of banks in Malaysia. Hence, we surveyed those in the risk management professionals category, that is, those in the junior officer to the chief risk officer cadre. This category should be sufficiently knowledgeable to contribute to this survey. We exclude categories of lower seniority levels, such as clerks. We subdivide the seniority levels according to the number of reporting levels vis-à-vis the chief risk officer or head of risk management as follows:

1. More than three levels below the head of risk management
2. Three levels below the head of risk management
3. Two levels below the head of risk management
4. One level below the head of risk management
5. Head of risk management

The above subdivisions, however, triggered the problem of having insufficient subsample sizes for discriminant analysis (to test the indicators' combinative effect). To overcome this problem, we collapse the five categories of staff seniority into two, namely, 'below middle management' (three or more levels below the head of risk management) and 'above middle management' (one level below the head of risk management and the head of risk management itself). For those in the 'two levels below' subdivision, we run the ANOVA and a post hoc test called Scheffe's pairwise comparison (Hair et al., 2010; Ramanujam et al., 1986). The ANOVA and post hoc test findings suggest that those in the midpoint of being 'two levels below the head of risk management' fit in better with the 'less senior' staff.

Table 3.4 presents the list of operationalized indicators whose scores significantly differ between staff members who are below and those who are above the middle management levels.

Other pertinent statistical findings for the discriminant analysis are as follows:

- Eigenvalue: 0.361
- Canonical correlation 0.515

- Wilks' lambda: 0.735; chi-square transformation at 6 degrees of freedom: 22.803
- Function at group centroids: below middle management: -0.435 ; above middle management: $+1.019$
- Proportions of correct classifications computed under:
 - Original grouped cases 86%
 - Cross-validated grouped cases 86%

A review of Table 3.4 suggests that these four indicators have scores which significantly differ on an individual basis, between staff below middle management and those above middle management seniority levels: indicators #18 'proactive – regulatory developments', #11 'past lessons learned', #14 'risk culture', #3 'business partner' and #15 'prior functions experience'. This is true for both the ANOVA and Kruskal-Wallis tests. In other words, even if the dataset does not fully meet the stricter requirements of the parametric ANOVA test, the non-parametric version, Kruskal-Wallis, shows the same findings.

Table 3.4 Operationalized indicators whose scores significantly differ among the staff seniority levels

Indicator # (Fig.2.1)	Question # (Appendix 1)	Indicators	Individually different			Combinatively different	
			ANOVA		Kruskal-Wallis test	Standardized discriminant function coefficients ^a	Discriminant loadings ^b
			F	Sig.	Monte Carlo sig.		
18	1	Proactive—regulatory developments	2.64	0.037	0.033	#	#
11	7	Past lessons learned				0.483	0.407
14	9	Risk culture	2.66	0.036	0.040	#	#
3	10	Business partner	7.00	0.000	0.000	0.818	0.633
15	14	Prior functions experience	2.53	0.044	0.021	#	#

Note: '#' means these indicators did not form the selected discriminant function

^aThe discriminant coefficients indicate the relative importance of the indicators in contributing toward the discriminant function's discriminating power

^bThe loadings indicate the variance that the indicators share with the discriminant function. As a rule of thumb, a value of 0.4 or greater is considered substantive or meaningful

Next, on a combinative basis, only two indicators discriminate between staff below and those above middle management levels. These are indicators #11 ‘past lessons learned’ and #3 ‘business partner’. Hence, it is only indicator #3 ‘business partner’ which significantly differs between staff below and those above middle management levels on both individual and combinative bases.

3.5 CONCLUSION

This chapter sets out to address the second objective, which is to identify the risk management indicators which significantly differ between the local- and foreign-controlled banks, the entrepreneur- and non-entrepreneur-controlled banks, and the different staff seniority levels. The indicators which are of most concern are those which significantly differ, both on individual and combinative bases, and are as follows:

- Local- versus foreign-controlled banks: international developments, build/acquire new competencies and institutionalized knowledge
- Entrepreneur- versus non-entrepreneur-controlled banks: proactive—new risk management techniques
- Seniority levels: business partner

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Summarizing the Risk Management Competency Development Indicators to Themes

Abstract This chapter seeks to address the third objective. It examines the feasibility of meaningfully summarizing the 23 operationalized indicators into a few dimensions or factors, each of which comprises indicators which converge on a similar theme. The discussions in Chap. 2 suggest that some indicators are likely to be correlated because they are subtly but yet not totally similar; in fact, they are also subtly different. Hence, the indicators which closely correlate may be summarized into one factor or theme. Summarizing the 23 operationalized indicators into a few themes would in turn provide management an alternative way to facilitate a more manageable, flexible and focused approach to risk management competency development.

The remaining sections are organized as follows. Section 4.1 outlines the analytical technique used, namely, factor analysis. Section 4.2 outlines the process of summarizing the indicators into a few themes. Section 4.3 studies the feasibility of meaningfully interpreting each of these themes and Sect. 4.4 concludes.

Keywords Factor analysis • Themes • Correlation

4.1 ANALYTICAL TECHNIQUE

We conduct a factor analysis to help detect and define the underlying interrelationship structure among the indicators. This technique seeks to group together like indicators (which are statistically correlated) into a few factors or common themes that are meaningful in this research context. Put another way, we use factor analysis to help us assess the feasibility of summarizing the operationalized indicators into a few meaningful themes ‘while retaining as much of the original information as possible’ (Field, 2009, p. 628).

Prior to running the factor analysis, we perform diagnostic tests on the dataset to ensure that it conforms to the requirements to be used in this analytical technique. Non-conformance to these requirements may reduce the accuracy of, or even invalidate, the findings. An example of a prerequisite is that the data should be normally distributed. If there are some violations to these requirements, we may address this non-conformance by transforming the data through appropriate ways so as to move closer to a normal distribution. As this book focuses on the construction and use of the proposed competency development approach in a user-friendly way, we do not delve into the technical statistical details and processes underpinning the questionnaire reliability and validity, the diagnostic tests and data transformation exercises prior to running the factor analysis.

The diagnostic tests, sample size requirements, data transformation process and the analytical techniques were run by adapting the guidelines given by widely used books on social science research and statistical methods, such as those cited in the preceding paragraphs. Additionally, we run the above using the *SPSS* software, adapting the steps and procedures from *SPSS* guide books such as George and Mallery (2009) and Pallant (2005).

Just as in the case of the discriminant analysis (in Sect. 3.1.2), the factor analysis exercise calls for judgment calls too. This includes the adoption of different levels of statistical stringency and whether to include or exclude the indicators which may be less prevalent in Malaysia (i.e. Q23 and Q25, together with the preceding filter questions, Q22 and Q24, respectively, of the questionnaire in Appendix). On the basis of these considerations, we run a total of four different factor analysis models. We evaluated the strengths and limitations of each model before arriving at the final choice which is based on the best possible trade-off combination of theoretical and statistical considerations.

4.2 FROM 23 INDICATORS TO FIVE THEMES

Having ensured that the questionnaire is reliable and valid and that the data is ready to be used, we run a factor analysis on four different models. As discussed in Sect. 4.1, we then choose the best model whose results are as shown in Table 4.1.

A review of Table 4.1 suggests that we have formed a reasonably clear and statistically supported five-theme model. The five themes, which emanate from the 18 indicators, explain a substantial portion (65%) of the overall total variance pertaining to that of the original list of 23 indicators. This 65% variance explanation is acceptable because it exceeds the 60% threshold requirement (Hair, Black, Babin, & Anderson, 2010). Of the

Table 4.1 Exploratory factor analysis of the indicators

<i>Operationalized indicators</i>	<i>Factor loading</i>	<i>Theme</i>	<i>% variance explained, cumulative</i>
1. Risk awareness culture	0.90	T1. active learning	32
2. Past experiences in other functions	0.80		
3. Revisit relevance of competency profiles	0.76		
4. Induction	0.74		
5. Business unit partners	0.72		
6. Build competencies in new risk management techniques	0.61		
7. Learn by developing own risk models	0.55		
8. Build new relevant competencies	0.52	T2. in the bank's interest	44
9. Future scenarios	0.90		
10. Align goals	0.70		
11. Cross-functional team discussions	0.52	T3. proactive	52
12. Aware of new risk management techniques	0.84		
13. Keep abreast of regulatory developments	0.81		
14. Proactive self-development	0.74	T4. stretch	59
15. Leverage quantitative skills	0.97		
16. External value chains	0.46	T5. broader perspective	65
17. Comprehensive view	0.85		
18. Enterprise-wide risk management	0.63		

five themes, the first takes up 32% or half of the total variance. The subsequent four themes take up reasonable portions of 12% (44–32%), 8% (52–44%), 7% (59–52%) and 6% (65–59%) of the total variance, respectively. Further, the factor loading shows the strength of the relationship between each theme and each of its constituent indicators. Since all the indicators other than ‘external value chains’ have factor loadings higher than the 0.5 benchmark, they are deemed to significantly correlate with each respective theme (Hair et al., 2010). We tentatively assign an indicative label for each theme. In the following section, we discuss whether the corresponding indicators meaningfully converge on each of these tentative theme labels. Finally, we discuss how each theme differs from the others.

4.3 INTERPRETATION OF THE FIVE THEMES FOR RISK MANAGEMENT COMPETENCY DEVELOPMENT

4.3.1 *Theme 1: Active Learning*

There are eight indicators under this theme. The first indicator, ‘(1) risk awareness culture’, converges very strongly (0.9) to this theme. This culture ‘strongly reinforces better risk and compliance management’ through the various functions of the bank, provides a ‘shared understanding... of key risks and risk management’ and ‘capacity-building programs on risk [and] mechanisms to assess and reinforce sound risk management practices’ (Gius, Mieszala, Panayiotou, & Poppensieker, 2018).

When a ‘risk awareness culture’ permeates throughout a bank, its staff members habitually respect and adhere to risk principles and considerations. They would willingly and actively—rather than doing so dishonestly, grudgingly and passively—work on enhancing their risk management competencies. This is because a risk awareness culture creates an environment in which people would naturally nudge or challenge and remind one another to be constantly aware of and respect risk principles. It, therefore, creates an environment which is conducive to encourage continuous risk management competency development. On the contrary, a bank without a strong ‘risk awareness culture’ may aggressively pursue revenue and overly compromise risk principles. Revenue considerations may supersede risk considerations. The risk management function may be seen as being merely a necessary evil and made subservient to the business functions. In such an environment, the staff members would not be incentivized to develop their risk management competencies. Hence, a ‘risk awareness

culture' helps facilitate 'active learning' to enhance risk management competency development.

The second indicator, '(2) past experiences in other functions', also converges on very strongly (0.8) this theme. This suggests that people may learn more actively and effectively through hands-on experience. People also develop their competencies when they reflect on their past pertinent experiences. For instance, when Goldman Sachs transfers some of its traders to risk management, they bring along real-life perspectives on what happens in the trading room, what risks may be lurking and what mitigation plans may work (*The Economist*, 2010). This helps to sharpen the risk management competency development process beyond mere head or theoretical knowledge. Likewise, if a staff member has prior experience in loan recovery or special assets management, he may better appreciate the uncertainties in, challenges of and effort required to initiate multiparty negotiations to recover the loan. He would, therefore, be more vigilant to set up safeguards and stay more alert to potential early warning signs so as to reduce risks which lead to problematic loans. In fact he may also develop some intuitive feel pertaining to the key items which trigger such problems. Hence, the risk management function should consider taking in staff from other functions so as to strengthen their arsenal in order to tackle the various challenges the bank faces. The risk management function should also consider seconding their staff to other functions from time to time so as to continuously widen, deepen and sharpen their risk perspectives and competencies. In brief, recruiting staff members who have other related work experience and giving them exposure to other bank functions help facilitate 'active learning'.

The following three indicators also load highly to the 'active learning' theme with each exceeding 0.7. The '(3) revisit relevance of competency profiles' indicator is an active and deliberate exercise to reassess the relevance of current competency profiles of the risk management function. It has to go beyond a superficial, form-filling or incremental thinking exercise. Instead, it demands a fresh and thorough challenge and review of the existing competency profiles. It also calls for a deliberate move to eliminate competencies which are obsolete or impede progress through a process called collective forgetting (Martin de Holan & Philips, 2003). Collective forgetting is a deliberate process to unlearn and discard irrelevant dominant logic and competencies so as to make way for fresh relevant competencies to be built. The exercises to revisit competencies can, however, be very challenging. Hence, they must be rigorously studied,

debated and planned before being executed. Nonetheless, such exercises facilitate ‘active learning’.

Next, the indicator ‘(4) induction’ serves to help potential new joiners to understand better the risk management function’s roles, responsibilities and aspirations. Potential new joiners should check whether these roles and responsibilities fit their aptitudes and whether the aspirations match theirs. This is to ensure that the new potential joiners would truly expend their energies to develop their risk management competencies in an active and meaningful way. If the roles, responsibilities and aspirations of the risk management function do not align to those of the potential new joiners, then this may present a drag to their competency development efforts. This is because they would neither be expending their full energies nor be focusing on their roles. They may thus jeopardize risk management competency development. Therefore, ‘induction’ helps encourage the staff members to willingly engage in ‘active learning’.

The next indicator, ‘(5) business unit partners’, suggests that risk management function staff should work hand in hand with (and not subservient to) other business units. This helps spur the risk management function to continuously develop its competencies so as to help propel the bank forward in line with the bank’s goals and ongoing business challenges. In other words, the risk management function would not be complacent and irrelevant; instead, it would be actively learning so as to be dynamically progressive and pertinent.

The last three indicators have lower but still meaningful loadings, all of which exceed the 0.5 benchmark. The first of these, ‘(6) build competencies in new risk management techniques’, suggests that one should actively learn and cope with new, emerging risk management techniques. Having such a climate would drive the enthusiasm of other staff members to continuously develop competencies in new state-of-the-art techniques. This may help the risk management function to cope better with the increasingly complex challenges facing the bank. If the staff members do not take such initiatives, they run the risk of being saddled with competencies stagnation or even deterioration with old and potentially irrelevant techniques, which may hamper them in tackling mounting future challenges. Hence, the ongoing activities of ‘build[ing] competencies in new risk management techniques’ promotes learning in an active rather than passive manner.

Likewise, when one is actively involved in the next indicator, ‘(7) developing [a bank’s] own risk model’, one actively reflects and learns about the risk parameters and interrelationships of the variables in the model.

This is because the staff member is forced to regularly think, discuss, explore hands-on and refine his understanding of the risk parameters and interrelationships. In contrast, when one merely uses an off-the-shelf risk model, there may be fewer opportunities for such active learning experiences. In fact, there may be a tendency to assume that these models would largely apply even to the unique bank context. Hence, ‘developing [a bank’s] own risk model’ helps facilitate active learning too.

Finally, the indicator ‘(8) build new relevant competencies’ calls for developing new analytical or communication or other relevant complementary competencies. This also calls for active learning of value-adding items beyond those of routine technical risk management matters. Without new and relevant analytical or communication competencies, the risk management staff may find it difficult to engage the business functions and other stakeholders in dialogues to educate, negotiate and seek their buy-ins. Hence, ‘build[ing] new relevant competencies’ also involves learning actively so as to enhance the competencies and effectiveness of the risk management function. The foregoing discussions suggest that these eight indicators reasonably converge on the ‘active learning’ theme.

4.3.2 *Theme 2: In the Bank’s Interest*

The first theme of ‘active learning’ would not be effective if staff members do not pursue the indicators ‘in the bank’s interest’. For instance, if the staff have other ulterior motives or do not work well together, this may impede or even destroy the competency development efforts. Instead, if staff members work cohesively ‘in the bank’s interest’, they would work together as one big team toward a common journey.

The first indicator, ‘(9) future scenarios’, loads very highly (0.9). This entails dialogues and debates to contemplate what the future may look like, how these scenarios may have risk ramifications for the bank and what possible mitigation actions may be planned ahead. Such interactions facilitate continuous competency development if it is done for the bank’s well-being rather than for conflicting individual motives. Conversely, having conflicting selfish individual motives may result in distorted views and counterproductive discussions marred by disruptions, suspicions and petty arguments. Hence, contemplating the bank’s plausible ‘future scenarios’ helps enhance competency development if it is done ‘in the bank’s interest’.

The second indicator, ‘(10) align goals’, suggests that the goals of the staff, of the risk management function and of the bank must be coherent

so as to facilitate continuous risk management competency development. This is because when goals are aligned, the various bank functions would work in a supportive and complementary way toward the same destination or journey. Conversely, if the goals do not align or are incoherent, this may frustrate the staff members because their efforts are negated by other colleagues pulling the bank in different or opposing directions. It may even result in chaos, or worse, destruction. Hence, it is important to ‘align goals’ of the various bank functions so as to facilitate competency development ‘in the bank’s interest’.

Finally, objective and constructive ‘(11) cross-functional team discussions’ must also be done in the bank’s interest. Such dialogues would continuously challenge and provide opportunities for staff members to widen their perspectives, learn about other functions and hence continuously develop their competencies. If such discussions are done ‘in the bank’s interest’, it facilitates bringing the bank’s risk management competencies to greater heights or even help the bank develop new products. Conversely, if such dialogues are done with blinkered individual or narrow or silo team motives, they would not help the bank progress; in fact, they may even destroy the bank. Hence, these three indicators converge on the theme of ‘in the bank’s interest’.

4.3.3 *Theme 3: Proactive*

Besides ‘active learning’ and doing so ‘in the bank’s interest’, being ‘proactive’ is also important. When we say a person is ‘proactive’, we mean that this person takes action by causing change and not only reacting to change when it happens. Being ‘proactive’ is important because being in a fast-changing banking industry, one cannot afford to passively await directives or be sent for training programs. Instead, the risk management function staff need to be self-starters as illustrated by the following three constituent indicators. First, staff members should proactively be on the lookout or to be ‘(12) aware of new techniques’ in managing risk. They need to thirst for alternative or new or emerging techniques which may be more efficient, effective and relevant to address the ever-changing industry landscape. When staff members continuously thirst for such knowledge, they would encourage one another to continuously be alert to and ready to explore and deliberate such techniques. This helps develop their risk management competencies beyond the daily norms as they continuously explore new frontiers.

We discuss in Sect. 4.3.1 that the need to build competencies both in terms of ‘(6) new risk management techniques’ and ‘(8) new relevant competencies’ relates to the first theme of ‘active learning’. These two indicators call for active learning of new techniques and new value-added complementary items. In contrast, this indicator, ‘(12) aware of new techniques’, relates to the thirst for knowledge of new techniques. It relates to the exploratory and scanning phases rather than that for development. Consequently, it converges on the theme of being ‘proactive’.

Second, to ‘(13) keep abreast of regulatory developments’ spurs the risk management function to anticipate potential changes that may be proposed by key regulators. Keeping tabs of such developments may include being up-to-date with exposure drafts, working papers, consultative documents and regulatory pronouncements, both locally and abroad. Monitoring developments in international bodies, such as the Bank for International Settlements, also provides good impetus for continuous competency development. Such efforts not only help the bank mitigate non-compliance risks but also help prepare the staff to be in tune with the regulators’ thoughts, concerns and aspirations for the industry. Further, being aware of international trends also helps the bank to prepare not only for what may happen in the home country but also to adopt global best practices.

Third, one should also practice ‘(14) proactive self-development’. If the staff members have the innate desire to want to continuously develop and find ways to grow professionally, this would encourage them to be on their toes all the time. This encourages more informed dialogues among more competent staff. It also challenges management to meet staff demand to provide more and better competency development opportunities. At the same time, it may also provide willing and competent facilitators to help develop staff competencies. Having staff members step up as facilitators could encourage them to further extend their competencies. Conversely, if staff members are not proactive to develop themselves, this may result in a complacent environment in which staff competencies stagnate, if not, deteriorate. Dialogues at work would be of a lower quality, lack incisiveness and critical thought processes. In sum, the discussions in the foregoing paragraphs suggest that these three indicators converge on the theme of being ‘proactive’.

4.3.4 *Theme 4: Stretch*

This theme consists of two indicators. The first indicator, ‘(15) leverage quantitative skills’, loads very highly (0.97) to this theme. This indicator

stretches our understanding beyond the conventional thinking that risk management staff should come only from traditional related disciplines such as banking, finance, accounting or economics. In fact, the bank or the risk management function may benefit tremendously if it recruits people with strong quantitative skills (e.g. mathematics, physics or engineering), train them appropriately and leverage these skills to pertinent areas, such as quantitative risk modeling or complex derivatives or structured products. Such staff may help the risk management function refine or develop better models and also enhance the function's competencies in managing risks. This is especially true for areas which require different types of specialized competencies, such as mastery of complex derivatives or structured products. In fact, it may even be able to work with product management teams to develop better products and solutions, thereby stretching the bank's competencies and product offerings.

Implementing this indicator stretches the staff members' competencies because it puts the natural competencies of these quantitative specialists (often called quants) to good, specialized use. Instead of using these quantitative competencies in their typical contexts, such as in laboratories or computer programming, we apply or stretch these competencies to a banking area which requires such specialized competencies. It stretches the competencies of the quants in that they have to apply their quantitative competencies in a banking context. By working with the non-quants to understand the bank and the latter's needs, the quants stretch their competencies beyond the typical technical silos. The non-quants would also stretch their competencies to understand risk and complex products beyond what they normally see. In sum, this indicator, '(15) leverage quantitative skills', stretches the bank's as well as the individual staff members' (both quants and non-quants) competencies beyond their conventional spheres.

The second indicator, '(16) external value chains', does not seem to load very highly to this theme. Nonetheless, it loads at a decent 0.46 level which is close to the 0.5 benchmark. This indicator suggests that the bank's competency development efforts should not be dependent only on its own staff, who may be blinded by their own internal culture and familiarity. Instead, the bank should stretch its tentacles to relevant external parties so as to more quickly and effectively reach wider horizons and have a broader perspective of external or industry developments. Forging closer relationships with various players outside the bank enables the bank to be

more sensitive to the rapid changes and developments in the marketplace, to continuously develop competencies (or demands thereof) which may not be apparent from within and thereby continuously stretch its vision and competencies. These external players may include customers, suppliers, intermediaries, consultants and even regulators.

Utilizing these external value chains stretches the bank's competencies beyond the internal realm, that is, what their staff members currently know. By working closely with those in the external value chain, the bank stretches its competencies beyond the sum total of its staff members. Hence, it stretches the bank's perspectives from being merely inward to more outward looking. In sum, the foregoing discussions on these two indicators suggest that they meaningfully converge on the theme labeled 'stretch'.

4.3.5 *Theme 5: Broader Perspective*

This final theme consists of two indicators, the first of which, '(17) comprehensive view', loads very highly (0.85). As the business world in general and the banking industry in particular get more globally interconnected and complex, the risk management function cannot adopt a silo mentality or a narrow world view. Instead, it needs to view events and developments in a very comprehensive manner. It needs to look beyond the surface and the apparent; it needs to take into account how events and developments may interact, interrelate or even contain lurking risk implications. Facilitating a 'comprehensive view' mindset and approach helps strengthen the risk management function's fortitude because it seeks to identify and address potential lurking risk items. Such a 'broader perspective' mindset helps sharpen the risk management competency development process in a more critical and continuous matter.

Likewise, the second indicator, '(18) enterprise-wide risk management' or 'integrated risk management', calls for assessment of risk categories (such as credit, market and operational risks) not in isolation but also in conjunction with how these risk categories may correlate. This approach provides opportunities for staff to look beyond their immediate risk locus and stretch their competencies to other risk categories and perspectives. It also encourages constructive dialogues so as to obtain a more comprehensive picture of potential risks beyond what is apparent. In sum, the foregoing discussions suggest that these two indicators meaningfully converge on the theme of 'broader perspective'.

Besides adjusting to a more integrated risk management approach, the risk management function itself also needs to actively engage other functions and develop broad-based competencies. This includes working with three key functions, namely, technology, business units and finance. First, the risk management needs to work closely with the technology function so as to enhance an understanding of rapidly growing technology-related risks, such as cyber-security, financial crime, fintech, cryptocurrencies and reputational risks arising from more prevalent use of social media. At the same time, the risk management function also needs to integrate technology-related competencies to enhance efficiency and to cope with big data management. Second, the risk management function needs to work closely with the business units so as to build a more connected perspective of risk and to facilitate a more consistent risk culture across the bank's various business units. Third, collaboration with the finance function facilitates provision of better data quality and consistency so as to address the regulators' increasing demands and concerns. The regulatory-related pressures are likely to increase because of heightened risks arising from increasing global interconnectedness. Moreover, both need to work together to design simpler yet more comprehensive data capture processes and provide better business insights (Koh, 2019).

4.3.6 *How Each Theme Differs*

To recapitulate, the five themes are as follows: (1) active learning, (2) in the bank's interest, (3) proactive, (4) stretch and (5) broader perspective. In this subsection, we discuss if and how each theme differs so as to ensure there are no duplicates. The first theme, 'active learning', is a direct opposite of 'passive learning'. We find a close description in the context of a more passive operational risk management stance in banks relative to other capital-intensive industries. The increasing regulatory-related pressures seem to have driven banks to a more passive or quasi-robotic mode rather than one which reflects and manages risks more strategically, as was originally intended (Ivell & Jain, 2014).

'Active learning' refers to a situation in which the staff members learn in a two-way, deliberative, reflective, meaningful and willing manner rather than one in which they merely go through the work routines or blindly follow orders. Each indicator, that makes up this theme, points to the staff members' naturally ingrained attitude and response which is in line with

the shared understanding of the bank to which its staff agree and uphold. Hence, ‘active learning’ refers to the right thinking mindset of the staff members.

Next, the second theme, ‘in the bank’s interest’, looks at doing things for the good of the bank as opposed to the ulterior motives of individual staff members. In particular, the second indicator, ‘align goals’, refers to how the various staff members’ and department’s goals should be coherent with, and supportive of, the bank’s. Likewise, the third indicator, ‘cross-functional team discussions’, is a deliberative effort toward ensuring that the richness and diversity of thoughts are discussed in a constructive manner toward meeting the bank’s and not the distorted teams’ interests. Hence, this second theme refers to the matter of the heart, as opposed to the mind in the first theme.

The third theme, ‘proactive’, refers to the state of being ready ahead of time for potential future changes rather than merely reacting to changes as and when they happen. The latter may involve last-minute work which may in turn cause inaccuracy or disruption or lead to more errors. This ‘proactive’ theme relates to some deliberative action or plan of action so as to prepare for some potential future event. For instance, indicator #12 refers to being aware of ‘new techniques’. And indicator #13 refers to being updated on regulatory developments. Both these indicators refer to being attuned to the state-of-the-art knowledge. Likewise, indicator #14 refers to the individual staff actively seeking to develop themselves rather than being forced to by circumstances or being asked to attend courses in a passive way.

The fourth theme, ‘stretch’, comprises two indicators. The first indicator, ‘leverage quantitative skills’, refers to extending or maximizing specialist quantitative skills (which originate from nonbusiness backgrounds) to some specialized areas of banking. The second indicator, ‘external value chains’, seeks to extend beyond internal resources to obtain industry information and as a means to develop competencies. Finally, the fifth theme, ‘broader perspective’, also comprises two indicators. Both these indicators clearly refer to adopting a broader or wider view.

Drawing from the preceding Sects. 4.3.1, 4.3.2, 4.3.3, 4.3.4 and 4.3.5, we see that each theme refers to a different aspect, as shown in Table 4.2. Hence, the theme labels seem appropriate on three grounds: (1) statistically, (2) reasonable theme based on the constituent indicators and (3) each theme referring to a different aspect.

Table 4.2 Themes and dimensional aspects

<i>Theme</i>	<i>Constituent indicators</i>	<i>Aspect</i>
T1. active learning	1. Risk awareness culture 2. Past experiences in other functions 3. Revisit relevance of competency profiles 4. Induction 5. Business unit partners 6. Build competencies in new risk management techniques 7. Learn by developing own risk models 8. Build new relevant competencies	Right mindset
T2. in the bank's interest	9. Future scenarios 10. Align goals 11. Cross-functional team discussions	Right heart
T3. proactive	12. Aware of new risk management techniques 13. Keep abreast of regulatory developments 14. Proactive self-development	Always ready, prepare ahead
T4. stretch	15. Leverage quantitative skills 16. External value chains	Maximize or extend beyond
T5. broader perspective	17. Comprehensive view 18. Enterprise-wide risk management	Wider or broader perspective

4.4 CONCLUSION

This chapter discussed how we can meaningfully summarize the risk management competency development indicators into five themes, namely, (1) active learning, (2) in the bank's interest, (3) proactive, (4) stretch and (5) broader perspective. This was done through factor analysis which groups the like indicators into a factor or theme. The appropriateness of these five themes is supported statistically. More importantly, each factor to which the correlated indicators converge can be labeled as meaningful themes in this research context. Hence, this five-theme model provides an alternative way to manage the risk management competency development journey. It provides a more flexible and focused approach. For instance, management may find it easier to facilitate brainstorming sessions to review or update their team's competency profiles and needs using this five-theme model rather than that of the 23 indicators. This five-theme model may also provide some broader principle-based guidance, while the 23-indicator version may be used to provide examples of more granular and pertinent illustrations akin to a prescriptive checklist.

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Conclusion: This Book's Findings on Risk Management Competency Development

Abstract This book sets out to propose an integrated approach to risk management competency development to address the problem of talent shortage in this increasingly important bank function. We describe the overall research effort by presenting an overview of the preceding chapters as follows. Chapter 1 argues that staff recruitment and poaching alone would not suffice because we need to properly integrate new staff into the bank. Staff recruitment and poaching are mere short-term knee-jerk reactions which are not sustainable. Such actions increase compensation exponentially and do not really produce sufficient depth and breadth in the talent pool. Hence, banks need a more comprehensive way to develop their risk management competency. One way to do this is through the proposed integrated approach, which pools together three interrelated concepts of core competency, dynamic competency and the learning organization. We also translate the broad problem statement into three specific objectives, each of which is addressed in Chaps. 2, 3 and 4, respectively.

Chapter 2 seeks to address the first objective of operationalizing the concepts into indicators which pertain to the context of a bank's risk management function. It begins by discussing the key foci of the three interrelated competency concepts. We show that the concepts are not identical because despite having some similarities, there are also subtle differences.

Besides, the weaknesses in one concept are addressed by the strengths of at least one other concept. Hence, we propose the pooling together of these concepts to have a more comprehensive approach to competency development.

Chapter 2 also discusses how we translate these three concepts into operationalized indicators through a two-stage process. In the first stage, we review pertinent literature in the banking and risk management contexts. This facilitates the identification of indicators which illustrate the conceptual variables. In the second stage, we reaffirm our findings by interviewing ten leading chief risk officers. The interviews also reveal identification of additional indicators, all of which can be mapped to a conceptual variable. Hence, we compiled a list of 23 indicators which illustrate the conceptual variables for application in the context of a bank's risk management function.

Next, Chap. 3 addresses the second objective which is to study whether the indicators differ across bank demographic groups. It begins by discussing how we use this questionnaire to survey 135 risk management professionals. The survey seeks to identify the extent to which each of the 23 indicators is practiced in the respondents' banks. Before analyzing the survey findings, we perform diagnostic tests to ensure that the dataset is ready for use in the pertinent analytical techniques of *t*-test, discriminant analysis and factor analysis. Chapter 3 examines the indicators whose scores significantly differ between banks of different demographic groups, namely, local- versus foreign-controlled banks, entrepreneur- versus non-entrepreneur-controlled banks and across five differences.

The following Chap. 4 addresses the third and final objective, which is to study whether we can meaningfully summarize the indicators into a few themes. This was done through factor analysis which groups the like indicators into a factor or theme. We find that there is statistical support for this process and, more importantly, the indicators do meaningfully converge into the proposed theme labels.

Finally, this chapter discusses the findings obtained from the analyses as described in the preceding paragraphs. We organize the remainder of this chapter as follows. Section 5.1 recapitulates the aim of this book and the three specific objectives which emanate from this aim. Next, Sect. 5.2 discusses how the insights gained from the findings present conclusions relating to each of the three objectives and, hence, the aim of this book. Section 5.3 reflects on the limitations of this book which in turn sheds light on potential directions for future research and concludes.

Keywords Overall research effort • Preceding chapters • Aim • Research objectives

5.1 THE AIM AND THE THREE OBJECTIVES

This book aims to build an integrated approach to facilitate continuous risk management competency development. The proposed integrated approach pools together three interrelated concepts—core competencies, dynamic competencies and learning organization—as opposed to studying each in isolation.

This aim is, in turn, translated into three specific research objectives, namely:

- RO1. To translate these three concepts into operationalized indicators which apply to the context of a bank's risk management competency development
- RO2. To identify the indicators which are accorded significantly different scores by different bank demographic groups (i.e. local- versus foreign-controlled banks, entrepreneur- versus non-entrepreneur-controlled banks and different staff seniority levels)
- RO3. To explore the feasibility of summarizing the indicators into a few meaningful themes

Figure 5.1 summarizes the overall research effort.

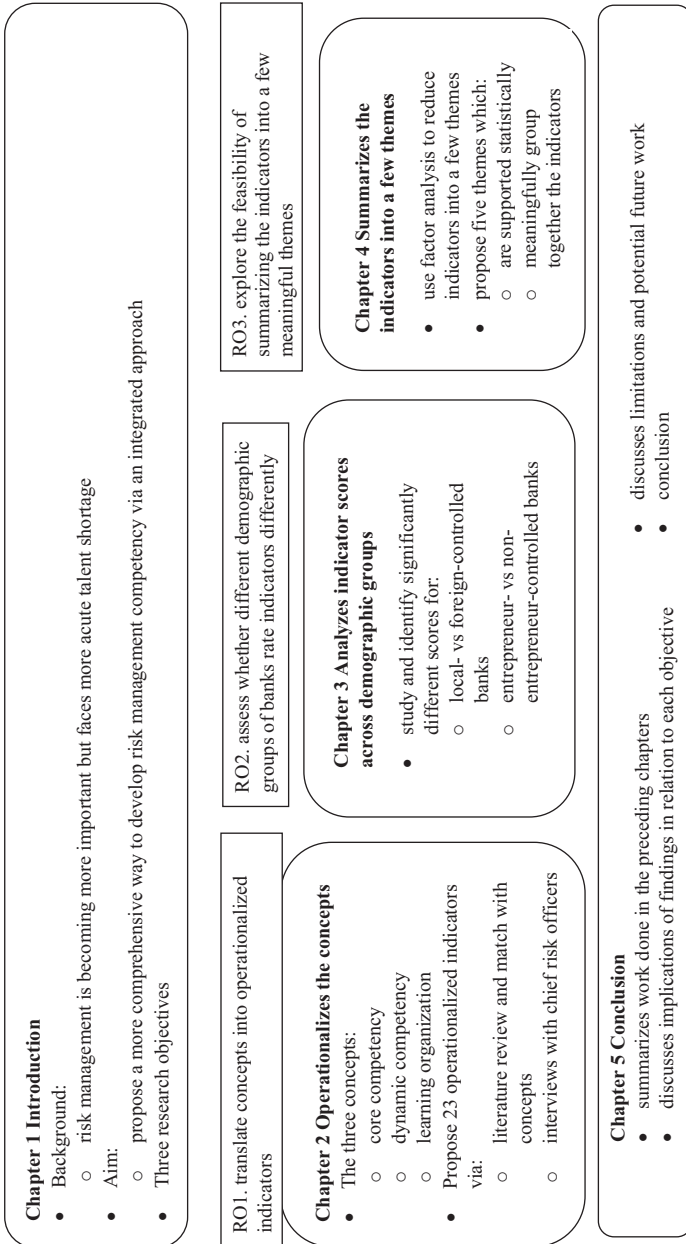


Fig. 5.1 Overall research effort

5.2 IMPLICATIONS OF THE FINDINGS FOR RISK MANAGEMENT COMPETENCY DEVELOPMENT

5.2.1 *ROI: To Translate the Concepts into Operationalized Indicators*

Chapter 2 discusses how we may translate the three concepts and their conceptual variables (C1 to C2, D1 to D3 and L1 to L3 for the core competency, dynamic competencies and learning organization concepts, respectively) into indicators pertinent to the context of a bank's risk management competency development.

Table 5.1 lists the operationalized indicators together with the corresponding conceptual variables, reference in the questionnaire instrument and also a brief description of what they are.

A review of Table 5.1 suggests that the three competency development concepts provide an adequate framework from which the operationalized indicators emanate. These indicators are in turn inferred from risk/banking-context literature reviews and reaffirmed by interviews with ten leading chief risk officers. Finally, we briefly describe what each indicator entails.

We can use these 23 operationalized indicators to provide granular guidance for the risk management competency development journey. The list of indicators goes beyond broad or abstract concepts. Instead, it provides a list of actionable items, akin to that of a descriptive checklist to guide risk management competency development. This list should, however, be used in conjunction with the three concepts and their variables. It should also be updated, reviewed and reconfigured regularly. Hence, the list of 23 operationalized indicators addresses the first research objective.

5.2.2 *RO2: To Assess Whether Different Demographic Bank Groups Attach Different Levels of Importance*

This section summarizes the findings on the indicators whose scores significantly differ between three demographic group comparisons, namely, the local- versus foreign-controlled banks, the entrepreneur- versus non-entrepreneur-controlled banks and the below middle management versus the above middle management risk management professionals. We focus on significant differences on both individual and combinative indicator bases. Table 5.2 shows the pertinent indicators for these three demographic group comparisons.

Table 5.1 Conclusion of ROI—list of operationalized indicators

<i>Indicator #</i>	<i>Question #</i>	<i>Keywords of the operationalized indicators</i>	<i>Corresponding conceptual variable</i>	<i>Brief description</i>
1	17	Bank-wide risk	C1 non-silo view	Evaluate risk across all categories (i.e. credit, market, operational and liquidity risks), together with their intercorrelations (instead of viewing each risk category in isolation)
2	5	Cross-functional discussions	C1 non-silo view	Rich constructive dialogues among staff from different functions
3	10	Business partner	C2 stretch competencies	Provide proactive business-aware support to the business units
4	11	External value chains	D1 integrate external developments	Build or strengthen ties with external parties so as to sense external developments
5	2	New techniques—aware	D1 integrate external developments	Proactive in being aware of new risk management techniques
6	12	New techniques—build competencies	D2 build competencies	Build or acquire competencies in new risk management techniques
7	3	Aware of new products	D1 integrate external developments	Proactive in being aware of new banking products
8	13	Build new competencies	D2 build competencies	Build or acquire new relevant competencies, for example, communication skills
9	16	Revisit competencies	D3 reconfigure competencies	Regularly review relevance of competency profiles
10	20	Risk and business goals align	L1 aspire	Align goals of the risk management and business functions
11	7	Past lessons learned	L2 reflect and discuss	Discuss and reflect on lessons learned from past events
12	8	Discuss and reflect on future	L2 reflect and discuss future	Reflect on implications of possible future scenarios which may affect the bank's risks

(continued)

Table 5.1 (continued)

<i>Indicator #</i>	<i>Question #</i>	<i>Keywords of the operationalized indicators</i>	<i>Corresponding conceptual variable</i>	<i>Brief description</i>
13	21	Institutionalize knowledge	L2 reflect and discuss	Record and retain as explicit knowledge in the risk management function instead of merely being tacit knowledge of a few staff members
14	9	Risk culture	L1 aspire	Have a risk awareness and appreciation culture bank-wide
15	14	Prior functions experience	L2 reflect and discuss	Prior experience in related functions
16	18	Judgment	L3 understand complexity	Exercise judgment instead of overly relying on quantitative risk models; for example, question results of risk models with judgment
17	19	Comprehensive view	L3 understand complexity	See events in a comprehensive rather than narrow way; that is, consider probable implications of various events which may be interconnected
18	1	Proactive—regulatory developments	D1 integrate external developments	Proactive in keeping abreast of or being aware of developments in regulatory matters
19	6	International developments	D1 integrate external developments	Regularly track and be updated with global industry events and, hence, have an international perspective
20	4	Self-development	L1 aspire	Be proactive for own professional development
21	15	Induction	L1 aspire	Run proper induction sessions to ensure potential new joiners understand and support the risk management function's roles and aspirations
22	25	Learn—develop models	L2 reflect and discuss	Learn risk dynamics (e.g. determinants of risk grades outcomes, model robustness or limitations), in the course of developing own risk models
23	23	Leverage quantitative skills	C2 stretch competenciesL3 understand complexity	Use sophisticated quantitative skills of staff from nontraditional disciplines (e.g. engineering) to areas which use these competencies (e.g. risk modeling and derivatives)

Table 5.2 Indicators whose scores differ significantly across bank demographics

<i>Indicator # (Fig. 2.1 in Chap. 2)</i>	<i>Questionnaire # (see Appendix)</i>	<i>Keywords</i>	<i>Brief description</i>
<i>Local- vs foreign-controlled banks:</i>			
19	6	International developments	Regularly track and be updated with global industry events and, hence, have an international perspective
8	13	Build new competencies	Build or acquire new relevant competencies, for example, communication skills
13	21	Institutionalize knowledge	Record and retain as explicit knowledge in the risk management function instead of merely being tacit knowledge of a few staff members
<i>Entrepreneur- vs non-entrepreneur-controlled banks:</i>			
5	2	New techniques—aware	Proactive in being aware of new risk management techniques
<i>Different staff seniority levels:</i>			
3	10	Business partner	Provide proactive business-aware support to the business units

The findings in Table 5.2 present the following implications. The foreign-controlled banks score higher in terms of three indicators, namely, ‘international developments’, ‘build new competencies’ and ‘institutionalize knowledge’. As discussed in Chap. 3, this may be a result of the foreign-controlled banks’ greater extent of international deals and exposure, vast global network of resources and expertise and higher incidences of staff movements or transfers. This in turn leads to the need for a more institutionalized and systematic management approach so as to facilitate clearer and more consistent communication over time and across different countries. It also means that local-controlled banks which aspire to internationalize their operations need to consider stepping up efforts in these three indicators.

As for the entrepreneur-controlled banks, their inclination toward having a more personal touch (especially from knowledgeable controlling entrepreneurs who carry a patriarchal aura) and being more conservative may have contributed to their enviable success thus far. Going forward, however, as banks grapple with more complex challenges, they may wish to consider the appropriateness of exploring some newer risk management techniques as adopted by some good global banks.

Finally, as to staff seniority levels, it is the ‘business partner’ indicator which significantly differs for staff members who are ‘below middle man-

agement' and those 'above middle management', on both individual and combinative bases. This may be due to three reasons. First, one needs to go through the passage of time to gain sufficient experience, knowledge and confidence to stand on par with the business functions. Second, a risk management professional needs to have some decent achievement or track record to show that he can win the trust of the business functions. Third, for a risk management officer to work in partnership with a business function, he also needs to be mature and wise to handle the intricacies of complex interpersonal relationships with the business function.

5.2.3 *RO3: To Summarize the Indicators into a Few Meaningful Themes*

In Chap. 2, we argued that some of the framework's variables and indicators are interrelated because they complement one another. However, at the same time, there are some subtle similarities and differences too. Moreover, each concept has at least a unique contribution which is not found in the other two concepts. Hence, this research objective studies the possibility of summarizing the indicators into a few meaningful themes. Indeed, this forms the crux of this book, the aim of which is to propose an integrated framework for competency development.

There may be three scenarios which may invalidate the use of an integrated framework. First, we cannot form a reasonable factor model. This would mean that the conceptual variables or operationalized indicators are not sufficiently interrelated. Second, we can form a reasonable factor model, but its factors are precisely the three underlying concepts of core competency, dynamic competencies and the learning organization. This would suggest that the variables or indicators emanating from one concept are not sufficiently interrelated with those from the other two concepts. Third, we can form a reasonable factor based on statistical considerations. However, we are not able to meaningfully label the factors or themes that relate to the banking or risk management context.

As discussed in Chap. 4, the above three scenarios did not happen. In fact, we are able to form a reasonable factor model which is both statistically supported and for which we can meaningfully label the themes. Hence, we can use this factor model as an integrated framework for competency development.

Table 5.3 shows the proposed framework as adapted from Table 4.1, together with the themes' descriptions as summarized from the discussions in Chap. 4.

Table 5.3 The key themes which guide risk management competency development

<i>Theme</i>	<i>Brief description</i>	<i>Indicators</i>
T1. active learning	Active, reflective, continuous, purposive and meaningful learning through various ways in a conducive environment	<ol style="list-style-type: none"> 1. Risk awareness culture 2. Past experiences in other functions 3. Revisit relevance of competency profiles 4. Induction 5. Business unit partners 6. Build competencies in new risk management techniques
T2. in the bank's interest	Discuss constructively, decide and take actions objectively in the bank's interest	<ol style="list-style-type: none"> 7. Learn by developing own risk models 8. Build new relevant competencies 9. Future scenarios 10. Align goals
T3. proactive	Proactively seek updates on new techniques and regulatory matters, and seek avenues for self-development	<ol style="list-style-type: none"> 11. Cross-functional team discussions 12. Aware of new risk management techniques 13. Keep abreast of regulatory developments
T4. stretch	Look beyond traditional sources of competencies; for example, leverage quantitative competencies to specialized technical areas and build relationships with external parties to keep abreast with external developments	<ol style="list-style-type: none"> 14. Proactive self-development 15. Leverage quantitative skills 16. External value chains
T5. broader perspective	View things from a broader perspective, taking into account interrelationships of events and risk implications	<ol style="list-style-type: none"> 17. Comprehensive view 18. Enterprise-wide risk management

Management may focus on the five key themes instead of reviewing the long list of 23 operational indicators. These themes provide an easier and more flexible way of facilitating brainstorming sessions to review and update the competency profiles and work in progress. At the same time, if there is a need to delve into examples of further details, we can refer to the last column which shows the constituent indicators. Hence, this table addresses RO3.

In sum, the foregoing discussions in Sects. 5.2.1, 5.2.2 and 5.2.3 which culminate in Tables 5.1, 5.2 and 5.3 suggest that we have addressed all three research objectives. This, in turn, means that we have also addressed the book's aim which is to propose a more comprehensive way to develop risk management competency via an integrated framework.

5.3 CONCLUSION

Despite the contributions discussed in Sect. 5.2, this book has two limitations which, in turn, provide avenues for potential future work. First, we suggested that there are some subtle similarities and differences among the conceptual variables. Future efforts may be channeled toward refining more clearly these subtleties in a more comprehensive, concise and concrete manner. It may also be useful to delineate more clearly the different extents of subtle similarities and differences.

Second, the respondent base was limited to ten chief risk officers and 135 risk management practitioners, all of whom were attached to banks in Malaysia. Hence, the proposed framework may not necessarily apply to other situations, such as other bank functions, other industries or even other countries. Future work may explore the appropriateness of this framework to such other situations.

While these two limitations are acknowledged, they do not detract from this book's aims of facilitating risk management competency development. Instead, these limitations shed light on potential future work which extends, refines or stretches the ideas discussed in this book. We began this book by seeking motivation from three examples of unlikely sports heroes—the Croatian soccer team's runner-up finish at the 2018 World Cup, the Danish badminton team's 2016 Thomas Cup victory and Leicester City's triumph at the 2016 English Premier League. We conclude by piecing together the findings discussed herein which lend support to its overarching aim of proposing an integrated approach to facilitate continuous risk management competency development.



Correction to: Formulating the Risk Management Competency Development Indicators

CORRECTION TO:

Chapter 2 in: E. H. Y. Koh, *Risk Management Competency Development in Banks*, Palgrave Macmillan Studies in Banking and Financial Institutions, https://doi.org/10.1007/978-981-13-7599-6_2

In Chapter 2, page 29, indicator #12 was wrong and this has been changed to indicator #16.

The updated online version of this chapter can be found at https://doi.org/10.1007/978-981-13-7599-6_2

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E. H. Y. Koh, *Risk Management Competency Development in Banks*, Palgrave Macmillan Studies in Banking and Financial Institutions, https://doi.org/10.1007/978-981-13-7599-6_6

APPENDIX

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E. H. Y. Koh, *Risk Management Competency Development in Banks*,
Palgrave Macmillan Studies in Banking and Financial Institutions,
<https://doi.org/10.1007/978-981-13-7599-6>

QUESTIONS					
<p>NOTE FOR QUESTIONS Q1 TO Q4 BELOW:</p> <ul style="list-style-type: none"> “Other parties” means <u>internal and external parties other than the Risk Management Function (RMF)</u>, e.g. regulators, auditors, training, product management, finance 					
<p>WHO MADE YOU AWARE OF....:</p>	(1) Very often (more than 71% of the time) prompted by other parties	(2) Often (51% to 70% of the time) prompted by other parties	(3) Sometimes (50% of the time) prompted by other parties, sometimes prompted by RMF/me	(4) Often (51% to 70% of the time) prompted by RMF/me	(5) Very often (more than 71% of the time) prompted by RMF/me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Q1. <u>developments in regulatory matters?</u></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Q2. <u>new risk management techniques?</u></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Q3. <u>new products in the industry, be it locally or abroad?</u></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Q4. Who drove the process of RMF personnel's own professional development? (Note: “RMF personnel” refers to the professional staff only. “Professional development” includes all activities to enhance one’s professional capabilities, e.g. training, certification programs, reading, etc.)</p>					
<input type="checkbox"/>	Very often (more than 71% of the time) prompted by others	Often (51% to 70% of the time) prompted by others	Sometimes (50% of the time) prompted by others, sometimes self-prompted	Often (51% to 70% of the time) self-prompted	Very often (more than 71% of the time) self-prompted

NOTE FOR QUESTIONS Q5 TO Q8 BELOW:

- (a) "Discussions" refers only to constructive discussions pertaining to the bank's business or risk management matters, e.g. to better understand the bank's risk or business situations or to explore better solutions/products. It involves two or more persons but need not necessarily involve physical face-to-face discussions. Other forms of two-way communication, e.g. tele/video-conferencing, emails, intranet, chat rooms are also deemed "discussions".
- (b) Discussions of mere administrative/casual/social nature are excluded.

	(1) Less than once in every 6 months	(2) Once in every 6 months	(3) Once in every 4 to 5 months	(4) Once in every 2 to 3 months	(5) At least once a month
HOW OFTEN, ON AVERAGE, HAS YOUR RMF:-					
Q5. engaged in discussions with colleagues from other functions (e.g. sales, relationship management, treasury, product management, finance), i.e. <u>gross functional dialogues</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q6. monitored events occurring in the industry globally (e.g. trends in competition or customer demands), i.e. <u>international market developments</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q7. held discussions to <u>reflect on lessons learnt</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q8. held discussions to <u>deliberate on implications of possible future events that may impact the bank's risk position</u> , i.e. <u>forward-looking matters</u> , e.g. stress testing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	(1) Not at all	(2) Minimally	(3) Moderately	(4) Fairly much	(5) A great deal
Q9. To what extent has your bank adopted a risk awareness/appreciation culture, on a bank-wide basis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FOR Q10 TO Q16 TO WHAT EXTENT HAS YOUR RMF.....:-					
Q10. provided proactive business-aware support to the business units, i.e. business partnering?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q11. established /strengthened relationships with people or entities outside the bank (e.g. financial intermediaries, rating agencies, regulators, consultants, etc.), i.e. external value chains?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q12. built/acquired competencies in new risk management techniques?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q13. built/acquired new, relevant competencies (e.g. negotiation skills, presentation/communication skills)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q14. deemed prior experience in other relevant functions as being valuable? (e.g. treasury or relationship management or recovery or special assets)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q15. conducted proper induction (during interview screening or otherwise) to ensure each prospective RMF professional joiner has a correct understanding/interest in risk management?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q16. reviewed the relevance of the existing competencies (i.e. skills, knowledge, attitudinal traits)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q17. In assessing risk adjusted return on capital (RAROC), banks may adopt one or a combination of the following approaches:

- assess each risk element (e.g. credit risk, market risk, operational risk) separately, then add up - that is, basis (i)
- assess the risk elements together with the correlations between these risk elements – that is, basis (ii)

Which approach or combination has your RMF adopted?

<input type="checkbox"/> Basis (i) – very often (more than 71% of the time)	<input type="checkbox"/> Basis (i) – often (51% to 70% of the time)	<input type="checkbox"/> Sometimes (50% of the time) basis (i), sometimes basis (ii)	<input type="checkbox"/> Basis (ii) – often (51% to 70% of the time)	<input type="checkbox"/> Basis (ii) – very often (more than 71% of the time)
---	---	--	--	--

Q18. When using results from quantitative risk models to make decisions, your RMF has:

(Note: this relates to models currently in use; excludes those being tested or being refined)

<input type="checkbox"/> Very often (more than 71% of the time) strictly adhered to the results	<input type="checkbox"/> Often (51% to 70% of the time) strictly adhered to the results, occasionally questioning the results with judgment	<input type="checkbox"/> Sometimes (50% of the time) adhered, sometimes questioned the results with judgment	<input type="checkbox"/> Often (51% to 70% of the time) questioned the results with judgment	<input type="checkbox"/> Very often (more than 71% of the time) questioned the results with judgment
---	---	--	--	--

Q19. Which of the following best describes the way your RMF personnel viewed events, in terms of implications on the bank's risk position?

<input type="checkbox"/> Very often (more than 71% of the time) focused on events that were directly relevant to our department or those that we were asked to study, that is, a "very focused view"	<input type="checkbox"/> Often (51% to 70% of the time) adopted a very focused view	<input type="checkbox"/> Sometimes (50% of the time) adopted a very focused view, sometimes considered probable implications of various events	<input type="checkbox"/> Often (51% to 70% of the time) considered probable implications of various events	<input type="checkbox"/> Very often (more than 71% of the time) considered probable implications of various events
--	---	--	--	--

Q20. Which statement best describes how goals have been established for the RMF and the business functions?

<input type="checkbox"/> Each function established its goals independently - to a great extent	<input type="checkbox"/> Each function established its goals independently – fairly much	<input type="checkbox"/> There has been moderate independence and moderate alignment in this process	<input type="checkbox"/> Both functions aligned their goals – fairly much	<input type="checkbox"/> Both functions aligned their goals to a great extent
--	--	--	---	---

Q21. In terms of your bank's risk management knowledge, which statement seems most accurate?

<input type="checkbox"/> To a great extent, retained by some individuals	<input type="checkbox"/> Fairly much retained by some individuals	<input type="checkbox"/> Moderately retained by some individuals and moderately retained/documentated in the RMF, i.e. institutionalized	<input type="checkbox"/> Fairly much institutionalized	<input type="checkbox"/> To a great extent, institutionalized
--	---	--	--	---

Q22. Banks typically recruit graduates from traditional banking-related disciplines such as economics, accounting, finance or business studies. Does your RMF have graduates from quantitative non-traditional banking disciplines (e.g. engineering/mathematics/physics)?

<input type="checkbox"/> Yes	<input type="checkbox"/> No			
<p>IF YES => PROCEED TO Q23, THEN SUBSEQUENTLY TO Q24</p> <p>IF NO => SKIP Q23, PROCEED TO Q24</p>				
Q23. For staff with background in quantitative, non-traditional disciplines (e.g. engineering/mathematics), has your RMF put them in areas truly utilizing their quantitative competencies (e.g. derivatives, risk modelling)?				
<input type="checkbox"/> Not at all	<input type="checkbox"/> Minimal	<input type="checkbox"/> Moderate	<input type="checkbox"/> Fairly much	<input type="checkbox"/> Great deal

Q24. To what extent has your RMF (in Malaysia) developed your own risk models?

<input type="checkbox"/> Not at all (e.g. provided by group headquarters or bought 'off-the-shelf')	<input type="checkbox"/> Minimal (e.g. provided by group headquarters or bought 'off-the-shelf' but modified with our minimal inputs)	<input type="checkbox"/> Moderate (e.g. provided by group headquarters or bought 'off-the-shelf' but modified with some of our inputs)	<input type="checkbox"/> Fairly much (e.g. we provided fairly much inputs in development)	<input type="checkbox"/> Great deal (e.g. we provided a great deal of inputs and/or develop the models ourselves)
---	---	--	---	---

**IF YOUR RESPONSE TO Q24 IS "NOT AT ALL" => SKIP Q25. PROCEED TO "DEMOGRAPHIC"
ELSE => PROCEED TO Q25, SUBSEQUENTLY "DEMOGRAPHIC"**

Q25. To what extent has your RMF learnt about risk dynamics in the process of developing your own risk model? (Note: Examples of "risk dynamics" include factors affecting the risk grades outcomes, robustness or limitations inherent in the model)

<input type="checkbox"/> Not at all	<input type="checkbox"/> Minimal	<input type="checkbox"/> Moderate	<input type="checkbox"/> Fairly much	<input type="checkbox"/> A great deal
-------------------------------------	----------------------------------	-----------------------------------	--------------------------------------	---------------------------------------

DEMOGRAPHIC

(Note: The information in this section will be used for research analysis purposes only and will NOT be disclosed.)

D1. Is your bank a conventional or Islamic bank?

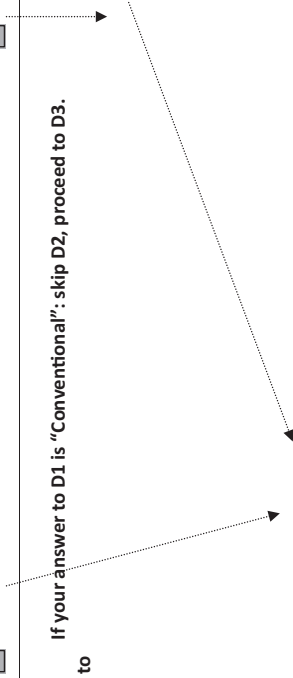
<input type="checkbox"/> Conventional	<input type="checkbox"/> Islamic
---------------------------------------	----------------------------------

If your answer to D1 is "Conventional": skip D2, proceed to D3.

If your answer to D1 is "Islamic": proceed to D2 before going to

D2. Is your ultimate parent bank a conventional bank or Islamic bank?

<input type="checkbox"/> Conventional	<input type="checkbox"/> Islamic
---------------------------------------	----------------------------------



NOTE: The following questions apply, regardless of what your response to question D1 is. Questions D3 to D4 relate to your ultimate parent bank.

D3. Is your ultimate parent bank a locally (that is, Malaysian) or foreign-controlled bank?

Local

Foreign

D4. Does an entrepreneur actively exert strong control over management in your ultimate parent bank (e.g. through holding executive management/chairman positions, substantial family shareholding or directorships, has strong influence over strategic or key management decisions)?

Yes

No

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