A QUANTUM LEAP IN INFORMAL BENCHMARKING

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Abstract

Despite the paucity of available literature on informal benchmarking and the consequential lack of its understanding, informal benchmarking has outranked established benchmarking (formal), placing 4th out of 20 of the most used business improvement tools, based on a 2008 Global Benchmarking Network (GBN) survey of 450 organisations worldwide. This paradox is exacerbated by the growing popularity of informal benchmarking, even though it is not correspondingly as effective as it is widely used. Therefore, two significant gaps need be filled: firstly, to develop a theoretical understanding of, and secondly, to investigate how to increase the effectiveness of informal benchmarking as an organisational improvement tool.

A pragmatic mixed method quantitative-qualitative sequential design using an abductive-deductive-inductive approach is adopted. The product of abduction is a preliminary conceptual model of informal benchmarking from the transdisciplinary academic review of benchmarking, informal learning, organisation learning and knowledge management, augmented by concepts on quantum thinking, innovation and positive deviance. The model informs the quantitative survey questionnaire, whose deductive results of 81 survey responses from 14 countries informs the in-depth semi-structured interviews of 16 informants from 7 countries, the resulting dataset being inductively coded into conceptually-driven dendrograms. The integrated findings refine the conceptual model of informal benchmarking, and develops a toolset-based application model (a pragmatic outcome of the conceptual model), a maturity assessment framework and an eco-system strategy. From here, an informal benchmarking roadmap is synthesised, representing a sustainable platform for informal benchmarking to be deployed as an effective organisational improvement initiative.

The research sets the stage for a leap in scholarly understanding of informal benchmarking in the wider context of business and organisational improvement, and offers organisational improvement practitioners an invaluable cost-effective solution in a time-scarce executive world. This pragmatic study of informal benchmarking has possibly unleashed a different epistemological stance within the benchmarking field, by advocating an organic approach to benchmarking, in contrast to the highly methodical approaches associated with conventional benchmarking.

Abbreviations

APQC	American Productivity and Quality Center
BPIR	Business Performance Improvement Resource
GBN	Global Benchmarking Network
IB	Informal Benchmarking
IL	Informal Learning
KM	Knowledge Management
LO	Learning Organisation
OECD	Organisation for Economic Co-operation and Development
OL	Organisational Learning
NSD	Non-social Dimension
SD	Social Dimension

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Chapter 1 Introduction

1.1 Chapter Overview

This chapter explains the nature of research problem, the aims, questions, objectives and significance of the study. It outlines the researcher's role and the organisation of the thesis chapters.

1.2 The Research Problem

Formal Benchmarking[1] is a structured methodology for business process improvement by comparing with the best practices of other organisations (Anand & Rambabu, 2008; APQC, 2009; Camp, 1989; Stauffer, 2003; Zairi & Leonard, 1994). Informal benchmarking, on the other hand, seeks to achieve similar results through informal means.

A global survey ranked informal benchmarking[2] (informally learning from others to improve work practices), 4th out of 20 of the most common business improvement tools used in organisations. The survey conducted (R.S. Mann & Kohl., 2008, pp. 8-10) by the Global Benchmarking Network (GBN) in 2010 received responses from 452 organisations in 44 countries. "Informal Benchmarking" (68%) came in 4th for usage after "Mission and Vision Statements" (77%), "Customer/client Surveys" (77%) and "SWOT Analysis" (72%), outranking "Performance Benchmarking" (49%) and 'Best Practice Benchmarking" (39%), typically referred to as formal benchmarking tools, which rated 5th and 6th respectively after informal benchmarking. Ironically, informal benchmarking placed a significantly lower 14th out of the 20 business improvement tools for its effectiveness in organisations, compared with its number 4 rating for usage in organisations.

In their 2nd state of benchmarking report in 2009 (APQC, 2009), 4 years after the first report in 2005, the American Productivity and Quality Center (APQC) stated that nearly 70% of organisations perform some form of informal benchmarking. Here, informal benchmarking

[1] Benchmarking and "formal benchmarking" are used interchangeably to mean the same.
[2] Informal Benchmarking and the phrase "informally learning from others to improve work practices" are used interchangeably to mean the same.

is referred to as short-term ad-hoc projects while formal benchmarking is referred to as being long-drawn and fuller structured projects (APQC, 2009, p. 2). The results involved more than 200 organisations.

The term “informal benchmarking” yielded only 298 hits on Google Scholar on 23 Apr 2013, for which the vast majority used the term cursorily without any description. Searches on similar terms “casual benchmarking” or “unstructured benchmarking” yielded negligible results. “Informal benchmarking” was first described in a benchmarking training manual (R.S. Mann, 2007), and has since been defined by Mann through the Business Performance Improvement Resources website (BPIR, 2002), GBN website and members’ websites, through other publications (Adebanjo, Abbas, & Mann, 2010; R.S. Mann, 2008), and the GBN Report (R.S. Mann & Kohl., 2008). The use of the term by APQC in their 2009 report, and by others, such as The British Quality Foundation, is probably a result of them becoming familiar with the work of GBN chairman, Dr. Robin Mann. The two best attempts at describing the term or tool are notably first, by the GBN (R.S. Mann & Kohl., 2008, p. 22) and second, the APQC (APQC, 2009, p. 4), both globally established entities in the benchmarking field, and part of the larger organisation and business improvement community. Below are two “definitions” of informal benchmarking available in literature, apart from a fuller description which will be provided for later (section 2.2).

GBN (R.S. Mann & Kohl., 2008, p. 22) states:

> *“Informal Benchmarking can be defined as an unstructured approach to learn from the experience of other organisations; therefore not following a defined process”.* This definition can be attributed to Dr Robin Mann, GBN Chairman.

APQC (APQC, 2009, p. 4) states:

> *“They (informal benchmarking) are accepted as ongoing improvement activities and are implemented as continuous processes.”*

A third “loose definition” could be attributed to survey findings by (Andersen & Camp, 1995), where organisations without a formal benchmarking programme described informal benchmarking to be *“…benchmarking activity was reported to be sporadic, part of a larger initiative, and used when needed, often as a fact-finding tool”.* This puts forwards the use of informal benchmarking as a prelim before the actual formal benchmarking takes place.

Herein lies the paradox: the knowledge workers[3] (Davenport, 2005) who responded to the GBN survey, while aware of the wide use of informal benchmarking as a business improvement tool, were limited in their understanding to a brief description of informal benchmarking provided by the survey. These respondents could not have adequately understood the characterisation and nature of informal benchmarking due to the absence of empirical research in established literature on the subject matter. While (Adebanjo et al., 2010, p. 1144) goes a little further to suggest how informal benchmarking applies to everyday living and learning from others, it too does not elucidate a substantive position of informal benchmarking in organisational excellence research.

Its pervasiveness and growing popularity (R.S. Mann & Kohl., 2008, p. 8) suggests it has greater flexibility, accessibility, is less costly, and less time-consuming than the lengthy methodology associated with formal benchmarking (Anand & Rambabu, 2008). Though informal benchmarking has the ability to produce tangible results, the effectiveness of the informal and discreet activities associated with it have either not reached their potential, or are considered as mere preliminary formal benchmarking efforts (R.S. Mann & Kohl., 2008), or both.

Interestingly, a survey by Andersen Consulting in 1998 revealed that 30% of attempts by 2000 strategic alliances (one form of benchmarking partnership) were complete failures. Only 39% were reported as successful and the remaining 21% as under-performing. *"Executives offered different explanations, including: 'Trust broke down.' 'Strategies changed.' 'Champions moved on.' 'Value did not materialise.' 'Cultures did not mesh.' 'Systems were not integrated.'"* (Andersen Consulting, 1999). It could be argued that some of these strategic alliances have been more formalised benchmarking contracts to learn from each other's best practices. However, the "ball dropped" due to trust factors, differing values, or varied cultural environments; all of which are very similar to reasons for benchmarking failures (Francis & Holloway, 2007), which can possibly be mitigated by a more intimate informal relationship. This presents the notion of the informal side of learning new or better practices via bonding with each other, building relationship to the point of being inclusive of each other's culture, and trusting reciprocity, as opposed to hard, regimental, formal

[3] Knowledge worker", "business executive" or "executive" are used interchangeably to refer to intellectual workers who possess reasonable knowledge of the mission and vision of their organisation

approaches. It also presents the possibility of informal benchmarking functioning as an initiator and complement to official benchmarking projects, thereby increasing the chances of success.

1.3 Research Aims

The primary aims of this study are to promulgate a wider and deeper understanding of informal benchmarking as an organisational improvement tool, and to make recommendations on how to increase the effectiveness of informal benchmarking in organisations.

1.4 Research Questions

The concept of informal benchmarking is generally well received as seen by the GBN global survey findings. However, given the very limited literature and theoretical grounds available, its understanding requires development at the fundamental level. The 1st research question, therefore, seeks to address the development of this understanding:

1. How can a conceptual model of informal benchmarking be made available to support its understanding amongst practitioners and academics alike?

The 2nd and 3rd research questions seek to address the issue of effectiveness and the sustainability of informal benchmarking as an organisational improvement tool:

2. Given its apparent pervasiveness, how can informal benchmarking be rendered more effective?

3. Can a sustainable approach be developed for its organisation-wide deployment?

1.5 Research Objectives

In order to answer the research questions, it is necessary to establish a substantive conceptual model of informal benchmarking, including its definition, purpose, characteristics and taxonomy, and to provide recommendations on how to implement an effective organisational-wide approach that is sustainable. Four specific objectives have been identified for this purpose:

1. Develop a conceptual model of informal benchmarking including its definitions, purposes, characteristics, taxonomy and toolset

2. Develop a model for applying the informal benchmarking toolset effectively

3. Develop an assessment framework to assess the maturity level of informal benchmarking in an organisation

4. Provide recommendations on how to organise, integrate and implement informal benchmarking to be an effective and sustainable platform for organisational improvement throughout the whole organisation

1.6 Significance of Research

"The only way to support people in developing new capabilities (including practices) over time is to build learning communities where people inspire each other and help each other become part of a larger network of collaboration. It's that collaboration that helps people sustain the efforts needed to learn something in a way that just reading a book will never do." (Senge, Schneider, & Wallace, 2014, p. 3). This study provides two significant contributions: enlarging scholarly understanding of informal benchmarking in the context of business improvement, and providing practitioners a cost-effective solution to improving work practices.

Empirical evidence on the popularity of informal benchmarking is recognised in section 1.2 via the two global surveys. Notwithstanding, the lack of an informal benchmarking concept, or strategies to improve its limited effectiveness is overwhelmingly apparent. These two gaps need to be filled. This research elucidates first principles and a potentially significant leap of understanding via a conceptual model of informal benchmarking (Corley & Gioia, 2011, p. 17). Such a theory of informal benchmarking in business improvement, and how it relates to formal benchmarking in particular, could potentially be invaluable to benchmarking, organisational and management scholars. From a utilitarian point of view, business practitioners seeking an alternative and efficient solution to superior performance in a time-scarce executive world (Cross, 2007, p. 10), are offered strategies to implement a sustainable organisation-wide approach to informal benchmarking. Established benchmarking communities of practice are also delivered a comprehensive understanding

of informal benchmarking tools and activities that could be exploited and harnessed for greater effectiveness in improving work practices, in conjunction with already established formal benchmarking methodologies.

Therefore the research seeks to address the issues of bridging the gap between its burgeoning popularity and lukewarm effectiveness, sustainability, and whether informal benchmarking can enrich or improve the formal benchmarking effort.

1.7 Researcher's Role

The researcher spent 15 years in the Singapore Police Force, a successful learning organisation according to Peter Senge, chief proponent of learning organisations (Senge, 2006, pp. 278-280): "*Over the past decade I have seen a small number of public organisations embrace learning… none have been more diligent in effort than the Singapore Police Force."* (Senge, 2006, p. 278). As a trained learning organisation facilitator and the chief facilitator for the Singapore Police Force work plan seminars 2009 and 2010, the researcher brings to table experiences and knowledge of organisational excellence pursuits. A key bias or assumption is that individuals in organisations continually affect the organisation and each other within myriad of conditions, hierarchies of power, cultures, and that control is an illusion. The researcher is however, not saying that all organisations call themselves "learning organisations" but merely advocating the interpretation of multiple realities of organisation through collected evidence may, to some degree, be interpreted via the lens or in the context of learning organisations (Creswell, 2013; Denzin, 1989).

1.8 Working Terms

The working terms include phrases and words that may be used interchangeably to mean the same:

"Informal Benchmarking" and the phrase **"informally learning from others to improve work practices"** are used interchangeably throughout the thesis. The full phrase has generally been used in the data collection phases and in reference to informants' comments.

"Benchmarking" and **"formal benchmarking"** are used interchangeably to mean the same.

“Toolset” or **“toolscape”** both refer to the tools & activities of informal benchmarking

“Work Practice” refers to any practice, process or product that could be improve upon, within an organisation

“Knowledge worker”, “worker”, “staff” are used interchangeably to refer to any worker who possess reasonable knowledge and ability to improve a work practice in an organisation.

“**Organisation-(al) improvement”,** and **“business improvement”** are sometimes used interchangeably to mean improvements made to increase the effectiveness of the organisation or business. At times they are used simultaneously to include both improvement in organisational productivity, effectiveness and performance in terms of key performance indicators (organisation improvement), and bottom-line business profits, improved products and services, and cost-savings (business improvement).

1.9 Research Structure

Part 1: Introduction and Literature Review

Chapter 1 introduces the nature of the research problem, the aims, questions, objectives, the significance of, and the researcher’s role in the study.

Chapter 2 describes the transdisciplinary approach and the secondary concepts in the review of literature. A preliminary conceptual model of informal benchmarking is abducted from the review.

Part 2: Research Design & Method

Chapter 3 explains the choice of the pragmatic mixed method design amongst the existing paradigmatic traditions of research. It shows the research process, sampling tactics, strength of the quantitative-qualitative sequential design and ethical considerations.

Part 3: Data Collection and Analysis

Chapter 4 presents how a pilot survey served to augment the final quantitative survey questionnaire design using SurveyMonkey. A total 81 responses are received and analysed using SPSS. The results of the survey are used to inform the qualitative sample.

Chapter 5 presents the design of the qualitative interviews and how it is analysed using two techniques. The first is by meaning condensation and the second is by meaning coding using NVIVO. The dataset is conceptually-driven and aligned to the interview questions. Its analysis deepened understanding of quantitative phase and provided empirical evidence to the phenomenon of informal benchmarking

Part 4: Development of the Informal Benchmarking Quantum Roadmap

Chapter 6 describes the refinement of the conceptual model of informal benchmarking, the elucidation of a toolset application model (from the conceptual model), and the development of the QUANTUM maturity assessment framework & QUANTUM strategy. Upon their synthesis, a pragmatic informal benchmarking QUANTUM roadmap is established.

Part 5: Discussion & Conclusion

Chapter 7 discusses the wider interpretation of informal benchmarking in the context of organisational improvement, and demonstrates how the research process aligns with four objectives of the study. It shares how praxis and reflexivity creates a cyclical pathway for the improvement of the concept and practice of informal benchmarking.

Chapter 8 describes the theoretical contributions, practical implications, limitations, and directions for future research. A concluding statement for the research is included.

1.10 Chapter Summary

This chapter articulated how the aims and objectives of the study addresses the research problem. The research significance in academia and practice have been highlighted along with the researcher's role in the investigation. Finally, it has outlined the organisation of the thesis in five major parts and eight chapters. The next chapter outlines the transdisciplinary approach adopted in the literature review.

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Chapter 2 Literature Review

2.1 Chapter Overview

This chapter highlights the popularity of informal benchmarking amongst benchmarking practitioners. However, it is a relatively new concept in academia. The paucity of scholarly literature on the subject of informal benchmarking, as an organisational improvement tool, beckons a heuristic technique in the selection of constructs deemed suitable for its exploration. Four disciplines and 3 secondary concepts are selected to elucidate a preliminary conceptual model of informal benchmarking, using a transdisciplinarity approach, and by the process of abduction. The primary concepts are formal benchmarking, informal learning, organisational learning and knowledge management. The secondary concepts are quantum thinking, absorptive capacity, and positive deviance. The preliminary conceptual model of informal benchmarking consisting of the definitions, purposes, characteristics, taxonomy and toolset is described here.

2.2 Informal Benchmarking

A key element of this research revolves around informal spaces of interaction and interactivity between the benchmarking team and the object of their benchmarking efforts. (Cross, 2007, p. 40) refers to such spaces in the workplace as a learn-scape ecology, uniquely different to each individual's propensity to learn informally, and where there are no boundaries. The focus leans towards intuition, flexibility, spontaneity and individuality rather than structure, methodology and a formal project-oriented approach. While learning could be functionally defined "*as changes in behavior that result from experience or mechanistically as changes in the organism that result from experience."* (De Houwer, Barnes-Holmes, & Moors, 2013), benchmarking tends towards the betterment of a **specific practice[4], function, process or performance by comparing with a better or best practice** (Anand & Rambabu, 2008, p. 259; Camp, 1989; Kumar, Antony, & Dhakar, 2006). Hence the study entails specificity in acquiring knowledge and expertise by comparing itself with others for the purpose of improvement in a specific area, albeit in an informal manner.

[4] Practice refers to a method, technique, process of accomplishing tasks in an organisation

This is probably one of the only descriptions of informal benchmarking (Adebanjo et al., 2010):

> "This is a type of benchmarking that most of us do unconsciously at work and in our home life. We constantly compare and learn from the behaviour and practices of others – whether it is how to use a software program, how to cook a better meal, or play our favourite sport. In the context of work, most learning from informal benchmarking comes from the following:
>
> - Talking to work colleagues and learning from their experience (coffee breaks and team meetings are a great place to network and learn from others).
> - Consulting with experts (for example, business consultants who have experience of implementing a particular process or activity in many business environments.
> - Networking with other people from other organisations at conferences, seminars, and Internet forums.
> - On-line databases/web sites, such as the BPIR, (Business Process Improvement Resource) and publications that share benchmarking information provide quick and easy ways to learn of best practices and benchmarks."

Figure 2-1: Description of Informal Benchmarking

This journal also defines informal benchmarking as "*Actively encouraging employees to learn from the experience and expertise of other colleagues and organisations through comparing practices and processes. For example, through best practice tours, conferences, best practice websites and networking"* (Adebanjo et al., 2010, p. 1144).

In the 2009 state of benchmarking report, (APQC, 2009, p. 4) identified the 5 types of benchmarking used in organisations as:

i) Full formal benchmarking projects
ii) Surveys, questionnaires, and metrics
iii) Secondary/ public domain research
iv) Executive exchange
v) Informal collegial contact

It could be inferred these are cascading levels of formality in benchmarking (table 2-1). However it could also be inferred as follows:

i) Formal benchmarking

ii) Potentially formal or informal benchmarking dependent on the purpose of the questionnaire and extent of planning and structure involved

iii), iv) & v) Informal benchmarking, if they are conducted as stand-alone techniques that are not part of a formal benchmarking project

Types of Benchmarking Used According to Frequency per Year

How many of each type of project does your organization conduct or participate in per year?	Percent of organizations performing benchmarking projects at the frequencies per year listed below (highest responses in gray)								
	None	1-2	3-4	5-6	7-8	9-10	10+	Ongoing	N
Full, formal benchmarking project	25.1%	35.3%	10.7%	4.8%	1.6%	2.1%	5.3%	15.0%	187
Surveys, questionnaires, and metrics	7.4%	33.7%	18.9%	5.8%	1.6%	1.6%	12.6%	18.4%	190
Secondary/public domain research	28.5%	19.2%	5.2%	9.9%	0.6%	0.6%	6.4%	29.7%	172
Executive exchange	38.5%	20.1%	8.3%	4.1%	0.0%	0.6%	4.1%	24.3%	169
Informal collegial contact	24.9%	10.2%	9.0%	6.8%	1.1%	0.6%	7.9%	39.5%	177

Figure 1

Table 2-1: Types of Benchmarking According to APQC

(APQC, 2009, p. 4)

Therefore, the very limited available literature on the subject necessitates an ontological discussion of informal benchmarking to appreciate the full extent of its meaning, influence, and affecting its effectiveness as an organisational improvement tool.

2.3 Transdisciplinary Approach

The concept of informal benchmarking would require the study of several disciplines. Three dominant approaches that could be used are multidisciplinarity, Interdisciplinarity, and transdisciplinarity.

Multidisciplinarity involves the study of several disciplines simultaneously but with little interaction. While its outcome overflows disciplinary boundaries, the additional perspectives remains bound within the framework of the home discipline. Interdisciplinarity, similarly, involves the study of two or more disciplines simultaneously with much interaction. Its

outcome seeks an integration and it is possible for a new discipline to emerge from its approach. However, it is still within the framework of disciplinary approach. Transdisciplinarity was first used by Jean Piaget in 1970 (Piaget, 1972; Popescu, 2014). It is concerned with that "*which is at once between the disciplines, across the different disciplines, and beyond all discipline. Its goal is the understanding of the present world, of which one of the imperatives is the unity of knowledge"* (Nicolescu, 2014). *A* transdisciplinary approach would have an outcome completely different and transcending the disciplines studied, but is at the same time holistic.

A multidisciplinary approach would envision a dichotomy between the term "informal" from the term "benchmarking" and to have them investigated separately according to their own disciplines, followed by aggregating the individual disciplinary investigations. Such an approach would miss knowledge residing and overflowing from interactions between the disciplinary domains. At the interdisciplinary level, the disciplines are potted over into each other's space, colonizing and integrating to form something new, but the focus remains within the disciplines chosen. To remain open to varying levels of reality across the disciplines and the "included middle" between the subject and the object or discipline (Nicolescu, 2014), "transdisciplinarity" appears the most appropriate for this review.

The notion of informal benchmarking, in the wider context of organisational development and business improvement, beckons the consideration of other disciplinary areas to be taken into account in order to legitimise its contribution within a broader, rather than narrower, frame of organisational excellence research, and possibly beyond. An eventual model of informal benchmarking could transcend the domains of the included disciplines.

A critical review of benchmarking is essential in the research towards informal benchmarking from an epistemological viewpoint. It serves to facilitate discussion surrounding the definition, purposes, characteristics, and taxonomy on the typologies of informal benchmarking. The other term "informal" requires the review of other disciplines to explain what constitutes the conduct of benchmarking in an informal manner, and to explicate the tacit and explicit knowledge flows during the process of informal benchmarking. As far as its contribution is concerned, this research fits appropriately within the broad organisational sciences arena, specifically within organisational development and learning, and business improvement disciplines. Notwithstanding, insights drawn from wider behavioral and social

philosophies could help to cast light into the subjectivity of informal behaviour during the process of informal benchmarking.

This transdisciplinary research typified by the *"constant flow back and forth between the fundamental and the applied, between the theoretical and the practical"* (Gibbons, 1994, p. 19), draws on the findings and debates from several areas of organisational science and learning: formal benchmarking, organisation learning, informal learning and knowledge management. These are by no means exhaustive. Insights from wider organisational and behavioural sciences have been included to heuristically (Kleining & Witt, 2000) augment a concept of informal benchmarking. Themes from absorptive capacity, focusing on individual and the organisation's ability to synthesise new information (Cohen & Levinthal, 1990); quantum thinking, focusing on unstructured, spontaneous and nuances in the flow of knowledge (Plotnitsky, 2010); and positive deviance, focusing on how some individuals are more effective than others given the same inputs of knowledge (Pascale, Sternin, & Sternin, 2010), have been incorporated in the review.

Therefore, the review entails an investigation into relevant aspects of:

i) Formal Benchmarking: genealogy, definitions, purposes, content, characteristics, taxonomy on typologies and methodologies
ii) Informal Learning: focusing on informal acquisition of knowledge, skills and abilities, and characteristics associated with informal learning
iii) Organisational Learning: focusing on organisation-level learning paradigms and a possible frame to situate the corporate and individual learning cycle
iv) Knowledge Management: focusing on the eliciting and capturing of tacit knowledge flows from the individual and the collective mind
v) Absorptive Capacity: individual or organisational capacity to retain and apply the knowledge that have been received from others
vi) Quantum Thinking: a way of shaping knowledge, experience and worldview according to the intentions of the conscious observer in a multi-dimensional, non-mechanistic manner
vii) Positive Deviance: the ability of an individual to produce extraordinary results, given the same resource as others.

Figure 2-2 shows a heuristic schema of informal benchmarking involving the 4 primary disciplines and 3 secondary concepts.

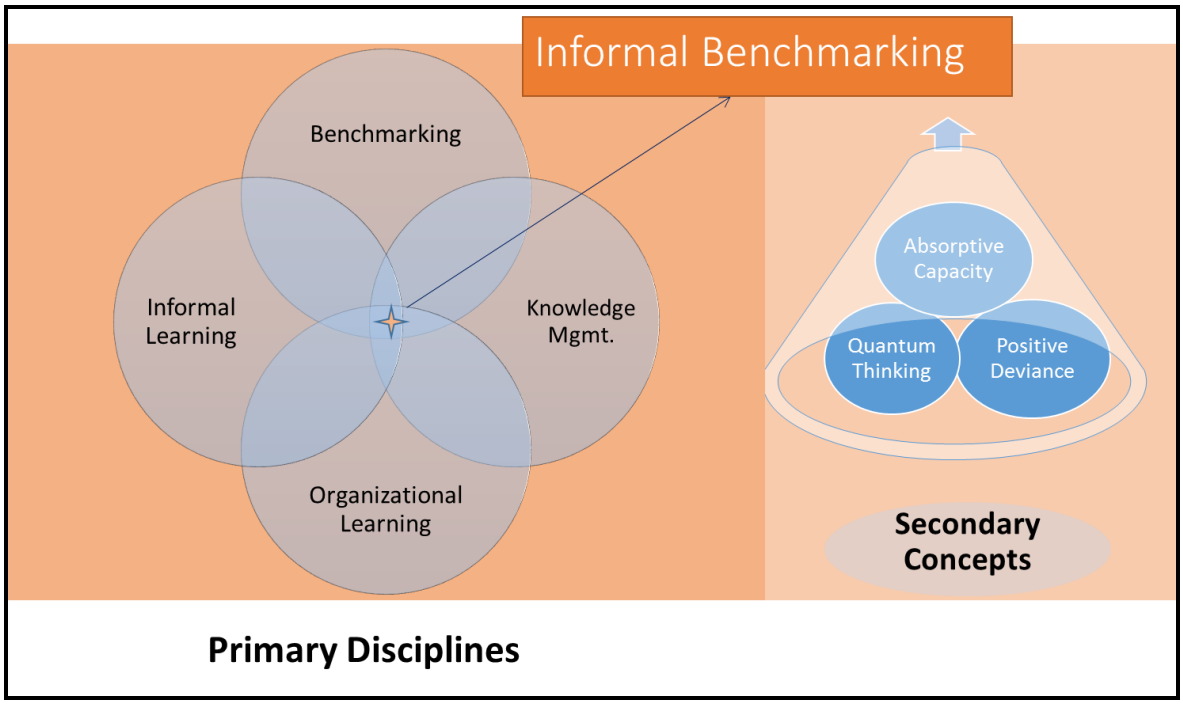


Figure 2-2: A Schema of informal Benchmarking

2.4 Discipline 1: Benchmarking

Benchmarking has evolved (Bhutta & Huq, 1999; Camp, 1989; Kyro¨, 2003, p. 214) since the 1940s to establish itself as a mature discipline in organisation development (Kumar et al., 2006) (figure 2-3). It refers to full-fledged projects involving a structured methodology (Anand & Rambabu, 2008; APQC, 2009; Camp, 1989; Stauffer, 2003; Zairi & Leonard, 1994). “Benchmarking” and “formal benchmarking” may be used interchangeably, to mean the same. The prefix “formal” is usually omitted as its usage is redundant in the benchmarking field.

Benchmarking took prominence and gained popularity since Xerox’s ground-breaking benchmarking initiatives came into the limelight under the leadership of Robert Camp in the 1980s (Camp, 1989). Yasin’s (Yasin, 2002) review of benchmarking literature from 1986-2000 revealed the vast majority of articles on benchmarking were practitioner-oriented rather than academic-based. His exhaustive search on benchmarking depicted an exponential growth of articles in the subject during that period. In recent years, scholars, like Cole (Cole,

2009) reviewed over 65 publications from 1998-2008) and made an effort to clarify the definition and highlight its greatest usefulness in the transfer and sharing of best-practice knowledge.

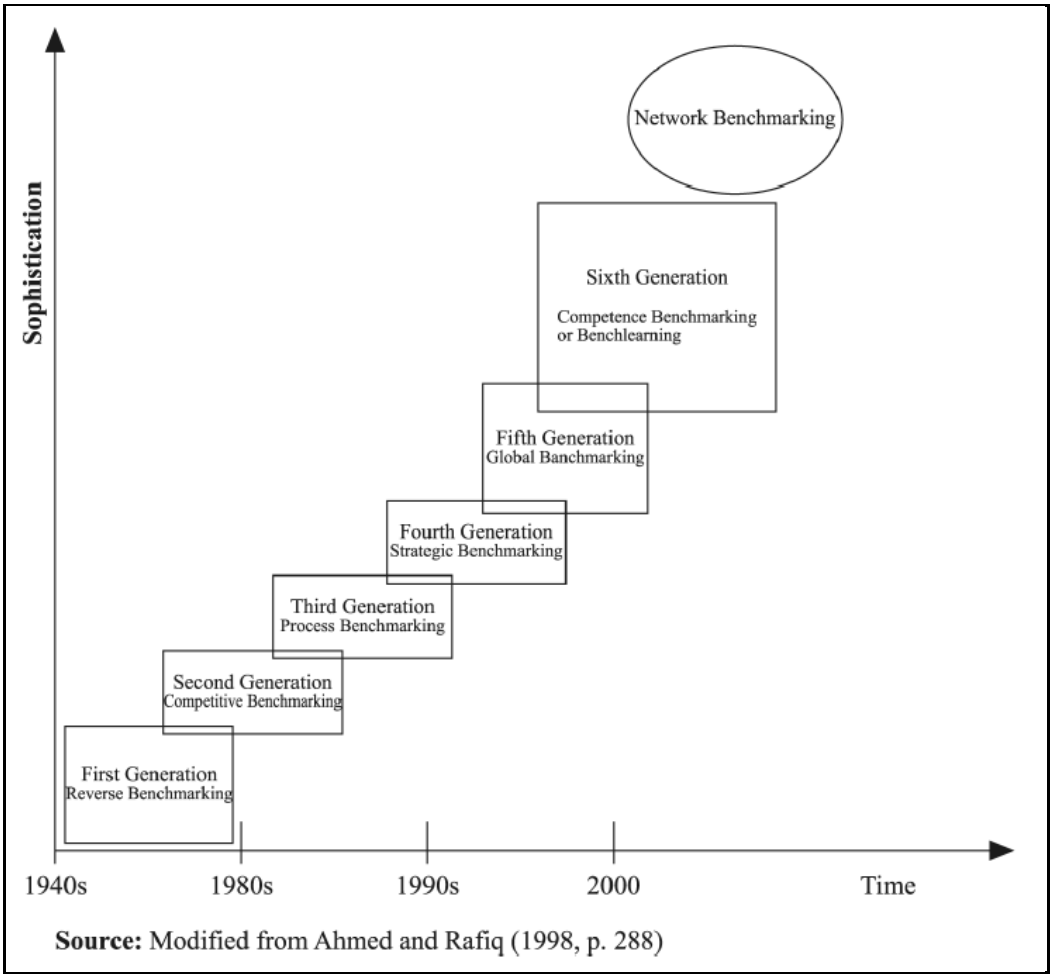


Figure 2-3: Genealogy of Benchmarking

(Ahmed and Rafiq, 1998, p. 288) cited in (Kyro¨, 2003, p. 214)

The purpose of benchmarking can go beyond that of a continuous improvement tool. A conceptual perception stemming from continuous improvement might stunt the elucidation of its potential features because successful benchmarking projects can have the potential to cause major shifts in a company's performance. Organisations that are very far from best-in-class performance in a particular area might compare themselves with the highest standards in their industry and become very successful or otherwise. One criticism of benchmarking stems from serious risks associated with high costs, incompatibility of data and enormous amounts of time to co-ordinate the activities (Elnathan, Lin, & Young, 1996;

Williams, Brown, & Springer, 2012), especially when the disparity between the benchmarking team and the benchmarked is vast in terms of the type of industry, structure, culture and size of the organisations. In the past 20 years, benchmarking has been a popular tool to improve performance. In 1996, a survey of Fortune 1000 companies revealed 65 percent use benchmarking *"to gain competitive advantage"* (Korpela & Tuominen, 1996). In 2003, a survey in France by Chambre de Commerce et d'Industrie indicate 50% of 1000 companies regard benchmarking as an effective improvement tool and regularly use it (Maire, Pillet, & Bronet, 2005). In 2005, a survey of 227 organisations from 32 countries showed the widespread use of benchmarking in most sectors *"like manufacturing, health services, insurance, financial services, construction, banking, government, etc."* (Zairi & Al-Mashari, 2005, p. 4). In 2009 and 2010, the two global surveys by APQC and GBN (APQC, 2009; R.S. Mann & Kohl., 2008) clearly demonstrated the popularity of benchmarking as business improvement tools.

2.4.1 Definition, Purpose and Characteristics

Robert Camp, the guru and father of benchmarking (Nelson, 2008) first defined benchmarking as follows:

> *"Benchmarking is the search for industry best practice that lead to superior performance"* where the best practices refer to *"the methods used in work processes whose outputs best meet customer requirements"* (Camp, 1989, pp. 12, 252).

A popular definition by APQC which is clear and precise refers to best practices as*" those practices that have been shown to produce superior results; selected by a systematic process; and judged as exemplary, good, or successfully demonstrated*" (APQC, 2000, p. 3).

By synthesising Camp's working definition of benchmarking with key ingredients of more recent established definitions, a balance of first principles and contemporary version of its definition can be achieved. The revisiting of purpose and definition is the first step in cultivating an understanding of the substantive nature of benchmarking. Other definitions of benchmarking have been critiqued by scholars in the field (Anand & Rambabu, 2008; Kumar et al., 2006), including that of Moriarty's (Moriarty, 2011), who argues the dispensation of typology for benchmarking altogether, stating a single form is all but required.

By 1992, (Spendolini, 1992a) claimed to have found 49 definitions of benchmarking. Today there are hundreds of definitions of benchmarking by academics and practitioners alike. One of the more holistic definitions of benchmarking (Anand & Rambabu, 2008, p. 259) which is integrative of other definitions, outlines benchmarking as a process:

> *"a continuous analysis of strategies, functions, processes, products or services, performances, etc. compared within or between best-in-class organisations by obtaining information through appropriate data collection method, with the intention of assessing an organisation's current standards and thereby carry out self-improvement by implementing changes to scale or exceed those standards."*

Besides highlighting the processual nature of benchmarking, it underpins a vital part of benchmarking - its implementation. Although (Adebanjo et al., 2010; BPIR, 2002) differentiates between benchmarking that compare only (performance benchmarking), with benchmarking that compare and implement (best practice benchmarking), without any implementation, there can be no superior performance.

Benchmarking need not necessarily be performed with the best-in-class as initially proposed by Camp (Camp, 1989). Comparison with organisations with a better practices could suffice to improve performance (Kyro¨, 2003, p. 215). If seen as a process of continuous improvement, organisations would keep scaling up the ladder of comparisons till they are ready to benchmark against the best-in-class in their industry. Davis (Davis, 1998) suggests the engendering of new practice instead of benchmarking against archaic practices, especially in the public sector. Peter Senge (Senge, 2006) describes adaptive learning to be a continuous stream of improvement, and generative learning to be a leap in creating solutions for the future. These concepts can be applied to the modern context of benchmarking.

2.4.2 Taxonomy of Benchmarking & Informal Benchmarking

Taxonomy (Fong, Cheng, & Ho, 1998) distinguishes between various typologies of benchmarking, removing ambiguity of their individual characteristics and purposes. It can serve as a reflection for informal benchmarking classification. Camp's (Camp, 1989; Nelson, 2008) typology of internal, competitive, functional and generic benchmarking, is probably one of the most respected and long-standing because it encompasses both the scope and

nature of benchmarking, and does not preclude generic benchmarking (greatest potential improvement), which most other taxonomies might have omitted (Francis & Holloway, 2007).

(Anand & Rambabu, 2008, p. 287) concluded that the only consistency in the classification of the various types of benchmarking were their inconsistencies. A generic taxonomy was therefore used to cater to the differences in definitions – internal & external benchmarking, where all the varieties of benchmarking fall neatly into either one of these baskets. A classification of this nature is arguably only administrative in nature, ignoring the content differentiation within the types or purposes of each benchmarking project. Table 2-2 depicts the common types of benchmarking, taking into account the typologies and genealogies of benchmarking classifications over the years, and the growing prominence of benchmarking.

Author(s)	No. of classifications	Name of each classification and types	Remarks
Spendolini (1992)	3	Internal benchmarking Competitive benchmarking Functional benchmarking	More concerned about the products, services and processes and do not consider other benchmarking subjects like strategies, performance, practices, etc.
Codling (1992)	3	Internal benchmarking External benchmarking Best practice benchmarking	Best practice benchmarking is same as that of functional benchmarking defined by Spendolini The definition of external benchmarking seems to be interrelated with internal benchmarking as evident from the following part of the definition: "comparison with partners from differing business units of the same organization"
Partovi (1994)	2 + 4	Two types Product benchmarking Process benchmarking Four ways based on benchmarking partners Benchmarking internal operations Benchmarking your competitor Benchmarking against best-in-class Strategic benchmarking	Strategic benchmarking integrates strategic competitive analysis with best-in-class-benchmarking
Malec (1994)	3	Strategic benchmarking Business benchmarking Product benchmarking	This scheme seems to be different. For example, strategic benchmarking seems to be similar to competitive benchmarking, while business benchmarking relates to functional benchmarking. Again this classification falls short with respect to application of benchmarking for process, performance, internal benchmarking, etc.

(continued)

Author(s)	No. of classifications	Name of each classification and types	Remarks
Lema and Price (1995) and Jackson *et al.* (1994)	4	Internal benchmarking Functional benchmarking Competitive benchmarking Generic benchmarking	According to them, number of authors seem to agree on four types of benchmarking, but on comparing the definition for each benchmarking classification they found that there is no consensus among the authors on the meaning of each type
Karlof and Ostblom (1993)	3	Internal benchmarking Functional benchmarking External benchmarking	Opposes a separate classification called competitive benchmarking Definition for functional benchmarking combines the functional and generic benchmarking concepts External benchmarking overlaps with the definitions of competitive and functional benchmarking and contradicts with the definition of codling
Shetty (1993)	3	Strategic benchmarking Operational benchmarking Business-management benchmarking	
Singh and Evans (1993)	5	Internal benchmarking Functional benchmarking Competitive benchmarking Generic benchmarking Consultant study benchmarking	Consultant study benchmarking is not inline with the common classification scheme, but can be considered as one method of doing benchmarking
Lema and Price (1995)	2 + 4	Internal benchmarking External benchmarking Reverse engineering Competitive benchmarking Functional benchmarking Generic benchmarking	This sub-classification under external benchmarking seems to be redundant as one of the steps in benchmarking process is – "identifying the benchmarking partner". In this case, the organization can choose an internal plant or a competitor or a best-in-class company, which may not be a direct competitor

(*continued*)

Author(s)	No. of classifications	Name of each classification and types	Remarks
Le Vie (1998)	6	Internal benchmarking External competitive benchmarking External industry (compatible) benchmarking External internal (cross-industry) benchmarking Combined internal and external benchmarking	He has proposed these types based on the following factors – cooperation, relevance of information and degree of breakthrough. In this case, the names of the classification seem to be different, but the core definitions are not altered
Nandi (1995)	2 + 5 + 5	Based on the organization chosen for benchmarking Internal benchmarking Competitive benchmarking Industry benchmarking Best-in-class benchmarking Relationship benchmarking Based on the goals of the benchmarking Performance/result benchmarking Product/customer satisfaction benchmarking Strategic benchmarking Process benchmarking diagnostic benchmarking	In this scheme, the definitions of internal and competitive benchmarking are similar to the definitions given by other authors. Similarly, industry benchmarking is similar to functional benchmarking and the best-in-class benchmarking resembles the generic benchmarking. But the relationship benchmarking has not been addressed by any other authors This scheme can be considered as sub-classification for the above-mentioned types. Data for each type listed here can be obtained from internal plants or competitor or best-in-class industries or from joint-venture partners. The definitions of product benchmarking, process benchmarking and strategic benchmarking are similar to the definitions given by other authors. Similarly some unique classifications have been proposed – performance benchmarking and diagnostic benchmarking which were not addressed by any other authors

(*continued*)

Author(s)	No. of classifications	Name of each classification and types	Remarks
Fong *et al.* (1998)	11	Refer Table I	They have classified benchmarking based on the nature of the referent other, the content of what was to be benchmarked and the purpose of the formation of the inter-organizational relationships associated with benchmarking Their classification scheme revealed two unique benchmarking types – "global benchmarking" and "collaborative benchmarking", but they have missed a basic benchmarking type – namely the product benchmarking/reverse engineering
Maas and Flake (2001)	2	Hooded benchmarking Open benchmarking	Hooded benchmarking is defined as the benchmarking process in which a Clearing house takes care of sensible data and releases them anonymously, which helps in limiting the anxiousness of copying and misuse of data An open benchmarking is defined as the benchmarking process in which all partners agree in the benchmarking code of conduct, by which the handling of data and information is determined

Table 2-2: Classification Schemes and Types of Benchmarking

(Anand & Rambabu, 2008, pp. 262-265)

In a review of taxonomies from the 1990s, Fong (Fong et al., 1998) tabled a more comprehensive classification scheme (table 2-3) to illustrate the "who"(benchmarked), the "what"(content) and purpose of the relationship between the benchmarker and the benchmarked:

Classification of benchmarking

Classification	Type	Meaning
Nature of referent other	Internal	Comparing within one organization about the performance of similar business units or processes
	Competitor	Comparing with direct competitors, catch up or even surpass their overall performance
	Industry	Comparing with company in the same industry, including non-competitors
	Generic	Comparing with an organization which extends beyond industry boundaries
	Global	Comparing with an organization where its geographical location extends beyond country boundaries
Content of benchmarking	Process	Pertaining to discrete work processes and operating systems
	Functional	Application of the process benchmarking that compares particular business functions at two or more organizations
	Performance	Concerning outcome characteristics, quantifiable in terms of price, speed, reliability, etc.
	Strategic	Involving assessment of strategic rather than operational matters
Purpose for the relationship	Competitive	Comparison for gaining superiority over others
	Collaborative	Comparison for developing a learning atmosphere and sharing of knowledge

Table 2-3: Classification of Benchmarking

(Fong et al., 1998, p. 410)

Moriarty's (Moriarty, 2011) "A theory of benchmarking" reduces the typologies of benchmarking to a single form which require logical conditions for successful implementation. His lone criticism of conventional frameworks questions the usefulness of taxonomy altogether. While it is debatable that some taxonomies are more well-defined, Moriarty's treatment appears to be excessively unifocal for a predominantly qualitative discipline. What is important is to be able to distinguish between the typologies in order to enhance the specificity in setting goals or purposes on the scope- internal or external, target, function or process at the operational level (Fong et al., 1998, p. 409) which works for whichever organisation that wishes to use benchmarking for specific purposes.

The other very useful distinction is between comparative (compares only) benchmarking, and benchmarking which compares ***and*** implements. The former is known as performance benchmarking and the latter, best practice benchmarking (Adebanjo et al., 2010). Many organisations are constantly learning of better, smarter and new practices all the time, but the percentage of these ideas being adapted would be directly related to the strength of a work practice improvement agenda. The way in which formal performance benchmarking and formal best practice benchmarking are construed could be applied in the same way informal performance benchmarking and informal best practice benchmarking may be categorised. For example, if one is trying to learn work practices through pertinent questions and following this through to implementation in a structured manner, it could be called formal best practice benchmarking. If there is little planning with the questionnaire and/or one is attempting to get an insight into the practices of other organisations with no clear plan for implementation (but with the intention to implement) then it could be called informal best practice benchmarking,

2.4.3 Methodologies of Benchmarking

Benchmarking involves a methodology and is structured, is time-consuming and may be costly, although the results will almost always speak for themselves (Bhutta & Huq, 1999; Fong et al., 1998; Francis & Holloway, 2007). Notwithstanding, benchmarking has not always been successful. The GBN study and related academic papers (Adebanjo et al., 2010; R.S. Mann & Kohl., 2008) mentions the lack of training, unclear project planning, and absent methodology, as amongst a host of other reasons for benchmarking failure. Rudimentary consensus on what constitutes critical success factors comprise of an experienced benchmarker on the team, good cross-disciplinary working within the

organisation, top management support and available resourcing (Francis & Holloway, 2007). Even with these in place, it is arguable if benchmarking is guaranteed a resounding success. The myriad methodologies presented academically or commercially span from Spendolini's five-step model (Spendolini, 1992b) to other models using up to 33 steps. What is unclear though, is whether or not organisations have the ability to customise a model that fit their purpose and culture (Bhutta & Huq, 1999). Some of the most common and widely published models can be classified broadly into the academic, consultant and industry-based models (Deros, Yusof, & Salleh, 2006):

i) The academic models are produced by researchers and academics based on theory but may not have been validated by actual application
ii) The consultant models are developed by consultants or experts based on their experience with various organisations, which are usually tried and tested
iii) The industry-based models are customised by organisations for their own purposes, so these can vary considerably between them

The existence of many hundreds of models imply a lack of consensus on their effectiveness amongst practitioners and academics alike (Adebanjo et al., 2010). Nevertheless, a review of 35 models obtained from journal and peer-reviewed papers (Anand & Rambabu, 2008) narrowed them down into a 12-phase, 54-step circular model, as shown in figure 2-4:

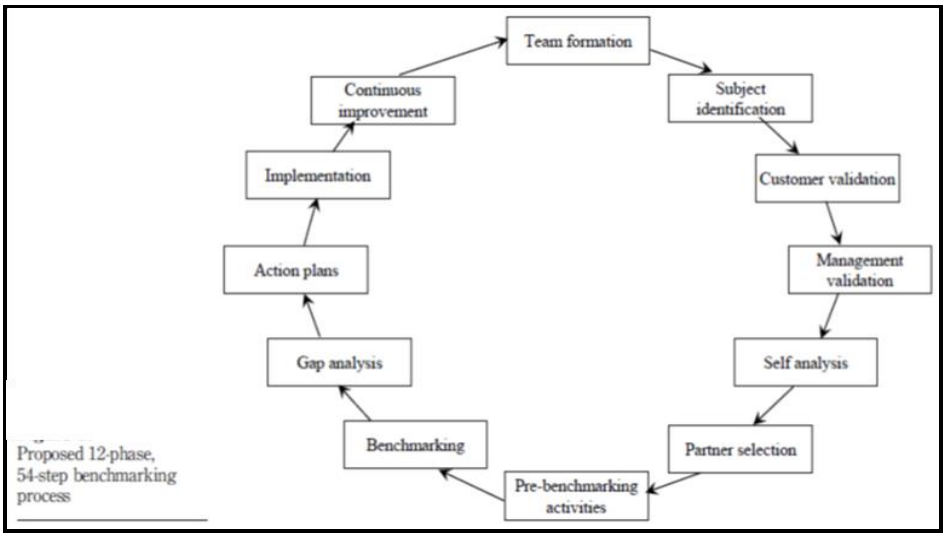


Figure 2-4: 12-Phased, 54-Step Benchmarking Process

(Anand & Rambabu, 2008, p. 282)

Whether or not such a process model would prove useful in casting light on the informal benchmarking process is yet to be determined. To propose a methodology (formal) for “informal benchmarking” does appear to be counter-intuitive, since they represent two ends of a spectrum in terms of the manner (formal or informal) in which benchmarking is to be conducted.

2.5 Discipline 2: Organisational Learning (OL)

Organisational learning is concerned with the collective learning process of the organisation (Pedler, 1995; Senge, 2006), rather than the individual learning process, though not precluding the latter. It is one of many organisational transformation paradigms that exist today (Edwards, 2005) and a possible framework to situate this research. Numerous organisational learning models vie for prominence in the world of business improvement. Notwithstanding, its plurality can be useful in lending differing perspectives in the investigation of informal benchmarking (Burgoyne, Araujo, & Easterby-Smith, 1999).

While (Burnes, Cooper, & West, 2003, p. 453) argue that the proposition for organisational learning is useful but not applicable to all forms of organisations, organisational level learning is important to most business entities because of the underlying principles that govern it. At the generic level, organisational learning composes 4 important ingredients:

i) In order to survive, an organisation must learn at least as fast as its environment changes (The viable systems model in cybernetics support this (Beer, 1984))

ii) The degree to which an organisation moves away from traditional forms of organisation learning depends on the degree of instability in the environment

iii) In the past it was possible for a bunch of elite managers to move the organisation forward but that has changed, given the pace of change

iv) The entire workforce needs to be involved with organisation change and its implementation. All of them need to learn to keep aligned with the environment

(Burnes et al., 2003)

These ingredients or qualities must co-exist in the organisation in order for it to stand a reasonable chance of success in building a learning organisation. Other nuances and sociological factors will inevitably play a role in its success, as with all business or organisational improvement initiatives.

2.5.1 The Learning Organisation (LO)

In the 1990s, Peter Senge's 'The Learning Organisation' sparked a surge of interest in organisational learning theories and models. Senge's paradigm highlighted systems thinking as an anchor, a concept revolving around seeing patterns in a whole system, *"bound by invisible fabrics of interrelated actions and connectivity*" (Senge, 2006, pp. 6-7); what one does in one part of the system affects other parts of the system.

> *"The LO (learning organisation) is defined by Senge (1990) as one where: people continually expand their capacity to create results they truly desire; new and expansive patterns of thinking are nurtured; collective aspirations are set free; people are continually learning to learn together. Senge visualises the LO to continually expand its capacity to create its future… five disciplines constituting a LO, namely, personal mastery, mental models, shared vision, team learning and systems thinking,…"* (Senge, 2006, p. 1) (figure 2-5).

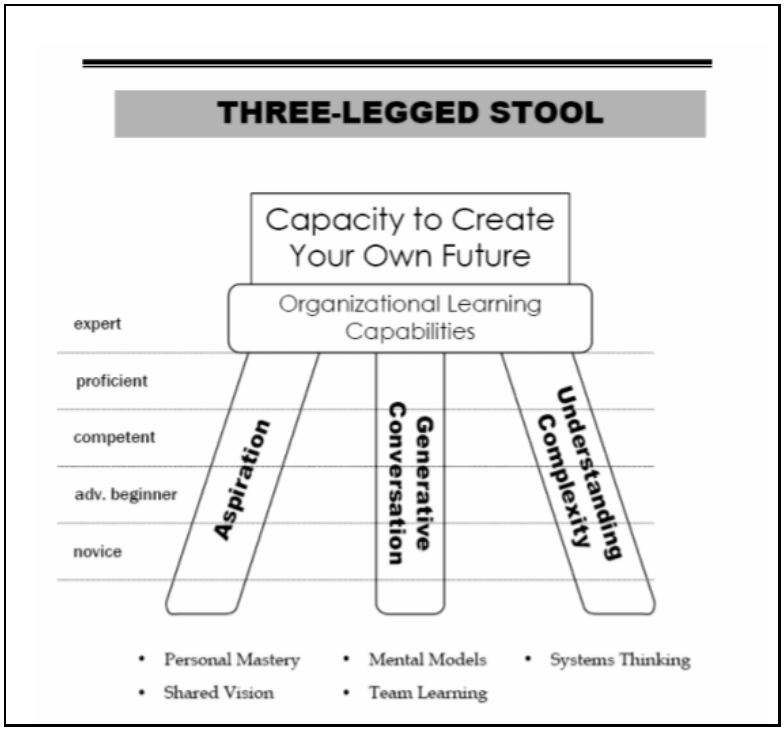


Figure 2-5: Peter Senge's Three-legged Stool

(Senge, 2006, p. xi)

According to Marquardt (Marquardt, 2011, pp. 22,23), the skills of systems thinking, mental models, personal mastery, self-directed learning, and dialogue form a core subsystem of the

learning organisation. This occurs at all levels of the organisation, individual, group and at the organisational level.

Interestingly, both Senge and Marquardt do not explicitly speak of a distinct reward structure in their strategies for organisation development in a learning organisation approach, though these could be inferred from team learning and self-directed learning. Their premise for "rewards and recognition" lie in the people's impetus to improve organisation life and performance, and thereby improving their own and their team's well-being. Studies have shown that team level reward contingencies is positively correlated to collaboration which in turn relates to improved team performance, affecting the overall performance of the organisation (Harrison, Price, Gavin, & Florey, 2002; J. Lee & Kim, 2011). A strong rewards and recognition system should be made explicit to employees to motivate collaboration amongst colleagues.

2.5.2 Holon Framework for Knowledge Elicitation and Learning Dynamics

The seminal work of Argyris and Schon (theory of action), Peter Senge (learning organisation) and David Kolb (experiential learning) all advocate organisational learning as vital in the transformational and collective process of change. (Argyris & Schon., 1979; Kolb, 2015; Senge, 2006), The processual nature of learning can be seen in single, double, and triple-loop learning. In triple loop learning, the organisation's core principles are brought into question where the mission, vision and culture are re-examined (Stewart, 2001). Using a holonomic (Holon: a whole and a part simultaneously) approach, learning phases can exist in two dimensions. The first is the concrete-abstract dimension and the second, the unifocal-multifocal dimension. Figure 2-6 shows the relationship between the two phases and skills of the learning cycle (I prefer to call this a process), to the quadrants of the integral Holon. In knowledge management terms, it could represent the conversion journey of tacit to explicit knowledge (Edwards, 2005, p. 283) at the organisational level. The purpose of the holonomic framework in this research can assist in two ways: firstly, to make explicit the learning dynamic (cycle) which comes about during informal benchmarking; secondly, to compare between various knowledge elicitation informal benchmarking tools. The holonomic framework is based on a resilient construct called the Holon, four decades of work connecting Koestler, Checkland and Edwards (Edwards, 2005).

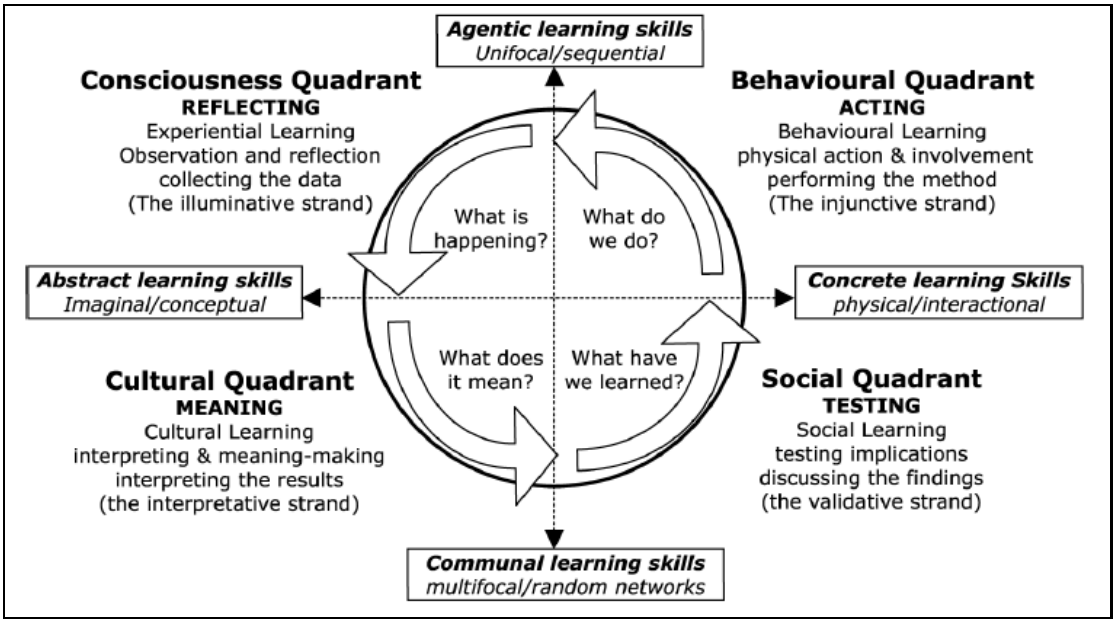


Figure 2-6: The Integral Cycle of Learning and Knowledge Development

(Edwards, 2005, p. 284)

Knowledge elicitation and the concept of absorptive capacity would be discussed subsequently.

2.6 Discipline 3: Informal Learning (IL)

The Organisation for Economic Co-operation and Development (OECD) defines informal learning as one of three forms of learning (Werquin, 2012). The other two are formal and non-formal learning. Informal learning is described by the OECD as: "… *never organised, has no set objective in terms of learning outcomes and is never intentional from the learner's standpoint. Often it is referred to as learning by experience or just as experience".(Werquin, 2010, p. 1)* Formal learning is described as: "… *always organised and structured, and has learning objectives. From the learner's standpoint, it is always intentional: i.e. the learner's explicit objective is to gain knowledge, skills and/or competences" (Werquin, 2010, p. 1)*

The conceptualisation of informal learning may be used as an exemplar for the conception of informal benchmarking. In whichever form benchmarking takes, it will inevitably involve learning. Learning can be defined *"as changes in the behavior of an organism that are the result of regularities in the environment of that organism"* (De Houwer et al., 2013, p. 1). This

idea is in line with the ability of the individual to adapt to his environment during his lifetime (Skinner, 1984).

Malcolm Knowles, who popularised pedagogy, suggests adults learn by adventurous experimentation as they experience real-life situations and are not subjects in an academic curriculum. They need to be self-directed and the process of mutual inquiry with the educator or teacher in any scenario would motivate the adult to learn best (Knowles, 1978).

One of the most effective and increasingly popular approaches to informal learning in a business setting is a technique called “unconferencing”. Typically, they have no designated speakers, high level of learning, high play, very communal, and an appropriate level of structure and control (Cross, 2007, pp. 205-206). I would highlight “structure and control’ are always present in organisations (that’s why they are called “organise”- ations); the question is to what degree or level of appropriateness.

2.6.1 Distinction between Benchmarking & Learning

While (Adebanjo et al., 2010, p. 1144) suggests informal benchmarking as *“comparing and learning from the behaviours and practices of others*”, a distinction need to be made between the definition and purposes of informal benchmarking and informal learning, or simply between learning and benchmarking. A key difference is that benchmarking (must) revolve around learning or the assimilation of information to improve a specific area of practice, function, or process, after a comparison has been done between one’s current state and that of the benchmarked. Learning, on the other hand, may not involve the use of specific comparisons to improve a specific area. It could but it does not have to.

2.6.2 Characteristics of Informal Learning

Unlike formal learning or non-formal learning which usually includes a curriculum and a structured approach (Cameron & Harrison, 2008), informal learning does not involve a curriculum and takes on an unstructured approach. Informal learning happens either incidentally or via socialisation. Objectivity, the intensity of self-directedness, organisation-directedness and level of consciousness (being aware of own learning) fluctuate according to the level of informality (Cofer, 2000) in learning. (Schugurensky, 2000, p. 3) suggests three forms of informal learning (table 2-4). In the socialisation form, it is arguable whether intentionality and awareness are present or not. For example, in a conference, networking with others for the purpose of learning can be very intentional or deliberate. If it is deliberate,

the learner would most definitely be aware of his learning experience at the time of learning. The informal benchmarking toolscape may therefore be modified by separating it into two dimensions, the social and non-social dimensions. In the social dimension, there is human interaction but not necessarily face to face. In the non-social dimension, the interaction is predominantly without human interaction but with objects of knowledge. Within each of the dimensions, informal benchmarking may be incidental or deliberate (self-directed or via socialisation). This is illustrated in the toolscape of the preliminary conceptual model of informal benchmarking further on in this chapter.

Form	Intentionality	Awareness (at the time of learning experience)
Self-directed	yes	yes
Incidental	no	yes
Socialization	no	no

Table 2-4: Three Forms of Informal Learning

Could a relationship archetype between informal learning and formal learning (Malcolm, Hodkinson, & Colley, 2003) be construed for the relationship between informal benchmarking and formal benchmarking? This has to be examined, along with the level of formality associated with the term "informal" – at which point on the spectrum of formality does benchmarking cross over to being formal or informal (figure 2-7)?

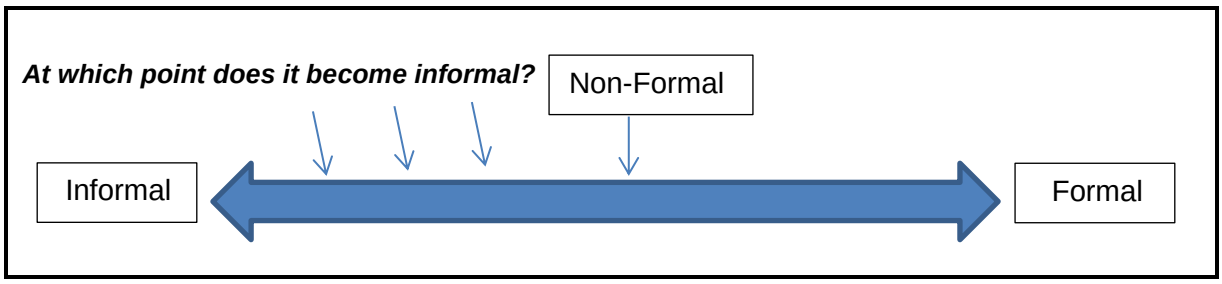


Figure 2-7: Continuum of Formality

In between the ends (formal and informal), right in the centre of the continuum of learning, is the concept of non-formal learning. Non-formal learning *"is rather organised and can have learning objectives" (Werquin, 2010).* This is at best, a vague description but it represents an approach to learning which is composite of both the formal and informal. More modern learning frameworks include learning tools, technology and processes where knowledge is gained via a mixture of formal and informal learning channels combined such as knowledge

portals, podcasts, references, and collaborated upon via blogs, wikis, networks and forums, (Amitabh & Sinha, 2012, p. 12) to create newer knowledge, forming a virtuous cycle of knowledge creation.

Notwithstanding, notions of informality should not stand in silos or be divorced from the holistic terminology “informal benchmarking”. In other words one should not equate ““informal” + “benchmarking” = informal benchmarking”, but realistically interpret its characteristics, typology, and elucidate tools both in the “people connecting to people”, for example, conversing with a colleague or networking in a conference; and in the domain of “people connecting to knowledge assets”, for example, reading a book, browsing a company’s internet page or assimilating from an online forum.

2.7 Discipline 4: Knowledge Management (KM)

This section deals with knowledge management to examine struggles associated with both the legitimacy and elicitation of tacit knowledge, as compared to that of explicit knowledge. (Pagano & Paucar-Caceres, 2008). In this research, the discursive meaning of a process-centric approach which understands KM from a socialisation perspective is expected to outweigh the conventional content-centred approach; the latter being more formal structured information found on documents and repositories. The two approaches are explained by commissioned expert researchers of the Know-Net consortium. The Know-Net project is a European research effort partly funded by the European Scientific Programme of Research in the Information Technology programme of the European Commission and by their participating companies (Mentzas, Apostolou, Young, & Abecker, 2001). It is a worthwhile exploration in the light of emergent quantum thinking in the knowledge management space (Plotnitsky, 2003) and such awareness of the invisible flows of knowledge enables more incisive inquiry into the informal aspects of benchmarking.

There are arguments as to whether explicit or tacit knowledge is more valuable. This is not a vitally important discussion in this research. What is important though, is that both the tacit and explicit knowledge residing in a knowledge worker should not be dichotomised. The tacit provides the background from which the explicit is interpreted and expressed, creating an interdependence on each other (Alavi & Leidner, 2001, p. 112). In real life applications, a knowledge worker would have ample opportunities to informally glean from others, in an informal setting, better or new practice. How he chooses to assimilate the implicit and explicit

knowledge would depend on his own experience, knowledge-base and biases (value system).

2.7.1 Elicitation of Tacit Knowledge

Nonaka's SECI model (figure 2-8), is useful from a unilateral point of view though they are some obvious shortcomings to it. His model does not account for the formation of new knowledge nor does it address the fact that certain forms of tacit knowledge are very difficult to convert to explicit knowledge (Bashar, Ammar, & Rakan, 2012).

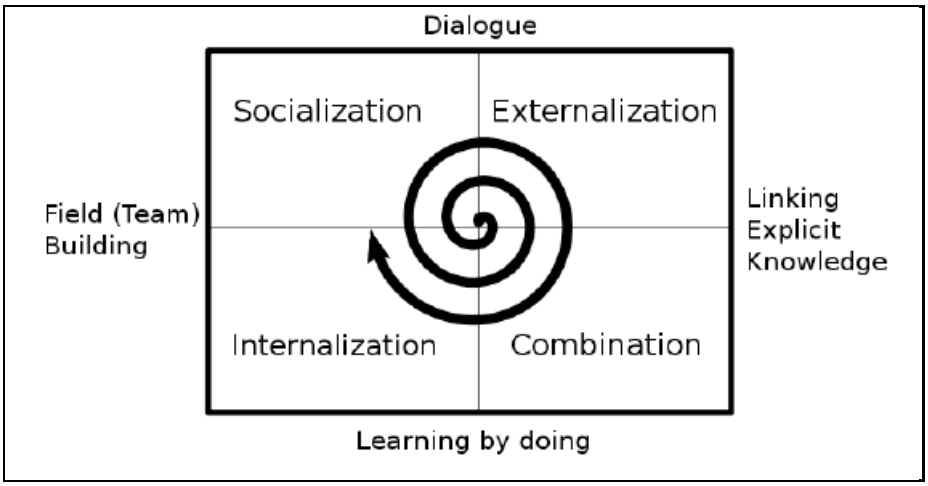


Figure 2-8: Nonaka's SECI Model

(Bashar et al., 2012)

The adaptation of the concept of "Ba" to the SECI model (figure 2-9), for knowledge creation assists one to understand the spacial, fluid and "boundary-lessness" of knowledge flows. "Ba" is defined by Nonaka as *"a shared space for emerging relationship, which could be physical, virtual and mental."* (Nomura, 2002, p. 3). Hence the environmental design where knowledge is shared between knowledge workers impacts the retention, creative tension and generation of new knowledge. The 4 characteristics of 'Ba":

i) *"Originating ba is the world where individuals share feelings, emotions, experiences, and mental models…from which the knowledge-creation process begins and represents the socialisation phase*

ii) *The interacting ba is more consciously constructed, as compared to originating ba…eg. selecting people with the right mix of specific knowledge and capabilities*

for a project team…Interacting ba is the place where tacit knowledge is made explicit, thus it represents the externalisation process

iii) *Cyber ba is a place of interaction in a virtual world instead of real space and time; and it represents the combination phase*

iv) *Exercising ba supports the internalisation phase…facilitates the conversion of explicit knowledge to tacit knowledge"*

(Nonaka & Konno, 1998, p. 8)

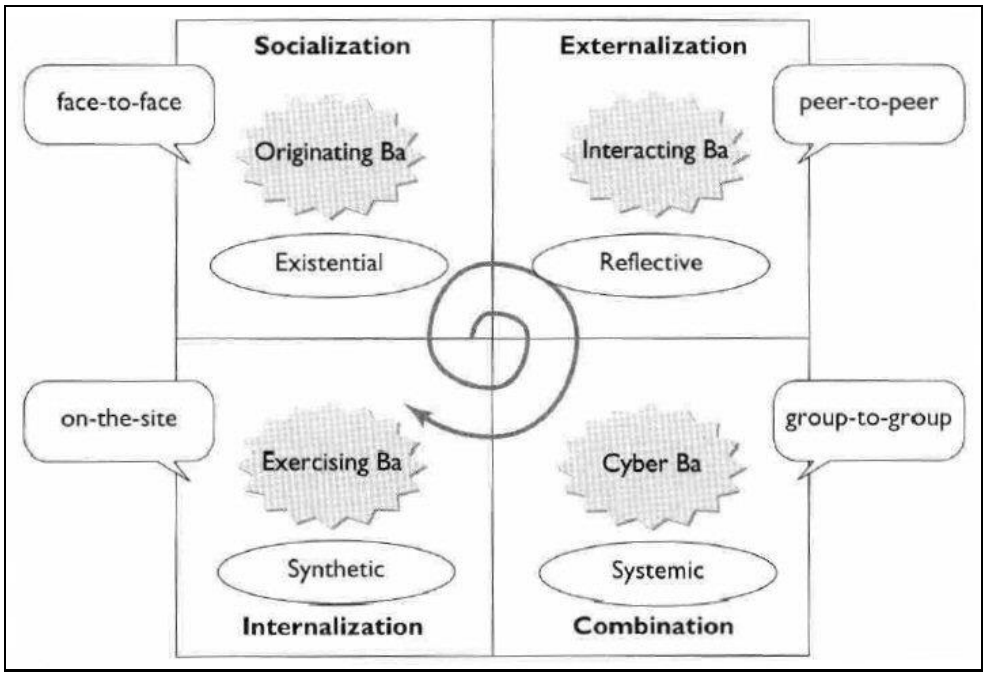


Figure 2-9: The Four Characteristics of "BA"

(Nonaka & Konno, 1998)

2.7.2 Assimilation of Knowledge - The Individual and the Collective Mind

Knowledge as a capability in the collective mind, organisation memory and collective practices is greater than knowledge at the individual level (Senge, 2006). It is arguable the extent to which that is true would depend on the extent of the exploitation of the tacit at the individual level; whether the exploitation has already reached its full potential, and that mechanisms for such conversion is readily available for use by knowledge workers. (Pagano & Paucar-Caceres, 2008, p. 326). This is however not always the case in organisations. Tacit knowledge capture from experienced key personnel leaving a department is more difficult to elicit than imagined. A survey of European firms reported a 43% reduction in the quality of relationships with clients and up to a 13% loss of income due to a single key staff's

departure (Alavi & Leidner, 2001). This could be due to unsuitable KM systems tools deployed to retain his institutional knowledge, for example, using story-telling to share his experience in dealing with vendors, but that individual is a poorly story teller. The ability of organisations to be ever-ready in harnessing new knowledge from individuals and processing them at the organisational level will thus be essential to its success in retaining institutional wisdom and knowledge (Davenport, De Long, & Beers, 1998).

2.8 Secondary Concepts

The epistemological and ontological leaning in this study is predominantly based on pragmatism (Patton, 2002). It aims to build a fundamental foundation for the concept of informal benchmarking. Notwithstanding, radical or emergent ideas are expected to unfold as the research progresses, particular focusing on quantum flows of knowledge. The two other related concepts are specifically on the absorptive capacity of the individuals with regards to knowledge and wisdom acquisition, and the concept of positive deviance, where individuals with an outstanding propensity to excel, though given the same level of resourcing as his counterparts.

2.8.1 Quantum Thinking

According to Zohar (Zohar, 1997, p. 9) there are two general beliefs driving research in the following ways:

Newtonian belief	Quantum/complexity belief
Absolute truth	Multiple possibilities
Absolute perspective	Contextualism
Uniformity	Pluralism, diversity
Certainty	Uncertainty, ambiguity
Simplicity	Complexity

Table 2-5: Newtonian vs Quantum Thinking

The quantum way of thinking (table 2-5) could add value to the interpretation of the results of the interviews. It enlarges rather diverges, and assist to remove a dogmatic approach (Newtonian thinking) while embracing postmodern thinking on the subject matter (Fris & Lazaridou, 2006). Affirmative postmodern thinking "…*organises knowledge around*

personal, intuitive and epistemological concerns, They are often inspired hermeneutics" (Rosenau, 2001, p. 109). Thomas Kuhn in his ground breaking book *"The Structure of Scientific Revolution"* stated that there is a tendency for humans to throw out thoughts that do not fit into their pre-conceived paradigms. These organised structures of knowledge constrict our thinking when we fail to apprehend their value (Kuhn, 1970). Such thinking would enrich the research to take on a dimension of subjectivity rather than concrete objectivity in the interpretations of the findings, by being inclusive rather than exclusive of knowledge acquired via the data collection phase.

2.8.2 Absorptive Capacity

The assimilation of new knowledge is crucial to innovation. That ability to receive knowledge and to assimilate it is called absorptive capacity. This capability is a function of prior knowledge of an individual or an organisation (Cohen & Levinthal, 1990). Organisations may use a research & development function, training, or an educated workforce to harness its absorptive capacity in order to develop better practices that may lead to new products or improved products, or an improved process or function in the organisation (Clausen, 2013). The level in which the organisation thirsts for new knowledge, its receptivity, capacity and strategy to build upon this new knowledge directly affects its innovation. Collective wisdom is a product of individual wisdom, and in most cases, exceeding the sum of its parts (Marquardt, 2011) because of the interactivity which takes place between antecedent conditions, the knowledge and with other people. Zahra's model (figure 2-10) of absorptive capacity is an enhancement of many previous propositions.

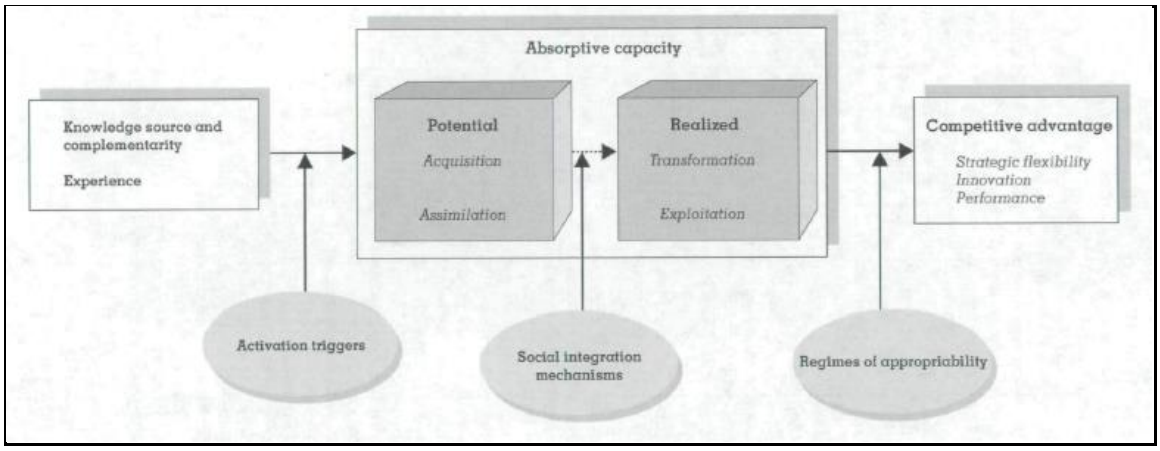


Figure 2-10: Model of Absorptive Capacity

(Zahra & George, 2002, p. 192)

It shows the antecedent conditions, potential and realizable exploitations during the process of absorbing knowledge, and the resulting competitive advantage (Zahra & George, 2002). Such a process in the assimilation of knowledge in the process of informal benchmarking is axiomatic, and therefore invaluable.

2.8.3 Positive Deviance

Positive deviance refers to social change based on the observation that in any setting, for example, an organisation, certain individuals possess uncommon behaviours, tactics or strategies that enable them to find better solutions to a problem than others, despite having no extra resources or advantages other than their approach (Pascale et al., 2010).

Within organisation life, the solution to a problem is often discovered by such exceptional workers. They find ways to adapt to the environment, to overcome challenges despite barriers and constraints that everyone faces. In certain circumstance, the positive deviators may question the leadership about a certain direction or "raising a taboo issue" but the stance of these individuals is one of adding value to the organisation, not taking away from it (Leavy, 2011).

In an interesting study on the abnormal successes associated with positive deviance on government sector reform, two different approaches were examined, namely, the Solution and Leader-Driven Change (SLDC), and the Problem-Driven Initiated Change (PDIC) (Andrews, 2015). SLDC is very formal - a structured project with up-front solutions to be implemented according to a full-blown plan, led by an identified champion. The outcome is a *"pure-form best practice solution"*. PDIC is much less formal – problems motivate experimentation, trial and error to produce viable solutions. There were no pre-determined solutions with ad-hoc leadership roles taken on spontaneously, as and when required. The outcome is a *"mixed-form hybrid that is fitted to the peculiar context".* The study concluded that the PDIC process did a better job of explaining positive deviance than SLDC, primarily owing to the flexible process of ensuring the reform content fitted well into the organisational context (Andrews, 2015).

Such behaviour, attitude and ability in being able "to do more with less" is an asset. This is relevant in the context of organisational life where informal benchmarking (the informal learning of work practices from others, and then transferring it to the work context) is a recurring phenomenon.

2.9 Preliminary Conceptual Model of Informal Benchmarking

From the literature review, a preliminary conceptual model of informal benchmarking is developed through abduction, the first step in the research process. Abduction (more fully discussed in the next chapter) is the process of inquiry proceeding from *"an anomaly to the delineation of a kind of explanatory hypothesis which fits into an organised pattern of concepts"* (Paavola, 2004, p. 279). The anomaly refers to the relative position of informal benchmarking in terms of its growing popularity verses its seemingly lukewarm effectiveness (section 1.6), which therefore requires investigation.

An ontology of informal benchmarking is specified by conceptualisation and by relating the objects of the concept to one another in a systematic (Gruber, 1993), and in a transdisciplinary fashion (Nicolescu, 2014). The preliminary conceptual model comprises 5 elements including a working definition, purpose, characteristics, taxonomy and toolscape. The taxonomy is adapted from the three forms of informal learning, namely, self-directed, incidental and learning by socialisation (Schugurensky, 2000) (section 2.6.2). The toolset is an initial effort adapted and further developed from a description and pre-conceived notion of informal benchmarking (Adebanjo et al., 2010, p. 1144). The preliminary conceptual model was shown to the communities highlighted in blue (table 2-6) and modifications have been included in this model:

Event		Contribution	Comments
1	Global Benchmarking Network (GBN) AGM 4 Dec 2012, Singapore with benchmarking practitioners	Presentation, Q&A for 52 min	Benchmarking practitioners inquired on the definitions, scope and whether the research was attempting to formalise an approach meant to be kept informal
2	World Business Capability Congress 5-7 Dec 2012, Singapore	Presentation for 15 min	8 min presentation followed by questions on how different this was from informal learning
3	11th Australian and NZ Academy of Management (ANZAM) Symposium June 2013, Australia	Full paper & presentation for 20 min	15 min presentation followed by questions on viability of using informal benchmarking given the myriad of tools and approaches available i.e. what is the buy-in.

Table 2-6: Inputs to Preliminary Conceptual Model

The preliminary model is a composite of the following:

i) Table 2-7: Working definition of informal benchmarking
ii) Table 2-8: Purpose of informal benchmarking. Both primary and secondary purposes to reflect its wider impact on organisational improvement as a whole
iii) Table 2-9: Characteristics of the 4 disciplines and 3 secondary concepts are shown with common features grouped together to suggest a notion of the characteristics befitting informal benchmarking
iv) Figure 2-11: A taxonomy of the typologies of informal benchmarking
v) Table 2-10: Activities/tools to support informal benchmarking

2.9.1 Working Definition
A familiar and flexible way of learning from better or best practices within and outside your own organisation for the purpose of improving work practices in your organisation. It is content focused without following a structured methodology. The learning is either intentional or incidental and is usually spontaneous, speedier and unconventional. It will ultimately bring about improved practices upon the implementation of its learning. Informal Benchmarking aids or leads to more effective formal benchmarking.

Table 2-7: Working Definition of Informal Benchmarking

2.9.2 Purposes The primary purpose are fundamental aims of informal benchmarking. The secondary purposes serve as enablers to the primary purposes.
Primary i. To continually compare and seek out better or best practices inside and outside your organisation ii. To learn from others iii. To implement or adapt the learnt work practices **Secondary** i. To be open and on the lookout for opportunities to learn from others all the time ii. To be content-focused rather than fixated on structure, methodology or curriculum iii. To create a culture of learning from others' work practices inside and outside your organisation

Table 2-8: Purposes of Informal Benchmarking

2.9.3 Characteristics

The characteristics are derived from the 4 primary and 3 secondary trans-disciplines in the literature review. Due consideration have been given to list only core descriptions that typify each discipline and secondary concepts of quantum thinking, absorptive capacity and positive deviance.

CHARACTERISTICS OF DISCIPLINES & SECONDARY CONCEPTS					
	Benchmarking	**Informal Learning**	**Organisation Learning**	**Knowledge Management**	**Secondary Concepts**
Learning	Learning from others new and better practices with a focus on implementing change methodically and systematically. Result-oriented	Learning from others spontaneously and informally in the midst of daily work, not workshops. Implementation is optional	Building a culture of learning by providing a conducive environment physically and psychologically. Learning is promoted and rewarded at all levels	Building a culture of knowledge sharing by encouraging employees to share info/knowledge on various platforms	Learning from others and self, teams and daring to try novel ideas. Sometimes resources are scarce so improvisation is required
Change	Change management by exploring new and better practices thereby invoking a need to change, how to change and therefore a higher likelihood of implementing change	Change is present but not necessarily measured and can be difficult to quantify and measure.	Change management by providing and measuring the use of learning platforms or events associated with learning. Danger of measuring outputs instead of outcomes	Change management by providing and measuring use of knowledge portals, platforms or events associated with the brokering of knowledge. Danger of measuring outputs instead of outcomes	Change may be limited to a few bright sparks but if the ideas are implemented, a quantum leap in performance is possible
Comparing	Comparing work practices with others is the main thing	Comparing work practices with others is optional	Comparing work practices with others is optional	Comparing work practices is optional and mutual	Comparing work practices is optional and mutual
Innovation	Seeking new or better ways of improving current practice	Seeking new knowledge, skills or abilities	Seeking more productive and	Make hidden knowledge known.	Accessing external knowledge and adapting it

			innovative ways of doing business	Connect with valuable information	
Directedness	Organisationally-directed, deliberate	Self-directed, incidental or deliberate	Both organisationally-directed and self-directed, incidental or deliberate	Both organisationally-directed and self-directed, incidental or deliberate	Both organisationally-directed and self-directed, incidental or deliberate
Method	Methodological, structured and content-focused	Content-focused, unconcerned with method Non-prescriptive, flexible and unstructured	Content-focused and method-focused	Both Content-focused and focused on methodical organisation of knowledge	Process-centric but could be fuzzy and very fluid
Planning	Well-planned	Spontaneous and serendipitous	Well-planned and spontaneous	Well-planned and serendipitous	Well-planned, spontaneous and serendipitous, fuzzy, unconventional
Networks	Involves a network of relationships	May or may not involve a network of relationships	Involves a network of relationships	Involves a network of relationships	May or may not involve a network of relationships
Improvement	Continuous improvement with high potential for a paradigm shift. Learning from totally different industries/applications	Continuous improvement with some potential for a paradigm shift, depending on whether it is done organisation-wide or not	Continuous improvement with high potential for paradigm shift. Emergent process, co-evolve. social ecosystem where whole systems interact	Continuous improvement with limited potential for paradigm shift	Continuous improvement with high potential for paradigm shift
Resources	High use of organisational resources i.e. time, teams, money	Little use of organisational resources i.e. individual time	High use of organisational resources i.e. time, teams, money	Reasonably high use of organisational resources i.e. time, teams, money	Some use of organisational resources i.e. individual time, experimentation

Table 2-9: Preliminary Characteristics of Informal Benchmarking

2.9.4 Preliminary Taxonomy of Informal Benchmarking Typologies

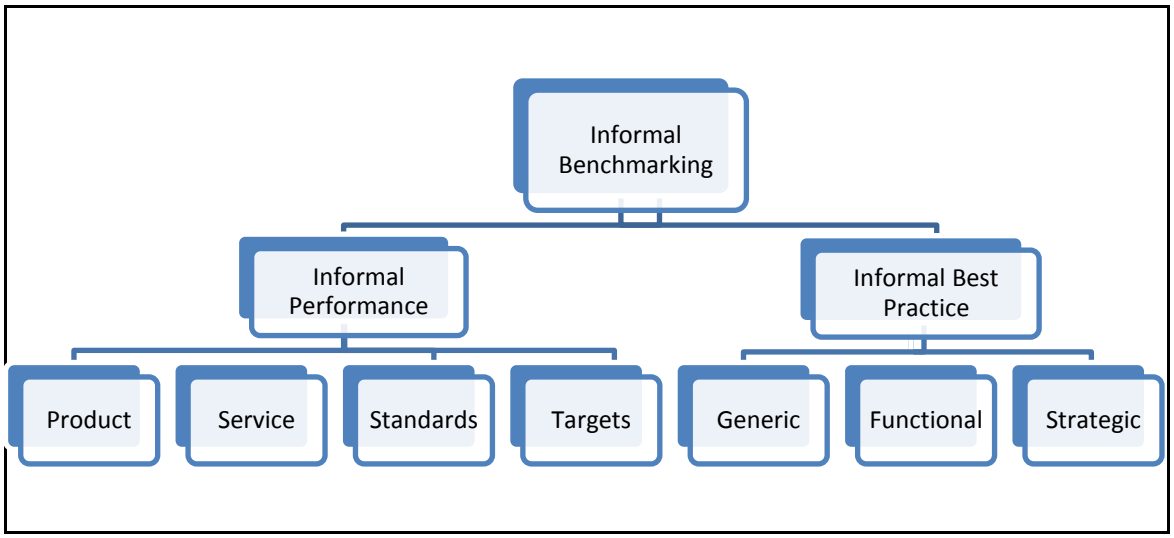


Figure 2-11: Preliminary Taxonomy of Informal Benchmarking

Informal Benchmarking Toolscape

2.9.5 Informal Benchmarking Toolscape

Non-social Dimension		
Incidental (more informal)		**Self-directed (less informal)**
1	Unconscious Skills development	Conscious Skills development
2	Incidental information (discovery by chance)	Searching for Information
3	Knowledge enabling eg. being a role model but not knowing it	Knowledge enabling i.e. knowledge worker input into repository
4	Absorbing from media (random) eg. youtube, radio, TV or browsing books and material	Absorbing from media (deliberate) eg. youtube, radio, TV or reading specific books
5	Lurking on Net randomly and non-participatory	Lurking on net to obtain specific info but non-participatory eg. Website tour
6	Spot Quiz	Test
7	Assimilating into a culture unknowingly	Assimilating into a culture deliberately
8	Observation (unplanned)	Observation (Objective)
9	Taking mental breaks as and when	Taking mental breaks at fixed times
10	Optimise work rhythm (by chance)	Optimise work rhythm (objectively)
11	Ad-hoc Presentations eg. at events, activities, listening to stories	Professional Presentations (deliberately attended) eg. conferences, seminars, fire-side story-telling by experts

12	Repetition of task/process (not conscious)	Repetition of task/process (conscious and deliberate)
Social Dimension		
Incidental (more informal)		**Self-directed (less informal)**
1	Frequent lunch with the same person(s)	Working lunch with same knowledge workers
2	On-line forums (random participation)	Member of Specific Web Forum
3	Hanging out with your team	Project Team brainstorming
4	Receiving Unsolicited Feedback	Receiving Solicited Feedback i.e. Survey/Questionnaire
5	Bumping into the same few colleagues or professional people	Community of Practice/Social Networks
6	Conference networking (random)	Conference networking (specific)
7	Dialogue	Focused Group
8	Social Visit to friend's organisation (chanced upon something useful)	Site Visits to other organisations (planned)
9	Company Unorganised conversation spaces eg. chat zones	Company Organised Collaboration spaces Eg. community of practices
10	Open Conversation with knowledge worker/colleagues eg. Pantry Chat	Consulting with Specialist
11	Organisation Event (informal) Eg. Annual Dinner	Organisation Event (formal) eg. Planning retreat
12	Being Mentored (by chance) i.e. listening to CEO at lunch	Being mentored i.e. mentorship program
13	Informal Conversation	Inquiry-mode Conversation eg. Phone call

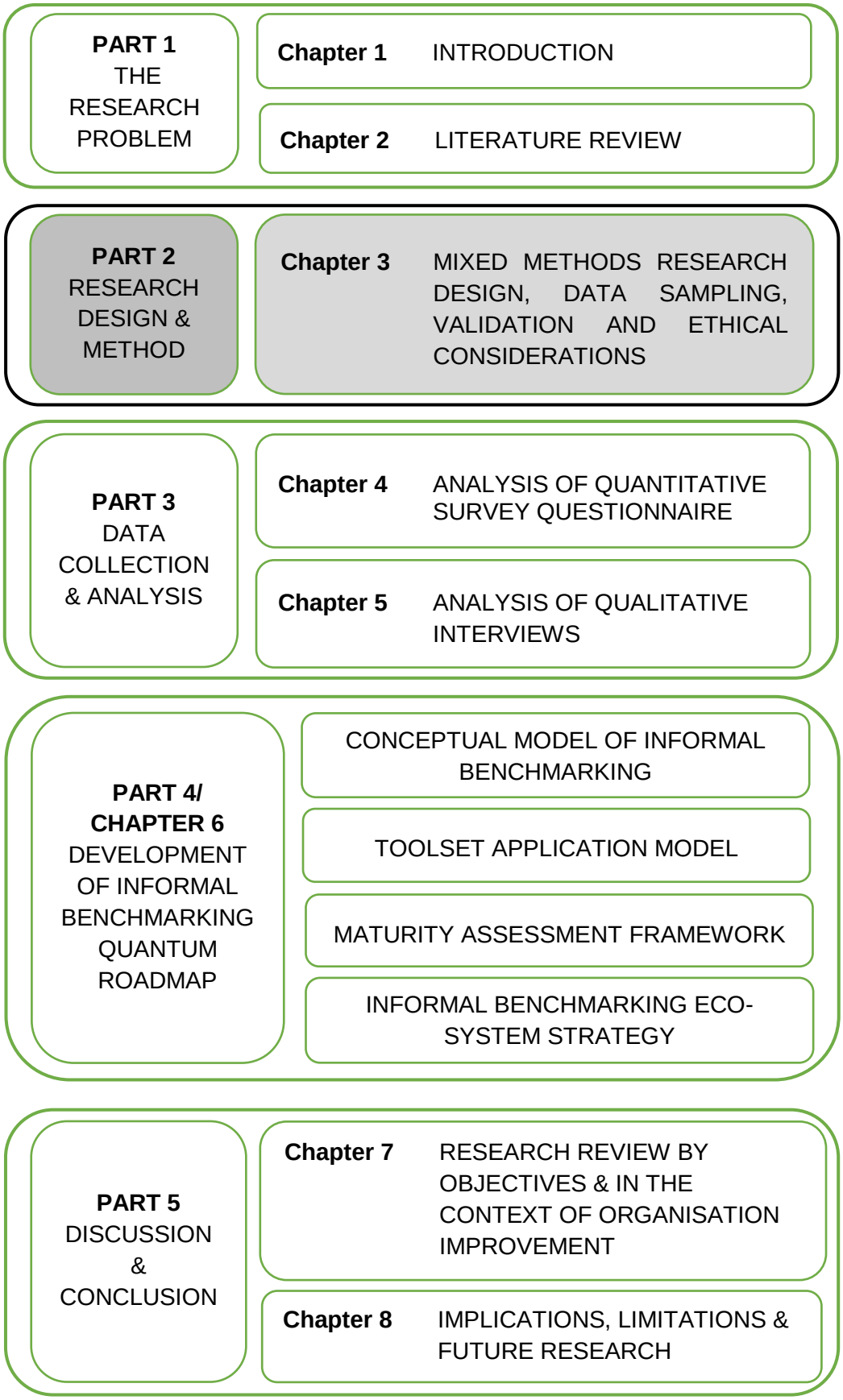
Table 2-10: Preliminary Informal Benchmarking Toolscape

At this point incidental forms of informal benchmarking are labeled as being more informal, whether or not they are social or non-social. Self-directed forms are considered less informal.

2.10 Chapter Summary

The chapter outlined the outstanding popularity yet lukewarm effectiveness of informal benchmarking as an organisational improvement tool. The scarcity of academic literature on the subject led to a heuristic and transdisciplinary approach to the review of suitable literature that explicated a preliminary conceptual model of informal benchmarking by abduction. The next chapter would outline the pragmatic mixed methods design and research process for the investigation.

Part 2 - RESEARCH DESIGN & METHOD



Chapter 3 Research Design & Method

3.1 Chapter Overview

This chapter describes the pragmatic stance taken in a quantitative-qualitative sequential research design. The research undertakes an abductive-deductive-inductive process throughout the stages in order to achieve the final objectives of a conceptual model, a toolset application model, an assessment framework, and an implementation roadmap for informal benchmarking. It undergirds how a mixed methods approach accentuates the validity and quality of the investigation. Finally, it states how the data collection phases are carried out in an ethical manner.

3.2 Paradigms of Research

There are many different paradigms to posit one's research from a philosophical standpoint. At the more abstract level the key research paradigms according to Creswell would include positivism, post-positivism, realism, constructionism, pragmatism, interpretivism, phenomenology, feminism, critical theory, and post modernism (Creswell, 2013; Maxwell, 2013). While Creswell (Creswell, 2013) have identified positivism, interpretivism, and critical theory (transformative perspective) as the 3 key philosophical traditions, these usually (but does not preclude) relate to mono-method research efforts wherein the study is either quantitatively or qualitatively designed (Cooper & White, 2012; Lather, 2006). Lather (Lather, 2006) introduces these major paradigms in simplistic but useful terms:

- Positivism: predicts
- Interpretivism: understands
- Critical orientation: emancipates

He considers poststructuralism a 4th major paradigm which focuses on deconstructing or examining language to understand power-knowledge relationships.

Positivism aims to observe phenomena directly to determine cause and effect, quantify and objectively predict relationships between variables (Denzin & Lincoln, 2000). A major criticism of positivism is the objective separation of the researcher from the subject being studied so that the data and analysis is free from his influence, perception or any subjective ideas. The idea of a single objective reality is opposed by the interpretivist or

constructionist camp in that it is arguably impossible to establish absolute truth and that subjective inquiry is the only kind possible to do'' (Creswell & Plano Clark, 2011). Positivist research methods typically use experiments, surveys or other controlled methods to test and support hypothesis.

Interpretivism integrates the interests of humans into the research. It is *"associated with the philosophical position of idealism, and is used to group together diverse approaches, including social constructionism, phenomenology and hermeneutics; approaches that reject the objectivist view that meaning resides within the world independently of consciousness"* (Collins, 2010). Here researchers recognise the unique interpretations of all participants in constructing reality and suspend all judgements and assumptions till the data is collected. A major criticism of interpretivism is the relatively small number of cases investigated do not allow for generalisations but the detailed efforts can indeed shed light and give depth to different perspectives of how phenomenon could be interpreted (Silverman, 2011). Observations, interviews and focus groups are usual methods of enriching investigation.

Critical theory or orientation challenges the norms of interpretation to bring about change. Its criticism and strength both lie in its approach to support some form of political agenda and reform. Action research and the use of interviews and focus groups are common methods used (Creswell, 2013; Lather, 2006).

Quantitative purists adopt a positivist stance in that all inquiry should be objective, much in the same way a scientist would treat physical phenomena, where hypotheses are tested and the outcomes are reliable, valid and generalizable - there is only one objective reality. Qualitative purists use interpretivism where *"multiple-constructed realities abound"* (Onwuegbuzie & Johnson, 2004) to account for an explanation of phenomena. - there is no such thing as one objective reality (Creswell, 2013; Feilzer, 2010; Onwuegbuzie & Johnson, 2004). The debate between both sets of purists posits an incompatibility thesis in that both the quantitative and qualitative paradigms cannot be combined (Onwuegbuzie & Johnson, 2004). Although many different paradigmatic differences have been underscored by many scholars (Clark, Creswell, Green, & Shope, 2008; Creswell & Plano Clark, 2011; Denzin & Lincoln, 2005), there are important similarities between them. For example, both paradigms use empirical observations, and both describe and construct arguments to speculate about *"why the outcomes they observed occurred the way they did"* (Sechrest & Sidani, 1995).

3.3 Pragmatic Mixed Methods

Notwithstanding the debates from both the quantitative and qualitative camps, there is another approach widely used by pragmatics - a mixed methods approach integrating both types of data into a single study (Bryman, 2006; Clark et al., 2008; Fetters, Curry, & Creswell, 2013). Quantitative data can assist in generating samples, and qualitative data can be used to assess, enrich and deepen understanding of the findings. Alternatively, qualitative study can help to refine quantitative instruments or generate hypotheses for testing (Fetters et al., 2013). A third “kind” is a parallel qualitative-quantitative design. it has the ability to take advantage of both types of sequential designs but it also poses an obvious disadvantage as answers to some questions from either studies cannot be provided because no data was collected for that purpose (Bryman, 2006). Pragmatism seeks “ to interrogate a particular question, theory, or phenomenon with the most appropriate research method” (Feilzer, 2010), and is not biased towards the use of any particular method of acquiring and analyzing data.

The primary aim of the research revolved around developing an understanding and seeking to increase the effectiveness of informal benchmarking as an organisational improvement tool. The 4 research objectives:

1. Develop a conceptual model of informal benchmarking including its definitions, purposes, characteristics, taxonomy and toolset

2. Develop a model for applying the informal benchmarking toolset effectively

3. Develop an assessment framework to assess the maturity level of informal benchmarking in an organisation

4. Provide recommendations on how to organise, integrate and implement informal benchmarking to be an effective and sustainable platform for organisational improvement throughout the whole organisation

In this study, a preliminary model of informal benchmarking was heuristically conceptualised from very limited available literature on the subject using a transdisciplinary approach and receiving inputs from benchmarking experts. A quantitative survey was developed to test the validity of the preliminary model against a purposive sample of knowledge workers in organisations globally. The findings from the survey was then used to select participants and refine questions for the subsequent stage of the research via in-depth semi-structured interviews. The interviews would

expand understanding and provide explanations for the core subject under investigation, namely, informal benchmarking.

As such, a mixed methods approach using an **explanatory quantitative-qualitative sequential design** was adopted. This method combined the more in-depth, contextualised, insight of qualitative research with the relatively more efficient and convincing predictive power of quantitative research. The first part of this study used a quantitative survey questionnaire to gather data from a wide range of organisations to inform the sample for the second part, which used qualitative data via semi-structured interviews (Clark et al., 2008; Creswell & Plano Clark, 2011) to enhance understanding of informal benchmarking.

According to (Fetters et al., 2013), integration in mixed methods occur at 3 levels:

i) The design level
ii) The methods level
iii) The interpretation & reporting level

Table 3-1 shows that within each of the 3 levels, there are several practices or approaches which can be combined to support the research being undertaken:

Table 1: Levels of Integration in Mixed Methods Research

Integration Level	*Approaches*
Design	3 Basic designs
	Exploratory sequential
	Explanatory sequential
	Convergent
	4 Advanced frameworks
	Multistage
	Intervention
	Case study
	Participatory—Community-based participatory research, and transformative
Methods	Connecting
	Building
	Merging
	Embedding
Interpretation and Reporting	Narrative—Weaving, contiguous and staged
	Data transformation
	Joint display

Table 3-1: Levels of Integration in Mixed Method Research

(Fetters et al., 2013, p. 2136)

Since interviewees were shortlisted from the sample frame of the survey, the database was considered **to be "connecting" at the methods level by building on the previous method**. Integration at the interpretation and reporting level *"occurs through three approaches: (1) integrating through narrative; (2) integrating through data transformation; and (3) integrating through joint displays."* Within the narrative approach, there is the weaving approach - writing quantitative and qualitative findings based on a theme or concept; the contiguous approach – the quantitative and qualitative findings are presented in one report but in different sections; and the staged approach- the quantitative and qualitative findings are reported and analysed in stages, but published separately (Fetters et al., 2013, p. 2142). This study is **integrated at the interpretation and reporting level via narratives using the contiguous approach**, where quantitative findings are presented first, followed by the qualitative results.

Priority in an explanatory sequential design is typically given to quantitative data. However, since the aim of this research is to expand understanding and make recommendations on how to increase the effectiveness of informal benchmarking, the primacy is given to qualitative data (Ivankova, Creswell, & Stick, 2006).

Pragmatic mixed methods embrace a logical and practical alternative without disputing paradigmatic preeminence. It can accept both objective reality, as well and constructed mental and social realities (Onwuegbuzie & Johnson, 2004) (table 3-2) to co-exist in a pluralistic, complementary manner because it places action and problem-solving over any particular philosophy, seeking applications of the results (Patton, 2002). Pragmatism is highly suitable for this research as a strong emphasis was placed on strategies to implement informal benchmarking in the context of business improvement. Pragmatism follows a logic of inquiry which includes induction, deduction and abduction (Onwuegbuzie & Johnson, 2004), or in the order of abduction, deduction and induction as described by Charles Sanders Peirce (Kapitan, 1992). The latter of which was suited to this emerging, iterative process of research. The research questions and objectives were also altered to understand the research problem better as the research progressed (Creswell, 2013).

Table 1
General Characteristics of Pragmatism

- The project of pragmatism has been to find a middle ground between philosophical dogmatisms and skepticism and to find a workable solution (sometimes including outright rejection) to many longstanding philosophical dualisms about which agreement has not been historically forthcoming.
- Rejects traditional dualisms (e.g., rationalism vs. empiricism, realism vs. antirealism, free will vs. determinism, Platonic appearance vs. reality, facts vs. values, subjectivism vs. objectivism) and generally prefers more moderate and commonsense versions of philosophical dualisms based on how well they work in solving problems.
- Recognizes the existence and importance of the natural or physical world as well as the emergent social and psychological world that includes language, culture, human institutions, and subjective thoughts.
- Places high regard for the reality of and influence of the inner world of human experience in action.
- Knowledge is viewed as being both constructed *and* based on the reality of the world we experience and live in.
- Replaces the historically popular epistemic distinction between subject and external object with the naturalistic and process-oriented organism-environment transaction.
- Endorses fallibilism (current beliefs and research conclusions are rarely, if ever, viewed as perfect, certain, or absolute).
- Justification comes in the form of what Dewey called "warranted assertability."
- According to Peirce, "reasoning should not form a chain which is no stronger than its weakest link, but a cable whose fibers may be ever so slender, provided they are sufficiently numerous and intimately connected" (1868, in Menand, 1997, pp. 5–6).
- Theories are viewed instrumentally (they become true and they are true to different degrees based on how well they currently work; workability is judged especially on the criteria of predictability and applicability).
- Endorses eclecticism and pluralism (e.g., different, even conflicting, theories and perspectives can be useful; observation, experience, and experiments are all useful ways to gain an understanding of people and the world).
- Human inquiry (i.e., what we do in our day-to-day lives as we interact with our environments) is viewed as being analogous to experimental and scientific inquiry. We all try out things to see what works, what solves problems, and what helps us to survive. We obtain warranted evidence that provides us with answers that are ultimately tentative (i.e., inquiry provides the best answers we can currently muster), but, in the long run, use of this "scientific" or evolutionary or practical epistemology moves us toward larger Truths.
- Endorses a strong and practical empiricism as the path to determine what works.
- Views current truth, meaning, and knowledge as tentative and as changing over time. What we obtain on a daily basis in research should be viewed as provisional truths.
- Capital "T" Truth (i.e., absolute Truth) is what will be the "final opinion" perhaps at the end of history. Lowercase "t" truths (i.e., the instrumental and provisional truths that we obtain and live by in the meantime) are given through experience and experimenting.
- Instrumental truths are a matter of degree (i.e., some estimates are more true than others). Instrumental truth is not "stagnant," and, therefore, James (1995: 1907) states that we must "be ready tomorrow to call it falsehood."
- Prefers action to philosophizing (pragmatism is, in a sense, an anti-philosophy).
- Takes an explicitly value-oriented approach to research that is derived from cultural values; specifically endorses shared values such as democracy, freedom, equality, and progress.
- Endorses practical theory (theory that informs effective practice; praxis).
- Organisms are constantly adapting to new situations and environments. Our thinking follows a dynamic homeostatic process of belief, doubt, inquiry, modified belief, new doubt, new inquiry, . . . , in an infinite loop, where the person or researcher (and research community) constantly tries to improve upon past understandings in a way that fits and works in the world in which he or she operates. The present is always a new starting point.
- Generally rejects reductionism (e.g., reducing culture, thoughts, and beliefs to nothing more than neurobiological processes).
- Offers the "pragmatic method" for solving traditional philosophical dualisms as well as for making methodological choices.

Table 3-2: General Characteristics of Pragmatism

(Onwuegbuzie & Johnson, 2004, p. 18)

3.4 Research Design

C.S Peirce described a distinction between abduction, deduction and induction, the three basic kinds of reasoning: "*Abduction is the process of both generating hypotheses and selecting some for further pursuit, deduction draws out their testable consequences, while induction evaluates (justifies) them"* (Kapitan, 1992, p. 1). A pragmatic theory of inquiry usually follows a sequence of abduction (firstness), where new ideas and hypotheses are generated, deduction (secondness), where evaluation of the hypotheses takes place, and induction (thirdness), where hypotheses is justified with empirical data (Peirce, 1960). The phenomenon under study is new from a scholarly standpoint and in the course of discovery with a surprising fact: even though informal benchmarking has virtually no theoretical substantiation and possesses lukewarm effectiveness (as compared to its popularity), it is very popular as a business improvement tool. Such a scenario is highly suited for an abductive-deductive-inductive research process (Åsvoll, 2014).

3.4.1 Abductive-Deductive-Inductive Research Process

The abductive-deductive-inductive research process is shown in figure 3-1.

A preliminary model of informal benchmarking was generated from limited previous studies, literature review of selected disciplines and concepts using a transdisciplinary approach, feedback from global benchmarking practitioners, conferences, a pilot survey, supervisors' inputs, instinct and a series of educated guesses based on experience. The numerous "inferences" were undertaken to avoid two potential dangers suggested by Denzin; firstly a far too simplistic model or world view constructed based on only conventional heuristics would be insufficiently robust. Secondly, an interpretation based solely on a retrospective analysis of the interaction between epistemological ideas from the constructs (disciplines and concepts) would be myopic (Denzin & Lincoln, 2005, p. 210). Thus, the association with benchmarking experts added a strong dimension of context (Pettigrew, 2013), since benchmarking was regarded, epistemologically, as an essential disciplinary area in this study. Notwithstanding, the other disciplines, related concepts and conference inputs afforded divergent thinking in the interpretation of informal benchmarking in the form of a preliminary conceptual model.

Feedback obtained from the community of experts (GBN) and conferences was instrumental in augmenting the preliminary conceptual model of informal benchmarking,

which included short and long definitions, purposes, characteristics, taxonomy and a list of informal benchmarking tools.

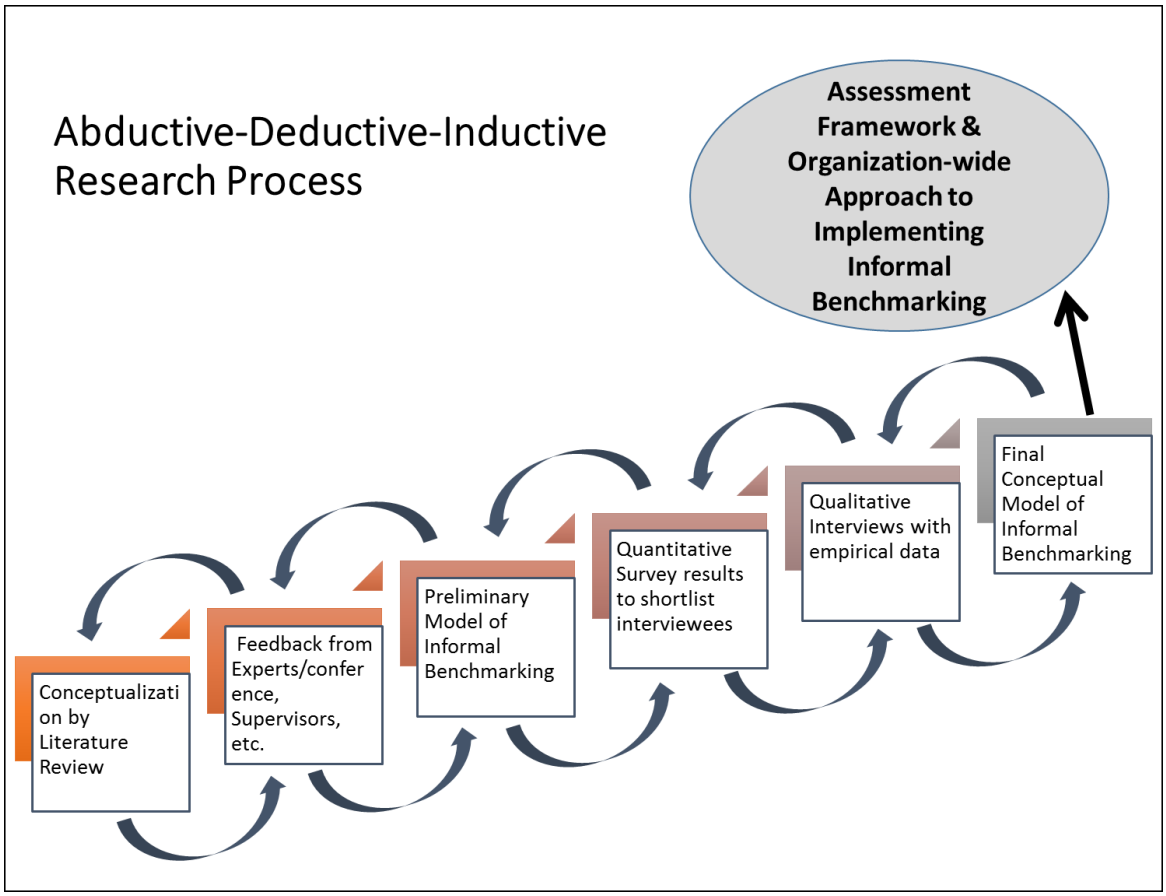


Figure 3-1: Abductive-Deductive-Inductive Research Process

Additionally, the views and comments aided in the exploration of new ideas (Bansal & Corley, 2012), for example, the conception of a maturity grid to gauge the usage and effectiveness of informal benchmarking through surveys. The session included formal notes of meeting, informal field notes, and an audio-recording of the researcher's presentation and feedback received. Such sessions were used iteratively to garner insights, explore different angles of inquiry, and to validate findings in this pragmatic mixed method approach. This is in line with Kleining's (Kleining & Witt, 2000) rules of qualitative heuristics to treat the research process as a dialogue (figure 3-1), in other words, to be open to change and be non-presumptuous till all data is collected and analysed. This approach advocated the preeminence of process dynamics over the pressure of outcome production (T. W. Lee, 1999).

Implications of a model generated by abduction necessitates it being tested and evaluated by a mixed method of quantitative and qualitative data collection and analysis. Following, the preliminary conceptual model would be refined and a roadmap developed

for organisation-wide implementation of informal benchmarking as an effective business improvement tool. Therefore, the stages of the research process are as follows:

Stage 1: Introduction & Literature Review
Stage 2: Development of Preliminary Conceptual Model
Stage 3: Quantitative data collection & analysis
a. Pilot survey and final survey questionnaire
b. Analysis of results
Stage 4: Qualitative data collection & analysis
a. Semi-structured interviews
b. Analysis of results
Stage 5: Development of the Informal Benchmarking Roadmap - Final Conceptual Model, Toolset Application Model, Assessment Framework & Strategy
Stage 6: Discussion & Conclusion

Table 3-3: Research Stages

3.4.2 Sampling: sequential quantitative-qualitative design

Data was obtained from the global business community for evidence of informal benchmarking, or proxies of informal work practice improvement. Proxies represent all sorts of organisation tools and activities used for several purposes but whose utility directly support informal benchmarking. To achieve the research objectives, a sequential probability and purposive sampling in a quantitative-qualitative design (Onwuegbuzie & Johnson, 2004) was found suitable where the quantitative sample would serve to inform the qualitative sample, generating both breadth and depth to the study (Teddlie & Yu, 2007). Cresswell (Creswell & Plano Clark, 2011) underscores the superiority of such complementary databases over a single database for a comprehensive understanding of the research problem.

The sampling frame for the quantitative survey targeted knowledge workers associated with business excellence or organisational improvement in the global business community. The simple random sample aimed to achieve a degree of representativeness where members from the population had an equal chance of being included (Tashakkori & Teddlie, 2003). Invitations to participate in the survey were extended to members or subscribers of the following entities:

i. New Zealand Organisation for Quality (NZOQ) via E-newsletter and Q-magazine
ii. American Society for Quality (Global) associates via LinkedIn

iii. Global Benchmarking Network (GBN) via newsletter
iv. Business Process Improvement Resource website (BPIR.com) via blog
v. Centre for Organisation Excellence via email and newsletter
vi. Business contacts via LinkedIn

A survey sample of 80-100 organisations was targeted for which 81 responses were received and deemed sufficient. Due to the time limitation associated with a PhD, there was a trade-off between representativeness (quantitative) and saturation (qualitative) that required consideration (Teddlie & Yu, 2007). In this research, emphasis is placed on development or the maximization of understanding of the phenomenon (Onwuegbuzie & Collins, 2007) of informal benchmarking, particularly the most effective and most popular tools that support it (Objective 2). The insights gained from these tools would support the conceptualisation of the informal benchmarking model (Objective 1), the assessment framework (Objective 3) and the roadmap for sustainable organisational improvement (Objective 4).

The quantitative survey responses were assigned scores for the very purpose of measuring (Chen, 2011) and shortlisting interviewees. Those with the highest scores and those with responses of particular interest were selected for the qualitative interviews (Faules, 1982; Lelièvre & Vivier, 2001).

A purposive sample from such a quantitative dataset can identify themes, relationships and variations within the phenomenon being studied and in this case, a concept of informal benchmarking (Patton, 2002), *"in terms of their properties and dimensions"* (Strauss & Corbin, 1998, p. 201).

From the 81 survey responses, a sample of 16 informants were selected for in-depth qualitative interviews. According to (Guest, Bunce, & Johnson, 2006), 12 interviews are sufficient for data saturation in purposive non-probabilistic samples.

3.4.2.1 Quantitative Survey

The survey was selected on the basis of its ability to solicit significant amounts of descriptive data from a large population in a relatively cost-effective manner (Nardi, 2014). The first part of the research basically sought to uncover the extent of the use and effectiveness of informal benchmarking tools in organisations, explore the relationship between the tools and other variables in the informal benchmarking model, and to discover additional tools. To be measurable for assessments and comparisons without ambiguity, 5-point Likert scales were used (Weathington, Cunningham, & Pittenger,

2012, p. 184) for the investigative inquiry. The survey was developed at the intellectual capacity of knowledge workers or in other words, executives reasonably familiar with strategies and tactics of their organisation (Arthur, DeFillippi, & Lindsay, 2008). It was targeted at organisations particularly interested in business excellence or improvement.

3.4.2.2 Semi-structured Interviews

To address the objective of obtaining best practices of informal benchmarking, the researcher used semi-structured interviews (informed by the survey results) to ensure fundamental data about the phenomenon was obtained, while maintaining flexibility for higher quality probes of each session with different interviewees (Diefenbach, 2009).

A minimum of 12 and a maximum of 20 organisations were targeted for which 16 were conducted. (Kvale & Brinkmann, 2009) suggested 20 one-hour interviews would be sufficient for data saturation in exploratory studies. However, there is empirical evidence to suggest 12 in-depth interviews in a purposive sample are ample for data saturation to occur (Guest et al., 2006).

3.5 Validation & Quality

The mixed methods approach delivers a far more robust triangulation of data than mono-method studies, adding credibility as the findings from the quantitative and qualitative dimension complement each other (Bryman, 2006; Faules, 1982; Golafshani, 2003). In this study, the quantitative data "*may speak to the strength of associations while qualitative data may speak to the nature of those associations"* (Fetters et al., 2013), that is, the qualitative interview enriched understanding of the usage and perceived effectiveness of informal benchmarking tools in the quantitative survey.

The respective survey responses were also re-shown to the 16 informants who were short-listed for interview. They were asked to justify, explain and give insight to the very tools in which high scores were given. This was a form of content validation using complementary databases.

Mixed methods is not only one of the best forms of validations, it also facilitates the understanding of organisational life complexities (Clark et al., 2008) via different data collection instruments, analysis and interpretation of results.

In the sequential quantitative-qualitative design of this research, the first part informed the selection of the second part by identified criteria and by the highest Likert Scale scores obtained. This helped to overcome two important validity threats in qualitative

research. The first is when the researcher tend to focus too much on marginal or distant cases. The second involves an oversized scope where the research attempts to cover too large a domain with a small qualitative sample (Onwuegbuzie, Leech, Murtonen, & Tähtinen, 2010). According to (Onwuegbuzie & Collins, 2007), most textbooks recommend a minimum sample size of 30 for correlational purposes but this has inadequate power (.51 only). He recommends a sample size of between 64 and 82 for one-tailed and two-tailed tests for the purpose of comparison and correlation in a survey (table 3-4). This gives a decent benchmarking of .80 statistical power of detecting effect sizes at the 5% level of significance. The survey sample for this research is 81, which meets this standard for cross tabulation and simple correlational analysis.

Minimum Sample Size Recommendations for Most Common Quantitative and Qualitative Research Designs

Research Design/Method	Minimum Sample Size Suggestion
Research Design[1]	
Correlational	64 participants for one-tailed hypotheses; 82 participants for two-tailed hypotheses (Onwuegbuzie et al., 2004)
Causal-Comparative	51 participants per group for one-tailed hypotheses; 64 participants for two-tailed hypotheses (Onwuegbuzie et al., 2004)
Experimental	21 participants per group for one-tailed hypotheses (Onwuegbuzie et al., 2004)
Case Study	3-5 participants (Creswell, 2002)
Phenomenological	≤ 10 interviews (Creswell, 1998); ≥ 6 (Morse, 1994)
Grounded Theory	15-20 (Creswell, 2002); 20-30 (Creswell, 2007)
Ethnography	1 cultural group (Creswell, 2002); 30-50 interviews (Morse, 1994)
Ethological	100-200 units of observation (Morse, 1994)
Sampling Design	
Subgroup Sampling Design	≥ 3 participants per subgroup (Onwuegbuzie & Leech, 2007c)
Nested Sampling Design	≥ 3 participants per subgroup (Onwuegbuzie & Leech, 2007c)
Data Collection Procedure	
Interview	12 participants (Guest, Bunce, & Johnson, 2006)
Focus Group	6-9 participants (Krueger, 2000); 6-10 participants (Langford, Schoenfeld, & Izzo, 2002; Morgan, 1997); 6-12 participants (Johnson & Christensen, 2004); 6-12 participants (Bernard, 1995); 8–12 participants (Baumgartner, Strong, & Hensley, 2002) 3 to 6 focus groups (Krueger, 1994; Morgan, 1997; Onwuegbuzie, Dickinson, Leech, & Zoran, 2007)

[1] For correlational, causal-comparative, and experimental research designs, the recommended sample sizes represent those needed to detect a medium (using Cohen's [1988] criteria), one-tailed statistically significant relationship or difference with .80 power at the 5% level of significance.

Table 3-4: Minimum Sample Sizes for Common Quantitative Research Designs

(Onwuegbuzie & Collins, 2007, p. 288)

For interviews, the recommended size is 12 for the purposes of saturation (Guest et al., 2006). The interview sample for this research is 16, which is sufficient for saturation and also not too large for detailed analysis (Onwuegbuzie & Collins, 2007).

Both the survey and interview were pegged to a level of intellect and knowledge possessed by knowledge workers and business. By tying the data in the survey to the interview in follow-up style for a more in-depth and expounding mode, informants were kept “at bay” to refrain from exaggerating facts beyond that of their survey responses.(Alvesson, 2011, p. 30).

Each interviewee’s data could be cross-checked and compared with that of another (Kanter, 1993; Mengshoel, 2012). Knowledge from these interviews served as confirmation of ideas and themes so that new and varied information could be built upon them (Alvesson, 2011, p. 57).This was important as other forms of validation such as observation or artefact collection, might have been be too time-consuming or implausible for the type of study undertaken (Yin, 2009). Provision of available documentation as a further validation point was most welcome but not expected, bearing in mind that the object, ‘informal benchmarking”, was a relatively new area of research and the very nature of it being informal might suggest the absence of formal or documentary evidence in organisations.

Analysis of qualitative data were performed using both a detailed structured coding and categorisation method, and a reflexive approach that involved an open, reflective, and critical thinking style. These ensured a more creative, varied and robust set of interpretations (Alvesson & Sköldberg, 2009).

The findings from the survey and interviews were provided to informants and to benchmarking practitioners (GBN) serving two forms of validation (Creswell, 2013; Torrance, 2012, p. 114) . The use of experts to review findings also added to the credibility and confirmability of the report (Bryman & Bell, 2011, p. 395; Schwandt, Lincoln, & Guba, 2007).

3.6 Ethical Considerations

“All social research involves consent, access and associated ethical issues, since it is based on data from people about people” (Punch, 2006, p. 101). The research involved human participation in both the surveys and interviews. No harm came to them. The subject matter was not of a sensitive nature, ethical, racist nor of a contentious nature. Hence there were no issues to content with.

For the surveys, participants were provided information about the research and assured of confidentiality upon participation. www.SurveyMonkey.com was used to manage

responses securely. For the interviews, an information sheet, rights of participation according to Massey University's ethical code, and consent form, were extended to participants (Appendix F). They were made aware of the research objectives and how they would be contributing to the research.

All participants were assured of anonymity and confidentiality to the best of the ability of the researcher, and given a copy of the results upon completion of analysis.

The general protocols and procedures for interviews were met (Kvale & Brinkmann, 2009). The participants and the entities they represent were assured that the use of all documents, oral history, recordings, transcripts, notes and reports would be done appropriately in accordance to Massey University's code of ethical conduct.

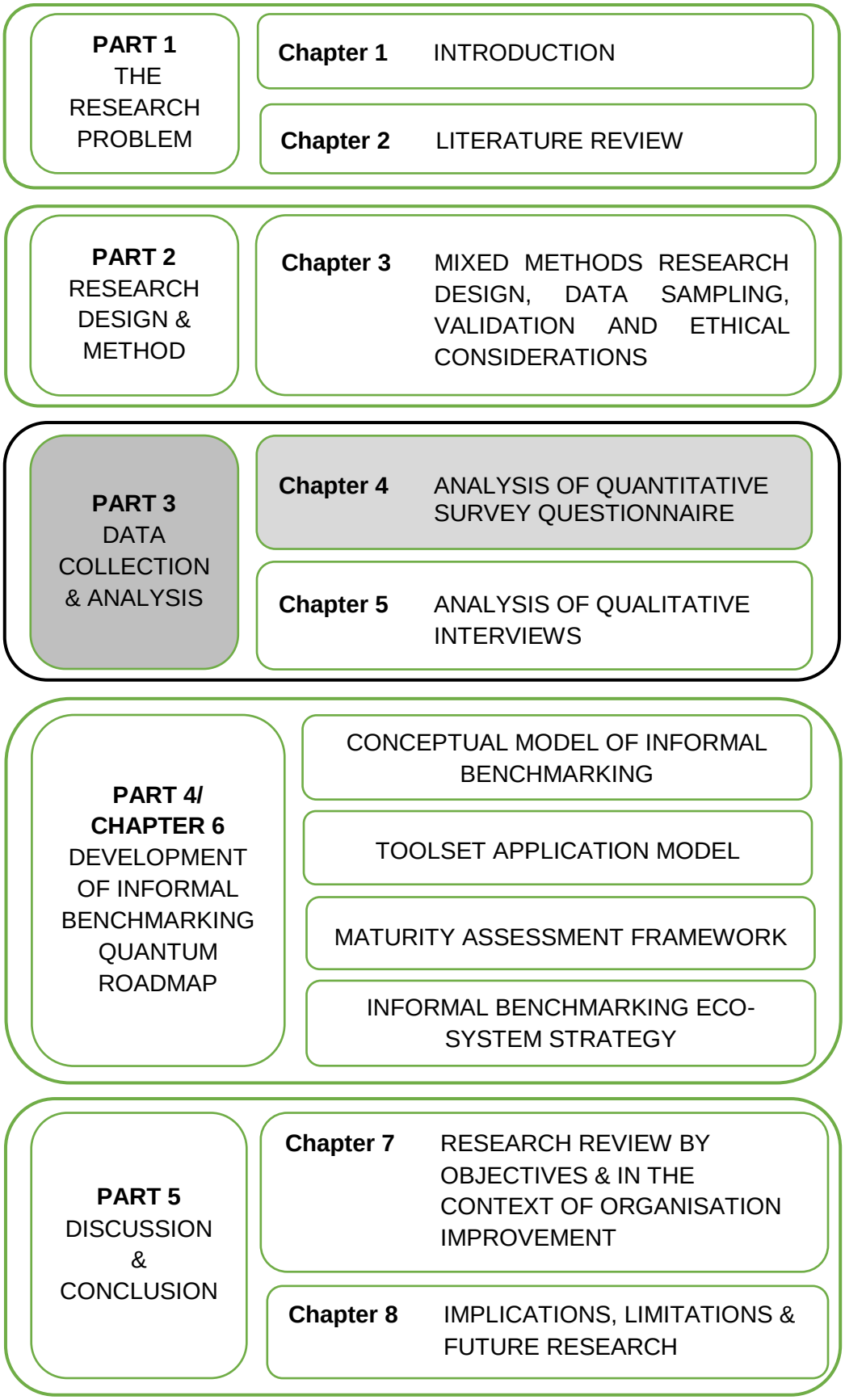
Confidentiality and anonymity were assured to each participant in that information provided by them, however processed, would only be used as agreed upon by them. All transcripts, notes and audio recordings would be stored digitally and password protected.

"Ethical research is about relationships founded on trust and reciprocity" (Maiter, Simich, Jacobson, & Wise, 2008, p. 307). Transparency and mutual professional respect from informants and experts benefited the research in jointly solving ethical challenges (Trimble & Fisher, 2006), and countering researcher interpretative omnipotence (E. Bell & Bryman, 2007, p. 142). These feedback were discussed with supervisors for integration into the deliverables of this research.

3.7 Chapter Summary

This chapter outlined the traditional research paradigms and the choice of a pragmatic quantitative-qualitative sequential research design. The abductive-deductive-inductive research process was also highlighted as being suitable to achieve the objectives of the research, and strengthening the validity of the investigation. The next chapter describes the first phase of data collection and its analysis.

Part 3 - DATA COLLECTION & ANALYSIS



Chapter 4 Analysis of Quantitative Survey

4.1 Chapter Overview

This chapter shows how a pilot survey augmented the final quantitative survey questionnaire. It justifies the use of Likert scales as interval data in the 4-part survey with 22 questions. A sample of 81 responses from 14 different countries was received. The analysis includes a listing of the most and least effective & popular tools, how the 4 maturity grid constructs co-relate with each other, and the correlation between constructs on the importance of learning or implementing new or better practices either informally or formally. An unexpected finding is also highlighted.

4.2 Pilot Survey

The pilot survey questionnaire was a prelude to the final survey design. Its aim was to understand various organisations' experience on the preliminary model of informal benchmarking heuristically abducted from a heuristic approach of literature review (Moustakas, 1990), experience, and discussion with supervisors, in order to augment the survey instrument, structure and semantics of the question sets (Van Teijlingen, Rennie, Hundley, & Graham, 2001) for its final implementation. A total of 20 questions were developed for about 180 delegates from the "Business Excellence Global Conference" held in Singapore in Oct 2013. It was important for the sample respondents to be knowledge workers interested in business excellence or improvement, and that members from the population had an equal chance of being included for a fair representation (Tashakkori & Teddlie, 2003). The purposes of the survey and the corresponding questions were divided into 5 parts as shown in table 4-1:

	Purpose	Questions
1	To identify the demographics of respondents	**1-7**
2	To gauge the level of importance of informal benchmarking tools in both a social and non-social setting	**8-11**
3	To gauge the maturity level of informal benchmarking in organisations	**16-20**
4	To gauge the level of satisfaction in formal benchmarking tools	**12-13**
5	To gauge the extent of implemented better practices in organisations	**14-15**

Table 4-1: Breakdown of Pilot Survey

The response rate was 6% or 12 responses were received. Results of the pilot survey can be found in Appendix A.

4.2.1 Augmentation to Pilot Survey Design

The pilot survey assisted the researcher to augment the main survey questions and refine the preliminary model. The key changes occur in the description of the activities/tools that support informal benchmarking. To prevent contamination, neither the data nor the participants were used in the main survey (Peat, Mellis, Williams, & Xuan, 2002) due to possible inaccuracy, incongruence or misalignment to the modified questions, and the fact that participants might have become biased after the initial survey.

One such modification took into consideration the deployment of tools. “Deploy” meant a deliberate effort to utilise a tool or activity at a specific instance. However, some tools or /activities led to the learning or discovery of new or better practices incidentally, and not deliberately. Another notable change is the exclusion of knowledge management too and activities. These, instead could be classified as enablers but there really was no necessity for such a classification since direct measurement of informal benchmarking tools were pre-eminent.

Consultation and feedback were received from:

i) Participants of the conference, regardless of whether they did the survey or not
ii) Benchmarking practitioners from the Global Benchmarking Network AGM on 1 Nov 2013 in Singapore
iii) Consultation with supervisors

Suggestions to modify the survey included the following:

i) To rename the survey to show its nature and subject matter more accurately from a very general title of “organisational tools survey” to “Informally learning from others to improve work practices survey” Both the pilot and main survey described informal benchmarking without labelling it in order to investigate the characteristics and properties associated with the tool (Strauss & Corbin, 1998, p. 201) to primarily prevent preconceived ideas associated with the term “benchmarking”.
ii) To separate the question on learning and culture into two distinct questions for clarity (Sue & Ritter, 2012).

iii) To reword the tools & activities and to clearly spell out the dimensions and typologies, that is, social or non-social, and, deliberate or incidental, at the beginning of the question cluster. These questions were rearranged into 8 distinct groups of questions.

iv) To inquire of the respondent if the tools & activities were personally experienced within the most recent 4 weeks. This was to enable a more objective and accurate recollection of its impact associated with the recency effect. It also placed a demand on the respondent to have had first-hand experience of the activity. Survey question:

> "*Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organisation's work practices. If yes, a) indicate its effectiveness b) indicate with an "F" if the activity was part of a formal structured benchmarking project following a prescribed benchmarking methodology."*

v) Instead of placing the offer of incentive with the initial demographic questions, to place the incentive at the end of the survey (Nardi, 2006), and to inquire as to whether he was keen to participate in future surveys. This provided a neater segmentation and better train of thought as the respondent proceeded through the survey process.

4.3 Final Survey Questionnaire Design

The purposes of the survey questionnaire were to:

i) Use the analysis to support the development of a model for applying the informal benchmarking toolset effectively (objective 2 of research)

ii) Inform the sample of the qualitative interview phase

This new improved survey questionnaire consisted of 4 parts in 24 questions:

Part	Purpose	Questions
1	Demographics of respondents	1-4, 23-24
2	Usage (popularity) and effectiveness levels of informal benchmarking tools & discovery of new activities/tools via a descriptive comment	5-12
3	Importance of learning or implementing new or better practices either informally or formally	13-17, 22
4	Maturity of informal benchmarking in the organisation	18-21

Table 4-2: Breakdown of Final Survey

The survey described informal benchmarking without labelling it in order to investigate the characteristics and properties associated with the tool (Strauss & Corbin, 1998, p. 201). A sentence description/definition "Informally learning from others to improve work practices" was used in place of the term "informal benchmarking", for clarity and in layman's terms readily understood by participants.

Online surveys via www.SurveyMonkey.com were assessed to be most cost-effective in reaching the sampling frame of organisations in a shorter period of time than manual methods (Ritter & Sue, 2007, p. 5). The online survey (Appendix B) was effective in guiding participants through the questionnaire logic - required fields, multiple fields and conditions associated with a question (multiple activities/tools for each dimension were listed as one question). It afforded an error-free initial simple analysis of a large amount of data, and provided for the possibility of data transference to more complex analysis software such as SPSS (Sue & Ritter, 2012), used for this research. A short video blog https://www.youtube.com/watch?v=4UbCbWs9HRQ explained the purpose of the survey along with an information sheet and invitation to participate.

4.3.1 Justification for Likert Scales as Interval Data

Five-point Likert scales were used for the three groups of data other than the demographic set, namely the 1st group on the effectiveness of tools/activities (Q5-Q12), the 2nd group on the maturity of informal benchmarking (Q18-Q21), and the 3rd group consisting of questions related to the importance and extent of implementing benchmarking both formally and informally. (Q13-Q17). This 2nd and 3rd group of data were considered Likert scales (James & Rocco, 2007) rather than Likert-type items even though different terms of measures like "importance" or "extent of use" were used. All of questions used an ascending 5-point Likert scale to be summated and measured. The scale was assumed to be symmetric and equidistant between the intervals of 1 through to 5 for all the data items.

In this research design, the purpose of the Likert scales were to obtain each survey participant's perception of a series of related statements (Harpe, 2015). Upon aggregation of the arithmetic mean of the response sets, the Likert scales behave more like an interval measure rather than an ordinal one (Norman, 2010). According to Carifo in his refute against Jamieson on her stance of Likert scales being presumed ordinal (Jamieson, 2004), "*A variety of studies have shown that the Likert response format produces empirically interval data at the scale level"* (Carifio & Perla, 2008, p. 1150).

Parametric tests were conducted on the 3 groups of Likert scales for normality (Appendix C) The z scores in SPSS for Skewness and Kurtosis were between -1.96 and +1.96 for group 1 & 2 and partially for group 3 data. (Note: Skewness Q13 &Q14 was z=2.65, z=2.68, which slightly exceeded normality). Visual inspection of their histograms, normal Q-Q plots and box plots indicate the data were approximately normally distributed (George & Mallery, 2014). The Shapiro-Wilk test (p>0.05) (Shapiro, Wilk, & Chen, 1968) was not relied upon as such tests are more suitable for continuous variables rather than Likert scales with only 5 points.

4.4 Survey Results

The survey data was collected from Jun to Oct 2014 with a total of 81 respondents.

4.4.1 Demography of Respondents (Q1-4 & 22)

Country of organisation: The respondents were from 14 countries - Canada, New Zealand, Singapore, Chile, Malaysia, Philippines, India, Australia, United Kingdom, Ghana, Ireland, Fiji, Germany and The USA (table 4-3). The majority (49%) were from Singapore, followed by one-quarter (25%) from New Zealand.

No.	Country	Frequency	Percent
1	Australia	5	6.2
2	Canada	3	3.7
3	Chile	1	1.2
4	Fiji	1	1.2
5	Germany	2	2.5
6	Ghana	1	1.2
7	India	3	3.7
8	Ireland	1	1.2
9	Malaysia	1	1.2
10	NZ	20	24.7
11	Philippines	1	1.2
12	Singapore	40	49.4
13	UK	1	1.2
14	USA	1	1.2
	Total	81	100.0

Table 4-3: Breakdown by Country

Position in organisation: The majority (63%) of respondents held managerial positions or higher (figure 4-1):

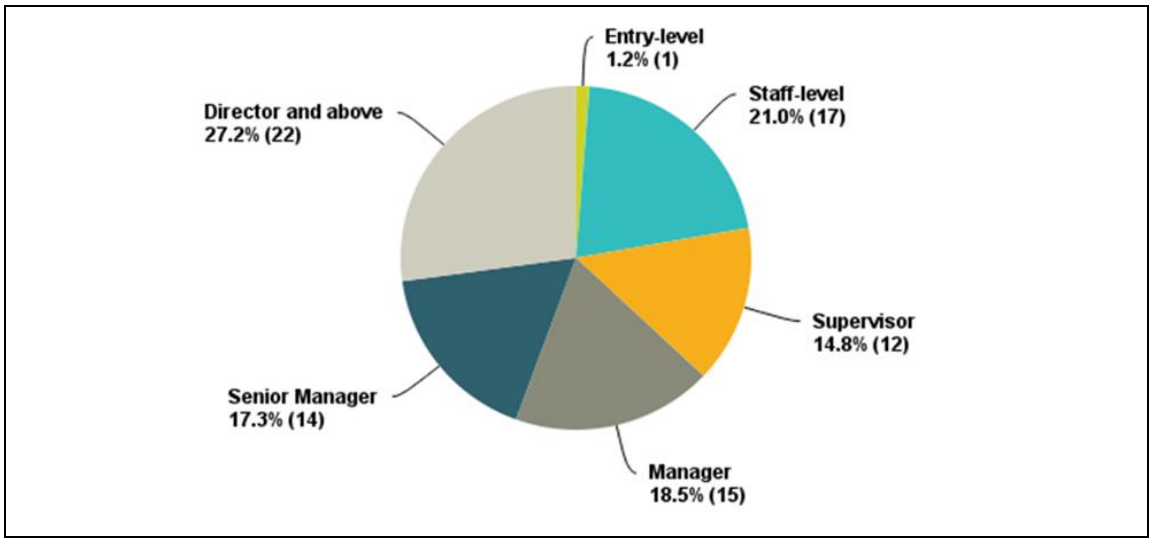


Figure 4-1: Position in Organisation

Size of organisation: .A third or 33% of respondents were from organisations with over 1000 employees (figure 4-2).

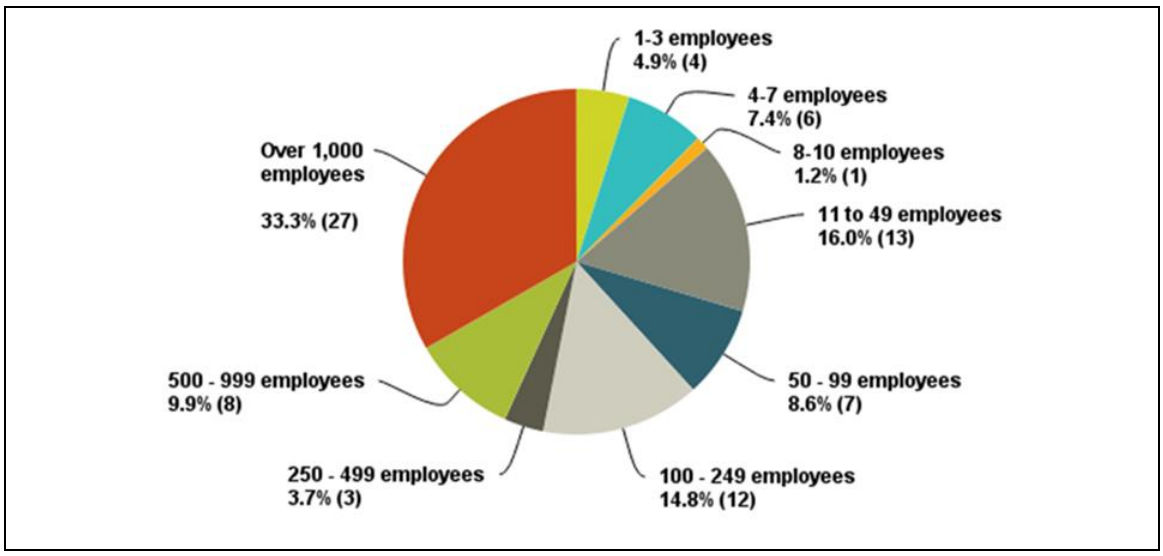


Figure 4-2: Size of Organisation

Industry of organisation: Most respondents (54%) were from the education/training (21%) or professional, scientific/ technical services (17%) sector or other services (16%) (table 4-4).

Answer Choices	Responses	
Agriculture, Forestry and Fishing	2.5%	2.00
Mining	1.2%	1.00
Manufacturing	6.2%	5.00
Electricity, Gas, Water and Waste Services	2.5%	2.00
Construction	0.0%	0.00
Wholesale Trade	0.0%	0.00
Retail Trade	1.2%	1.00
Accommodation and Food Services	0.0%	0.00
Transport, Postal and Warehousing	1.2%	1.00
Information Media and Telecommunications	9.9%	8.00
Financial and Insurance Services	4.9%	4.00
Rental, Hiring and Real Estate Services	0.0%	0.00
Professional, Scientific and Technical Services	17.3%	14.00
Administrative and Support Services	1.2%	1.00
Public Order, Safety and Regulatory Services	4.9%	4.00
Education and Training	21.0%	17.00
Health Care and Social Assistance	9.9%	8.00
Arts and Recreation Services	0.0%	0.00
Other Services	16.0%	13.00
Total		**81**

Table 4-4: Industry of Organisation

4.4.2 Effectiveness and Popularity of Tools (Q5-Q12)

A total of 67 tools/activities were broken into 8 categories or 8 questions (Q5-Q12) of the survey (table 4-5). Likert scales from 1 to 5 for effectiveness (1-not effective, 2-slightly effective, 3-moderately effective, 4-effective, 5-very effective) were used for each tool/activity. The assumptions of normality, linearity and homoscedasticity have not been violated (Appendix C) for the Likert scales data items used from questions 5 through to questions 12. These have been tested using SPSS. Table 4-6 shows the legend of the most and least effective and popular tools.

Legend for 8 Categories of IB tools			
Q5	Social dimension/internal & deliberate (SD1)	Q9	Non-social dimension/internal & deliberate (NSD1)
Q6	Social dimension/external & deliberate (SD2)	Q10	Non-social dimension/external & deliberate (NSD2)
Q7	Social dimension/internal & incidental (SD3)	Q11	Non-social dimension/internal & incidental (NSD3)
Q8	Social dimension/external & incidental (SD4)	Q12	Non-social dimension/external & incidental (NSD4)

Table 4-5: Legend for 8 dimensions of Informal Benchmarking Tools

Most Effective Tools	Most Popular Tools	Least Effective Tools	Least Popular Tools
Blue	Yellow	Red	Green
Grey is used to denote tools that are simultaneously the most effective & most popular, or the least effective & least popular			

Table 4-6: Colour Code for Most & Least Effective and Popular Tools

The 8 questions (Q5 to Q12) and their descriptive findings can be inspected in the following tables and figures:

Q5: Social-Based Activities (Internal & Deliberate): Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organisation's work practices? If "Yes", indicate its effectiveness

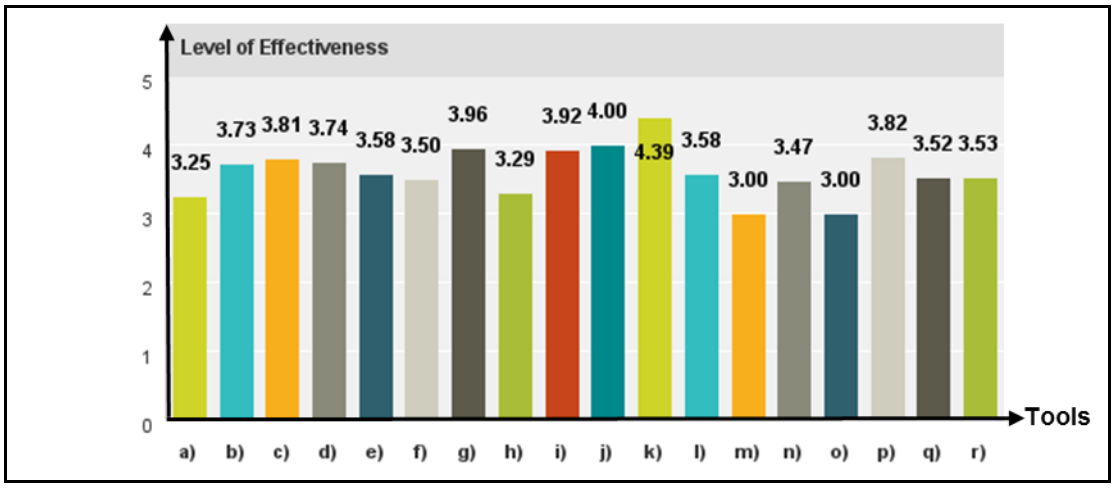


Figure 4-3: Mean Effectiveness of Social-Internal-Deliberate Toolset (SD1)

	a	b	c	d	e	f	g	h	i
Mean	3.25	3.73	3.81	3.74	3.58	3.50	3.96	3.29	3.92
N	36	40	48	46	33	22	24	17	13
Std. Deviation	1.025	.784	.867	.855	1.001	.802	.751	1.160	.862
	j	k	l	m	n	o	p	q	r
Mean	4.00	4.39	3.58	3.00	3.47	3.00	3.82	3.52	3.53
N	17	18	26	24	17	11	22	31	17
Std. Deviation	1.225	.778	.987	.933	1.007	1.265	.958	1.029	1.281

Table 4-7: Descriptive Statistics of Social-Internal-Deliberate Toolset

Legend for social-internal-deliberate toolset

a)	Participated in internal conferences to learn from the work practices of other units/departments	b)	Regular face-to-face discussions with members of a best practice group/network within your organisation to learn from their work practices e.g. community of practice, innovation team, cross-functional work group, focused group
c)	Regular face-to-face discussions with colleagues of other units/departments to learn from their work practices	d)	Emailed colleagues from other units/departments and learnt from their work practices
e)	Made a phone/Skype call to colleagues from other units/departments and learnt from their work practices	f)	Emailed an internal customer and learnt from their work practices
g)	Met face-to-face with an internal customer and learnt from their work practices	h)	Emailed an internal supplier and learnt of their work practices
i)	Met face-to-face with an internal supplier and learnt of their work practices	j)	Attachment to other units/departments to learn from their work practices
k)	Organised site visits to other units/departments to learn from their work practices	l)	Taking part in internal best-practice sharing event/activity and learning from the best practices of other units/departments
m)	Accessed our organisation's intranet and asked others inside my organisation if they had information concerning the work practices of other units/departments	n)	Participated in internal formal organisation events or activities to learn from the work practices of other units/departments e.g. planning retreats, official launches or inaugural openings
o)	Actively participated in a discussion in an internal electronic forum or social network and learnt from the work practices of other units/departments	p)	Consulted with a mentor/expert inside your organisation to learn from the work practices of other units/departments e.g. mentorship program, assigned peer-to-peer mentoring
q)	Attended presentations/seminar by other units/departments on a regular basis to learn from their work practices	r)	Participated in business excellence assessments or audits and incidentally learnt from the work practices of other units/departments e.g. annual cross-functional audits of units/departments

Table 4-8: Legend for Social-Internal-Deliberate Toolset

4.4.2.1 Findings for Q5 (SD1)

Of the 18 tools in this category, the top and bottom 30% are shown in table 4-9:

	Most Effective Tools/Activities	Mean	Most Popular Tools/Activities	N
1	Organised site visits to other units/departments to learn from their work practices	4.39	Regular face-to-face discussions with colleagues of other units/departments to learn from their work practices	48
2	Attachment to other units/departments to learn from their work practices	4.00	Emailed colleagues from other units/departments and learnt from their work practices	46
3	Met face-to-face with an internal customer and learnt of their work practices	3.96	Regular face-to-face discussions with members of a best practice group/network within your organisation to learn from their work practices	40
4	Met face-to-face with an internal supplier and learnt of their work practices	3.92	Participated in internal conferences to learn from the work practices of other units/departments	36
5	Consulted with a mentor/expert inside your organisation to learn from the work practices of other units/departments	3.82	Made a phone/Skype call to colleagues from other units/departments and learnt from their work practices	33
6	Regular face-to-face discussions with colleagues of other units/departments to learn from their work practices	3.81	Attended presentations/seminar by other units/departments on a regular basis to learn from their work practices	31
	Least Effective Tools/Activities	**Mean**	**Least Popular Tools/Activities**	**N**
1	Actively participated in a discussion in an internal electronic forum or social network and learnt from the work practices of other units/departments	3.00	Actively participated in a discussion in an internal electronic forum or social network and learnt from the work practices of other units/departments	11
2	Accessed our organisation's intranet and asked others inside my organisation if they had information concerning the work practices of other units/departments	3.00	Met face-to-face with an internal supplier and learnt of their work practices	13
3	Participated in internal conferences to learn from the work practices of other units/departments	3.25	-	

Table 4-9: Top and Bottom Tools in SD1

Q6: Social-based Activities (External & Deliberate): Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organisation's work practices? If "Yes", indicate its effectiveness

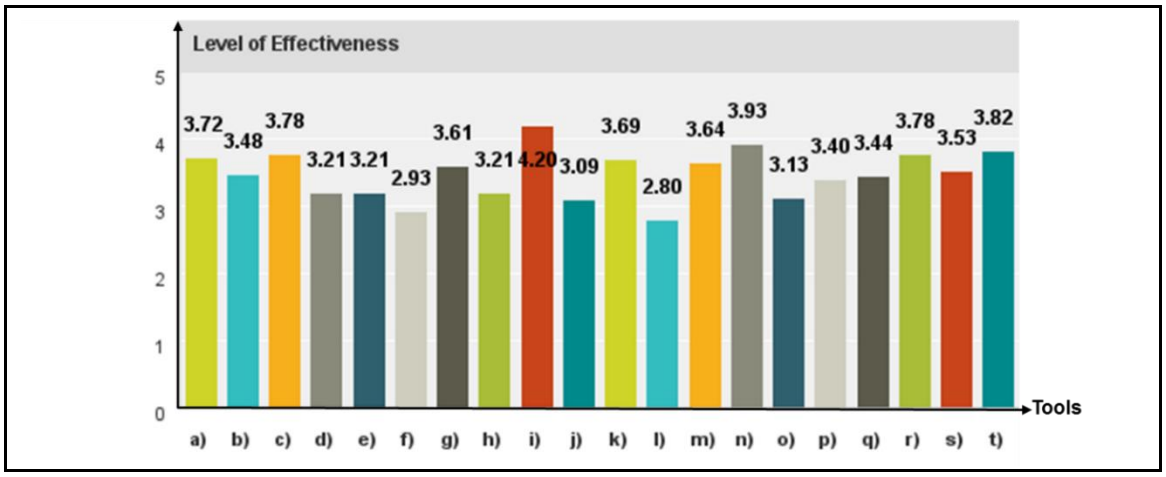


Figure 4-4: Mean Effectiveness of Social-External-Deliberate Toolset (SD2)

	a	b	c	d	e	f	g	h	i	j
Mean	3.72	3.48	3.78	3.17	3.21	2.93	3.61	3.21	4.20	3.09
N	36	23	23	29	19	14	18	14	10	11
Std. Deviation	.974	.898	.600	1.136	1.032	1.072	.916	.975	.789	1.221

	k	l	m	n	o	p	q	r	s	t
Mean	3.69	2.80	3.64	3.93	3.13	3.40	3.44	3.78	3.53	3.82
N	13	5	14	14	8	10	9	23	17	11
Std. Deviation	1.182	1.643	.842	.829	1.126	1.350	.726	.902	.874	1.168

Table 4-10: Descriptive Statistics of Social-External-Deliberate Toolset

Legend for social-external-deliberate toolset

a) Participated in external conferences to learn from the work practices of other organisations	b) Regular face-to-face discussions with members of a best practice group/network or association/club outside your organisation to learn from their work practices
c) Regular face-to-face discussions with associates of other organisations to learn from their work practices	d) Emailed associates from another organisation and learnt from their work practices
e) Made a phone/Skype call associates from another organisation and learnt from their work practices	f) Emailed an external customer and learnt from their work practices
g) Met face-to-face with an external customer and learnt from their work practices	h) Emailed an external supplier and learnt of their work practices
i) Met face-to-face with an external supplier and learnt of their work practices	j) Emailed other stakeholders (partners/shareholders) and learnt of their work practices
k) Met face to face with other stakeholders (partners/shareholders) and learnt of their work practices	l) Attachment to other organisations to learn from their work practices
m) Organised site visits to other organisations to learn from their work practices	n) Taking part in external best-practice sharing event/activity and learning from the best practices of other organisations i.e. global, national, industry level,
o) Accessed our organisation's intranet and asked other people inside my organisation if they had information concerning the work practices of other	p) Participated in external formal organisation events or activities to learn from the work practices of other organisations e.g. official launches or inaugural openings, ceremonies
q) Actively participated in a discussion in an external electronic forum or social network and learnt from the work practices of other organisations	r) Consulted with a specialist outside your organisation to learn from the work practices of other organisations
s) Attended presentations/seminar by other organisations on a regular basis to learn from their work practices	t) Participated in business excellence assessments or audits and incidentally learnt from the work practices of other organisations e.g. excellence certifications, ISO standards, Malcolm Baldrige quality awards or equivalent

Table 4-11: Legend for Social-External-Deliberate Toolset

4.4.2.2 Findings for Q6 (SD2)

Of the 20 tools in this category, the top and bottom 30% are shown in table 4-12:

	Most Effective Tools/Activities	Mean	Most Popular Tools/Activities	N
1	Met face-to-face with an external supplier and learnt of their work practices	4.20	Participated in external conferences to learn from the work practices of other organisations	36
2	Taking part in external best-practice sharing event/activity and learning from the best practices of other organisations i.e. global, national, industry level,	3.93	Emailed associates from another organisation and learnt from their work practices	29
3	Participated in business excellence assessments or audits and incidentally learnt from the work practices of other	3.82	Regular face-to-face discussions with associates of other organisations to learn from their work practices	23
4	Regular face-to-face discussions with associates of other organisations to learn from their work practices -	3.78	Consulted with a specialist outside your organisation to learn from the work practices of other organisations	23
5	Consulted with a specialist outside your organisation to learn from the work practices of other organisations	3.78	Regular face-to-face discussions with members of a best practice group/network or association/club outside your organisation to learn from their work practices	23
6	Participated in external conferences to learn from the work practices of other organisations	3.72	Made a phone/Skype call associates from another organisation and learnt from their work practices	19
	Least Effective Tools/Activities	**Mean**	**Least Popular Tools/Activities**	**N**
1	Attachment to other organisations to learn from their work practices	2.80	Attachment to other organisations to learn from their work practices	5
2	Emailed an external customer and learnt from their work practices	2.93	Accessed our organisation's intranet and asked other people inside my organisation if they had information concerning the work practices of other	8
3	Emailed other stakeholders (partners/shareholders) and learnt of their work practices	3.09	Actively participated in a discussion in an external electronic forum or social network and learnt from the work practices of other organisations	9

Table 4-12: Top and Bottom Tools in SD2

Q7: Social-based Activities (Internal & Incidental): Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organisation's work practices? If "Yes", indicate its effectiveness

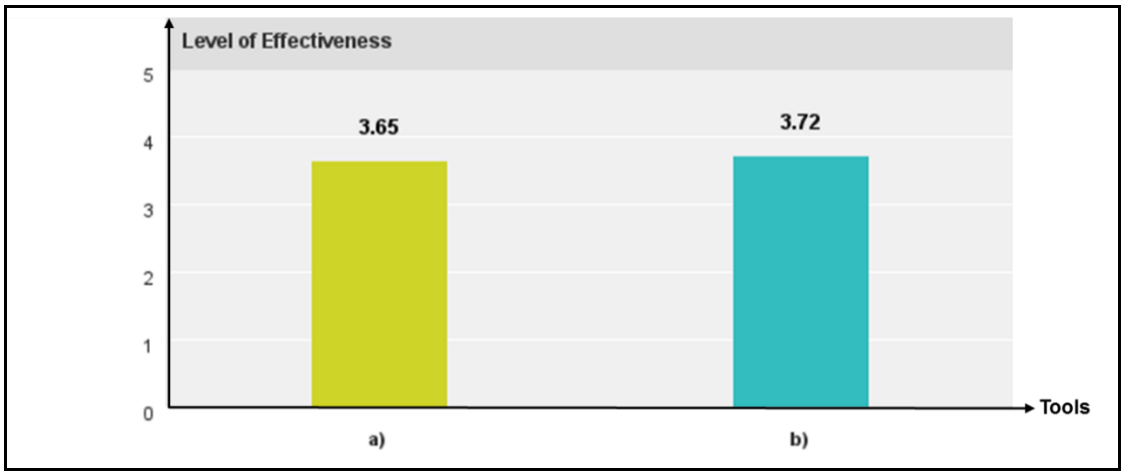


Figure 4-5: Mean Effectiveness of Social-Internal-Incidental Toolset (SD3)

	a	B
Mean	3.65	3.72
N	63	29
Std. Deviation	.953	1.032

Table 4-13: Descriptive statistics of social-internal-incidental *T*oolset

Legend for social- internal-incidental toolset

a)	Ad-hoc face-to-face conversation with colleagues from other units/departments that incidentally helped you to learn from their work practices e.g. coffee corner, lunches, tea-breaks at or post meetings
b)	Attended informal functions or social activities of other units/departments and incidentally learnt of their work practices e.g. festivity, celebrations, golf game, walk/run

Table 4-14: Legend for Social-Internal-Incidental Toolset

4.4.2.3 Findings for Q7 (SD3)

Although there are only 2 tools rated here, both tools register a high mean of 3.65 & 3.72 relative to other means. Tool b) “Attended informal functions or social activities of other units/departments” is very popular with N=63:

Most Effective Tools/Activities		Mean	Most Popular Tools/Activities	N
1	Attended informal functions or social activities of other units/departments and incidentally learnt of their work practices	3.72	Ad-hoc face-to-face conversation with colleagues from other units/departments that incidentally helped you to learn from their work practices	63
Least Effective Tools/Activities		**Mean**	**Least Popular Tools/Activities**	**N**
1	Ad-hoc face-to-face conversation with colleagues from other units/departments that incidentally helped you to learn from their work practices	3.65	Attended informal functions or social activities of other units/departments and incidentally learnt of their work practices	29

Table 4-15: Top and Bottom Tools in SD3

Q8: Social-based Activities (External & Incidental): Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organisation’s work practices? If "Yes", indicate its effectiveness

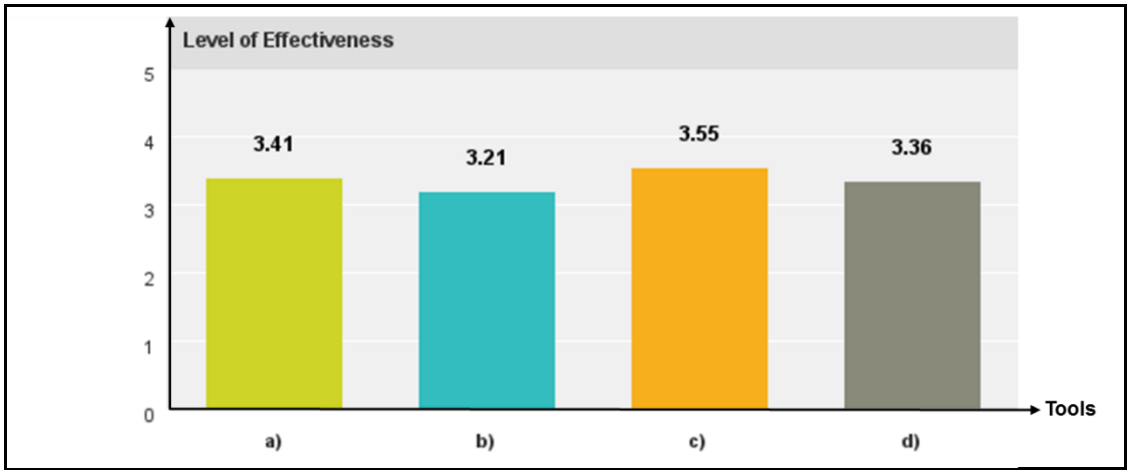


Figure 4-6: Mean Effectiveness of Social-External-Incidental Toolset (SD4)

	a	b	c	d
Mean	3.41	3.21	3.55	3.36
N	39	19	11	11
Std. Deviation	.910	.918	1.036	1.027

Table 4-16: Descriptive Statistics of Social-External-Incidental Toolset

Legend for social-external-incidental toolset

a)	Ad-hoc face-to-face conversation with associates from other organisations that incidentally helped you to learn from their work practices e.g. coffee, lunches
b)	Attended external informal functions or social activities with customers and incidentally learnt of their work practices e.g. festivity, celebrations, golf game
c)	Attended informal functions or social activities with suppliers and incidentally learnt of their work practices
d)	Attended informal functions or social activities with other stakeholders (partners/shareholders) and incidentally learnt of their work practices

Table 4-17: Legend for Social-External-Incidental Toolset

4.4.2.4 Findings for Q8 (SD4):

Of the 4 tools in this category, the top and bottom 50% are shown in table 4-17:

	Most Effective Tools/Activities	Mean	Most Popular Tools/Activities	N
1	Attended informal functions or social activities with suppliers and incidentally learnt of their work practices	3.55	Ad-hoc face-to-face conversation with associates from other organisations that incidentally helped you to learn from their work practices	39
2	Ad-hoc face-to-face conversation with associates from other organisations that incidentally helped you to learn from their work practices	3.41	Attended external informal functions or social activities with customers and incidentally learnt of their work practices	19
	Least Effective Tools/Activities	**Mean**	**Least Popular Tools/Activities**	**N**
1	Attended external informal functions or social activities with customers and incidentally learnt of their work practices	3.21	Attended informal functions or social activities with other stakeholders (partners/shareholders) and incidentally learnt of their work practices	11
2	Attended informal functions or social activities with other stakeholders (partners/shareholders) and incidentally learnt of their work practices -	3.36	Attended informal functions or social activities with suppliers and incidentally learnt of their work practices	11

Table 4-18: Top and Bottom Tools in SD4

Q9: Non-Social Activities (Internal & Deliberate): Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organisation's work practices? If "Yes", indicate its effectiveness

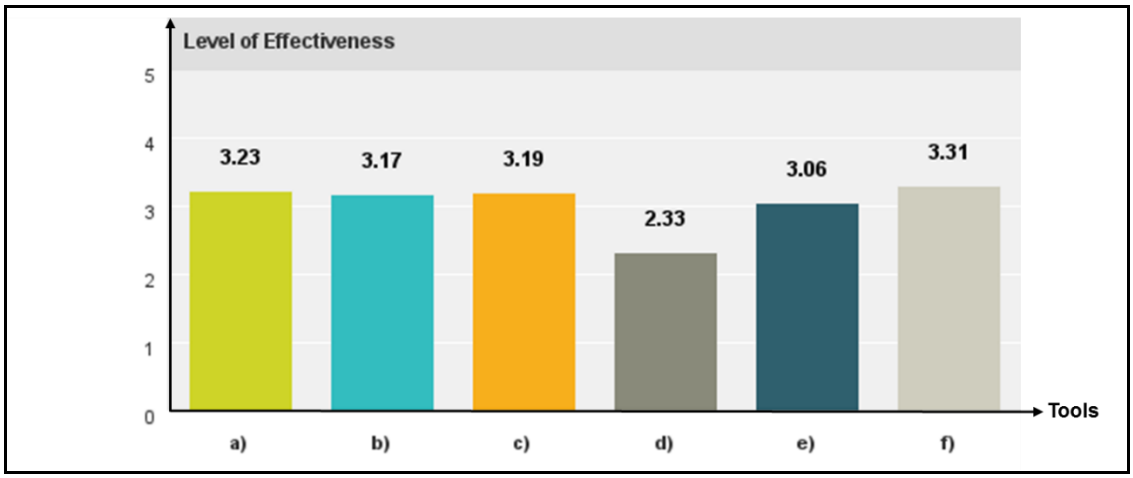


Figure 4-7: Mean Effectiveness of Non-Social-Internal-Deliberate Toolset (NSD1)

	a	b	c	d	e	f
Mean	3.23	3.21	3.19	2.33	3.06	3.31
N	39	34	21	6	17	13
Std. Deviation	.810	1.038	.981	1.506	.966	1.182

Table 4-19: Descriptive statistics of non-social-internal-deliberate Toolset

Legend for non-social-internal-deliberate toolset

a)	Read regular newsletters of other units/departments to learn from their work practices
b)	Read internal books/magazines/circulars regularly to deliberately learn from the work practices of other organisations e.g. annual report, standard operating procedure
c)	Accessed SharePoint or similar collaborative/learning applications to learn from the work practices of other units/departments
d)	Participated in a benchmarking comparison survey inside your organisation to deliberately learn from their work practices e.g. sales performance, studying good or smart practices
e)	Reviewed our organisation's database/knowledge bank of best practices of other units/departments
f)	Reviewed previous benchmarking projects our organisation has undertaken to learn from the work practices of other units/departments

Table 4-20: Legend for Non-Social-Internal-Deliberate Toolset

4.4.2.5 Findings for Q9 (NSD1)

Of the 6 tools in this category, the top and bottom 30% are shown in table 4-21:

	Most Effective Tools/Activities	Mean	Most Popular Tools/Activities	N
1	Reviewed previous benchmarking projects our organisation has undertaken to learn from the work practices of other units/departments	3.31	Read regular newsletters of other units/departments to learn from their work practices	39
2	Read regular newsletters of other units/departments to learn from their work practices	3.23	Read internal books/magazines/circulars regularly to deliberately learn from the work practices of other organisations	34
	Least Effective Tools/Activities	**Mean**	**Least Popular Tools/Activities**	**N**
1	Participated in a benchmarking comparison survey inside your organisation to deliberately learn from their work practices	2.33	Participated in a benchmarking comparison survey inside your organisation to deliberately learn from their work practices	6
2	Reviewed our organisation's database/knowledge bank of best practices of other units/departments	3.06	Reviewed previous benchmarking projects our organisation has undertaken to learn from the work practices of other units/departments	13

Table 4-21: Top and Bottom Tools in NSD1

Q10: Non-Social Activities (External & Deliberate): Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organisation's work practices? If "Yes", indicate its effectiveness

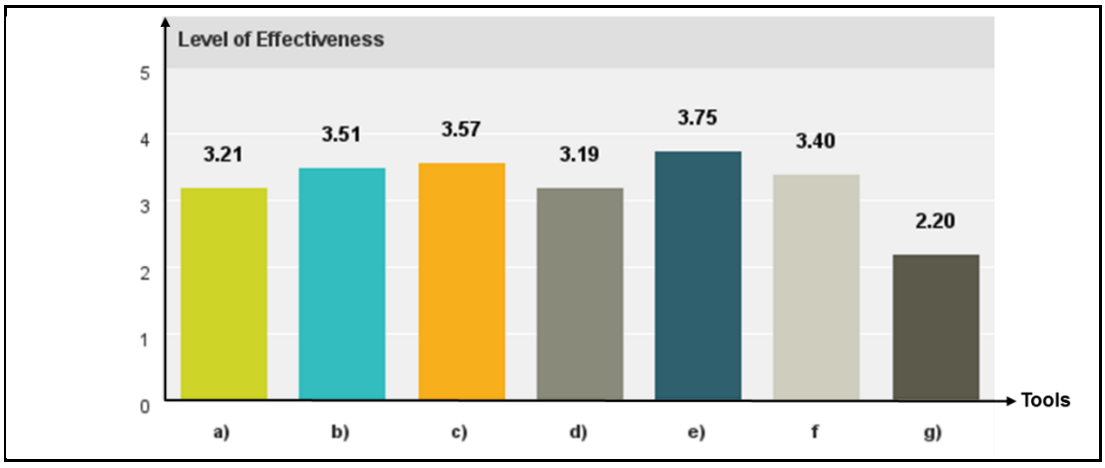


Figure 4-8: Mean Effectiveness of Non-Social-External-Deliberate Toolset (NSD2)

	a	b	c	d	e	f	g
Mean	3.21	3.51	3.57	3.19	3.75	3.40	2.20
N	38	38	42	32	8	10	5
Std. Deviation	.935	.893	.737	.931	1.165	.843	.837

Table 4-22: Descriptive Statistics of Non-Social-External-Deliberate Toolset

Legend for non-social-external-deliberate toolset

a)	Read regular newsletters of other organisations to learn from their work practices
b)	Read external books/magazine to deliberately learn from the work practices of other organisations
c)	Deliberately researched a topic on the internet to learn from the work practices of other organisations
d)	Accessed extranet or external websites of other organisations to learn from the work practices of other organisations
e)	Participated in a benchmarking comparison survey to deliberately learn from the work practices of other organisations e.g. competitors' performance, studying good or smart practices
f)	Reviewed a database/knowledge bank of best practices of other organisations
g)	Reviewed previous benchmarking projects our organisation has undertaken to learn from the work practices of other organisations

Table 4-23: Legend for Non-Social-External-Deliberate Toolset

4.4.2.6 Findings for Q10 (NSD2)

Of the 7 tools in this category, the top 40% and bottom 30% are shown in table 4-24:

	Most Effective Tools/Activities	Mean	Most Popular Tools/Activities	N
1	Participated in a benchmarking comparison survey to deliberately learn from the work practices of other organisations	3.75	Deliberately researched a topic on the internet to learn from the work practices of other organisations	42
2	Deliberately researched a topic on the internet to learn from the work practices of other organisations	3.57	Read external books/magazine to deliberately learn from the work practices of other organisations	38
3	Read external books/magazine to deliberately learn from the work practices of other organisations	3.51	Read regular newsletters of other organisations to learn from their work practices	38
	Least Effective Tools/Activities	**Mean**	**Least Popular Tools/Activities**	**N**
1	Reviewed previous benchmarking projects our organisation has undertaken to learn from the work practices of other organisations	2.20	Reviewed previous benchmarking projects our organisation has undertaken to learn from the work practices of other organisations	5
2	Accessed extranet or external websites of other organisations to learn from the work practices of other organisations	3.19	Participated in a benchmarking comparison survey to deliberately learn from the work practices of other organisations	8

Table 4-24: Top and Bottom Tools in NSD2

Q11: Non-Social Activities (Internal & Incidental): Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organisation's work practices? If "Yes", indicate its effectiveness

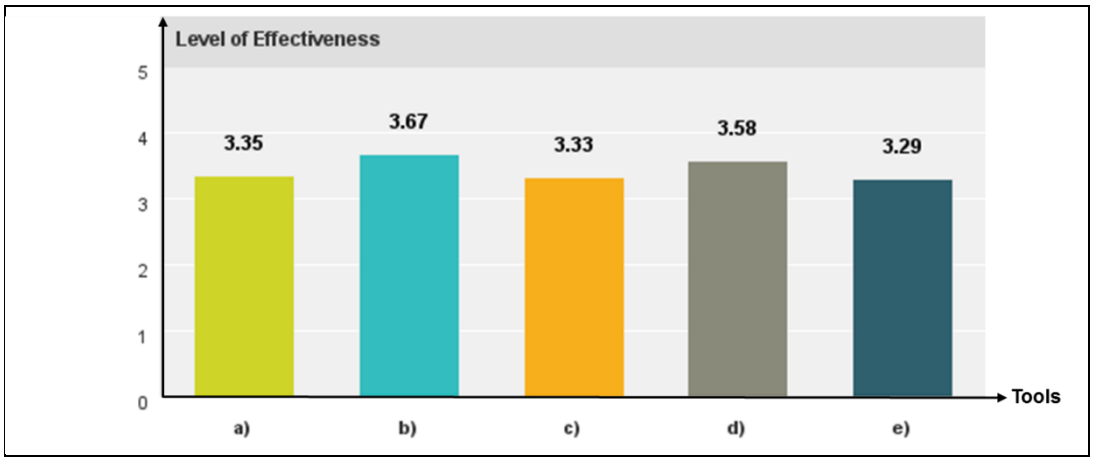


Figure 4-9: Mean Effectiveness of Non-Social-Internal-Incidental Toolset (NSD3)

	a	b	c	d	e
Mean	3.35	3.67	3.33	3.58	3.29
N	20	27	9	24	17
Std. Deviation	.988	.974	1.118	.584	1.105

Table 4-25: Descriptive Statistics of Non-Social-Internal-Incidental Toolset

Legend for non-social-internal-incidental toolset

a)	Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organisations
b)	Observed a critical incident of other units/departments that enabled you to learn from their work practices i.e. a situation or condition which made you question your own work practices
c)	Found information on SharePoint or other intranet applications which incidentally helped you to learn from the work practices of other units/departments
d)	Read internal books/magazines which incidentally helped you to learn from the work practices of other units/departments
e)	Read a random internal newsletter which incidentally helped you to learn from the work practices of other units/departments

Table 4-26: Legend for Non-Social-Internal-Incidental Toolset

4.4.2.7 Findings for Q11 (NSD3)

Of the 5 tools in this category, the top and bottom 40% are shown in table 4-27:

	Most Effective Tools/Activities	Mean	Most Popular Tools/Activities	N
1	Observed a critical incident of other units/departments that enabled you to learn from their work practices	3.67	Observed a critical incident of other units/departments that enabled you to learn from their work practices	27
2	Read internal books/magazines which incidentally helped you to learn from the work practices of other units/departments	3.58	Read internal books/magazines which incidentally helped you to learn from the work practices of other units/departments	24
	Least Effective Tools/Activities	**Mean**	**Least Popular Tools/Activities**	**N**
1	Read a random internal newsletter which incidentally helped you to learn from the work practices of other units/departments	3.29	Found information on SharePoint or other intranet applications which incidentally helped you to learn from the work practices of other units/departments	9
2	Found information on SharePoint or other intranet applications which incidentally helped you to learn from the work practices of other units/departments	3.33	Read a random internal newsletter which incidentally helped you to learn from the work practices of other units/departments	17

Table 4-27: Top and Bottom Tools in NSD3

Q12: Non-Social Activities (External & Incidental): Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organisation's work practices? If "Yes", indicate its effectiveness

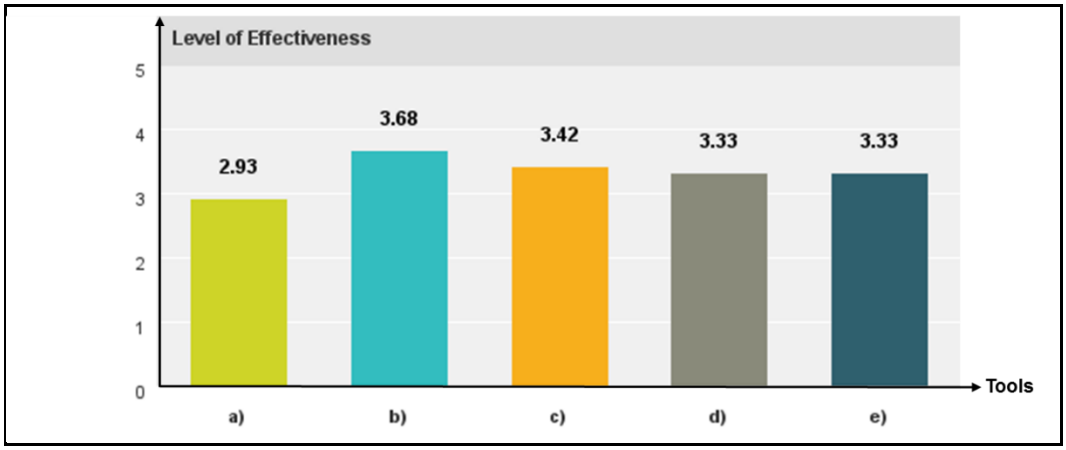


Figure 4-10: Mean Effectiveness of Non-Social-External-Incidental Toolset (NSD4)

	a	b	c	d	e
Mean	2.93	3.68	3.42	3.33	3.33
N	29	19	26	27	18
Std. Deviation	.998	.946	.857	.832	1.138

Table 4-28: Descriptive Statistics of Non-Social-External-Incidental Toolset

Legend for non-social-external-incidental toolset

a)	Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organisations
b)	Observed a critical incident of other organisations that enabled you to learn from their work practices i.e. a situation or condition which made you question your own work practices
c)	Found information on extranet or external websites of other organisations which incidentally helped you to learn from their work practices
d)	Read external books/magazines which incidentally helped you to learn from the work practices of other organisations
e)	Read a random external newsletter which incidentally helped you to learn from the work practices of other organisations

Table 4-29: Legend for Non-Social-External-Incidental Toolset

4.4.2.7 Findings for Q12 (NSD4)

Of the 5 tools in this category, the top and bottom 40% are shown in table 4-30:

	Most Effective Tools/Activities	Mean	Most Popular Tools/Activities	N
1	Observed a critical incident of other organisations that enabled you to learn from their work practices	3.68	Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organisations	29
2	Found information on extranet or external websites of other organisations which incidentally helped you to learn from their work practices	3.42	Read external books/magazines which incidentally helped you to learn from the work practices of other organisations	27
	Least Effective Tools/Activities	**Mean**	**Least Popular Tools/Activities**	**N**
1	Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organisations	2.93	Read a random external newsletter which incidentally helped you to learn from the work practices of other organisations	18
2	-		Observed a critical incident of other organisations that enabled you to learn from their work practices	19

Table 4-30: Top and Bottom Tools in NSD4

4.4.3 Key Findings for Effectiveness & Popularity of Tools

4.4.3.1 Top 5 Most Effective & Popular Tools

The top 5 most effective tools are from the social-deliberate categories (SD1&SD2). Of the top 5 most popular tools, 4 are from the social dimension and 1 from the non-social dimension (highlighted in orange in table 4-31):

	Most Effective Tools/Activities	Mean	Most Popular Tools/Activities	N
1	Organised site visits to other units/departments to learn from their work practices	4.39	Ad-hoc face-to-face conversation with colleagues from other units/departments that incidentally helped you to learn from their work practices	63
2	Met face-to-face with an external supplier and learnt of their work practices	4.20	Regular face-to-face discussions with colleagues of other units/departments to learn from their work practices	48
3	Attachment to other units/departments to learn from their work practices	4.00	Emailed colleagues from other units/departments and learnt from their work practices	46
4	Taking part in external best-practice sharing event/activity and learning from the best practices of other organisations	3.93	Deliberately researched a topic on the internet to learn from the work practices of other organisations	42
5	Met face-to-face with an internal customer and learnt of their work practices	3.92	Regular face-to-face discussions with members of a best practice group/network within your organisation to learn from their work practices	40

Table 4-31: Top 5 Most Effective & Popular Tools

4.4.3.2 Top 30% Most Effective & Most Popular Tools in both Dimensions

Within the social dimension, the top 30% (top 13 out of 44 tools) of the most effective and most popular tools are ranked in table 4-32. Of these, 4 are in both the top 30% of effectiveness and popularity (highlighted in grey):

Most Effective Tools/Activities		Mean	Most Popular Tools/Activities	N
1	Organised site visits to other units/departments to learn from their work practices	4.39	Ad-hoc face-to-face conversation with colleagues from other units/departments that incidentally helped you to learn from their work practices	63
2	Met face-to-face with an external supplier and learnt of their work practices	4.20	Regular face-to-face discussions with colleagues of other units/departments to learn from their work practices	48
3	Attachment to other units/departments to learn from their work practices	4.00	Emailed colleagues from other units/departments and learnt from their work practices	46
4	Taking part in external best-practice sharing event/activity and learning from the best practices of other organisations	3.93	Regular face-to-face discussions with members of a best practice group/network within your organisation to learn from their work practices	40
5	Met face-to-face with an internal customer and learnt of their work practices	3.92	Participated in external conferences to learn from the work practices of other organisations	36
6	Met face-to-face with an internal supplier and learnt of their work practices	3.92	Participated in internal conferences to learn from the work practices of other units/departments	36
7	Participated in business excellence assessments or audits and incidentally learnt from the work practices of other	3.82	Made a phone/Skype call to colleagues from other units/departments and learnt from their work practices	33
8	Consulted with a mentor/expert inside your organisation to learn from the work practices of other units/departments	3.82	Attended presentations/seminar by other units/departments on a regular basis to learn from their work practices	31
9	Regular face-to-face discussions with colleagues of other units/departments to learn from their work practices	3.81	Emailed associates from another organisation and learnt from their work practices	29
10	Regular face-to-face discussions with associates of other organisations to learn from their work practices	3.78	Regular face-to-face discussions with associates of other organisations to learn from their work practices	23
11	Consulted with a specialist outside your organisation to learn from the work practices of other organisations	3.78	Consulted with a specialist outside your organisation to learn from the work practices of other organisations	23
12	Participated in external conferences to learn from the work practices of other organisations	3.72	Regular face-to-face discussions with members of a best practice group/network or association/club outside your organisation to learn from their work practices	23
13	Attended informal functions or social activities of other units/departments and incidentally learnt of their work practices	3.72	Made a phone/Skype call associates from another organisation and learnt from their work practices	19

Table 4-32: Top 30% Most Effective & Most Popular Tools in Social Dimension

Within the non-social dimension, the top 30% (top 9 out of 23 tools) of the most effective, and most popular tools are ranked in table 4-33. Of these, 6 are in both the top 30% of effectiveness and popularity (highlighted in grey):

	Most Effective Tools/Activities	Mean	Most Popular Tools/Activities	N
1	Participated in a benchmarking comparison survey to deliberately learn from the work practices of other organisations	3.75	Deliberately researched a topic on the internet to learn from the work practices of other organisations	42
2	Observed a critical incident of other organisations that enabled you to learn from their work practices	3.68	Read regular newsletters of other units/departments to learn from their work practices	39
3	Observed a critical incident of other units/departments that enabled you to learn from their work practices	3.67	Read external books/magazine to deliberately learn from the work practices of other organisations	38
4	Read internal books/magazines which incidentally helped you to learn from the work practices of other units/departments	3.58	Participated in a benchmarking comparison survey to deliberately learn from the work practices of other organisations	38
5	Deliberately researched a topic on the internet to learn from the work practices of other organisations	3.57	Read internal books/magazines/circulars regularly to deliberately learn from the work practices of other organisations	34
6	Read external books/magazine to deliberately learn from the work practices of other organisations	3.51	Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organisations	29
7	Found information on extranet or external websites of other organisations which incidentally helped you to learn from their work practices	3.42	Observed a critical incident of other units/departments that enabled you to learn from their work practices	27
8	Reviewed previous benchmarking projects our organisation has undertaken to learn from the work practices of other units/departments	3.31	Read external books/magazines which incidentally helped you to learn from the work practices of other organisations	27
9	Read regular newsletters of other units/departments to learn from their work practices	3.23	Read internal books/magazines which incidentally helped you to learn from the work practices of other units/departments	24

Table 4-33: Top 30% Most Effective & Most Popular Tools in Non-Social Dimension

Correlation between individual tools were not submitted due to the small sample size of $N < 12$ for the majority of apparent strong correlation of $r > 0.7$ using Spearman's Rho. Correlation between tools is not a primary focus in this research.

4.4.3.3 Most/Least Effective and Popular of 8 Categories of Tools

The social dimension toolset (SD1to4) as a whole, is more effective and more popular than the non-social dimension toolset (NSD1to4), though the differences are not statistically significant: 3.48 vs 3.24 & 77 vs 73 respectively:

	Social Dimension	Non-social Dimension
Mean	3.4792	3.2415
N	77	73
Std. Deviation	.69889	.70603

Table 4-34: Effectiveness & Popularity Means of Both Dimensions

A ranking of all 8 categories of tools in terms of effectiveness and popularity is shown in table 4-35. The most effective is the social-internal-incidental category and the most popular is the social-internal-deliberate category. The least effective is the non-social-internal-deliberate category and the least popular is the social-external-incidental category:

CATEGORY RANKINGS				
Effectiveness Ranking		**Mean**	**Popularity Ranking**	**N**
1	Social dimension/internal & incidental (SD3)	3.68	Social dimension/internal & deliberate (SD1)	68
2	Social dimension/internal & deliberate (SD1)	3.60	Non-social dimension/external & deliberate (NSD2)	67
3	Social dimension/external & deliberate (SD2)	3.50	Social dimension/internal & incidental (SD3)	64
4	Non-social dimension/internal & incidental (NSD3)	3.37	Social dimension/external & deliberate (SD2)	62
5	Non-social dimension/external & deliberate (NSD2)	3.33	Non-social dimension/internal & deliberate (NSD1)	59
6	Social dimension/external & incidental (SD4)	3.32	Non-social dimension/internal & incidental (NSD3)	49
7	Non-social dimension/external & incidental (NSD4)	3.30	Non-social dimension/external & incidental (NSD4)	49
8	Non-social dimension/internal & deliberate (NSD1)	3.15	Social dimension/external & incidental (SD4)	47

Table 4-35: Ranking of 8 Categories of Informal Benchmarking

4.4.3.4 Unexpected Findings for Effectiveness of tools

The data suggests the internal & incidental learning of work practices in the social dimension are more effective than all the other categories. The inference that organisations appear to learn work practices more effectively by accident than by intentional efforts should be treated with caution, as the differences in the means are not statistically significant at all. Within the social dimension, the mean of 3.68 for the

internal-incidental category is **not** significantly higher than the mean of 3.48 for the whole social dimension toolset. The observation could be attributed to the fact that there are only two tools rated in this category compared to the average of 11 tools rated per category in the social dimension. Nonetheless, the score for these tools register a relatively high effectiveness score.

Similarly within the non-social dimension, the mean of 3.37 for the internal-incidental category is also **not** significantly higher than the mean of 3.24 for the whole non-social dimension toolset. The observation could be attributed to the high mean score of 3.67 in one of the tools "observed a critical incident" and that this tool also has the highest occurrence of N=27 compared to the average of N=19 for the toolset in this category.

Overall, the spread between all 8 categories is not statistically significant, In fact they are quite closely bound considering the highest mean to be 3.68, the lowest to be 3.15 and the rest in between.

4.4.3.5 Correlation between 8 Categories of Tools in terms of Effectiveness

Legend for 8 Categories of IB tools		
1	Social dimension/internal & deliberate (SD1)	Non-social dimension/internal & deliberate (NSD1)
2	Social dimension/external & deliberate (SD2)	Non-social dimension/external & deliberate (NSD2)
3	Social dimension/internal & incidental (SD3)	Non-social dimension/internal & incidental (NSD3)
4	Social dimension/external & incidental (SD4)	Non-social dimension/external & incidental (NSD4)

Table 4-36: Legend for 8 Categories of IB Tools

The strongest positive correlation coefficients (r => 0.5, p=0.01) between the effectiveness means of toolsets in the 8 categories, in order:

i. NSD3 & NSD4 where r = 0.74, p = 0.01,
ii. SD1 & SD2 where r = 0.71, p = 0.01,
iii. SD3 & SD4 where r = 0.61, p = 0.01,
iv. SD4 & NSD4 where r = 0.61, p = 0.01,
v. NSD1 & NSD2 where r = 0.58, p = 0.01,
vi. SD1 & SD4 where r = 0.54, p = 0.01,
vii. NSD1 & NSD4 where r = 0.51, p = 0.01

These correlation coefficients can be inspected in table 4-37.

Incidental Domains: The scores indicate a strong correlation exhibited in i & iii (r = 0.74 & r =0.61 respectively) between the effectiveness of “incidental” toolsets, in both the social and non-social dimensions. Since these co-vary, it would be advantageous for organisations to create environments where such serendipitous learning of work practices are proactively promoted and nurtured for maximum effectiveness. It could be inferred that the more incidental type of informal benchmarking is promoted and nurtured, either internally or externally, the one would affect the other positively, leading to correspondingly higher levels of effectiveness in learning new or better work practices in these “incidental” domains.

Deliberate Domains: Similar, there is a strong correlation exhibited in ii (r = 0.71) and a moderately strong correlation in v (r = 0.58) between “deliberate” toolsets, in both the social and non-social dimensions, and both internally and externally. Since these co-vary, it would be advantageous for organisations to create environments where such deliberate learning of work practices are proactively promoted and nurtured for maximum effectiveness. It could be inferred that the more deliberate type of informal benchmarking is promoted and nurtured, either internally or externally, the one would affect the other positively, leading to correspondingly higher levels of effectiveness in learning new or better work practices in these “deliberate” domains.

Correlations

		Mean of Q5	Mean of Q6	Mean of Q7	Mean of Q8	Mean of Q9	Mean of Q10	Mean of Q11	Mean of Q12
Mean of Q5	Pearson Correlation	1	.712**	.379**	.537**	.347*	.361**	.267	.160
	Sig. (2-tailed)		.000	.004	.000	.010	.005	.070	.287
	N	68	55	57	41	54	60	47	46
Mean of Q6	Pearson Correlation	.712**	1	.422**	.439**	.193	.382**	.286	.298
	Sig. (2-tailed)	.000		.002	.004	.170	.003	.070	.055
	N	55	62	52	42	52	58	41	42
Mean of Q7	Pearson Correlation	.379**	.422**	1	.605**	.278*	.377**	.305*	.303
	Sig. (2-tailed)	.004	.002		.000	.049	.005	.049	.054
	N	57	52	64	39	51	54	42	41
Mean of Q8	Pearson Correlation	.537**	.439**	.605**	1	.192	.495**	.346	.606**
	Sig. (2-tailed)	.000	.004	.000		.228	.001	.061	.000
	N	41	42	39	47	41	43	30	31
Mean of Q9	Pearson Correlation	.347*	.193	.278*	.192	1	.584**	.463**	.507**
	Sig. (2-tailed)	.010	.170	.049	.228		.000	.002	.001
	N	54	52	51	41	59	56	44	41
Mean of Q10	Pearson Correlation	.361**	.382**	.377**	.495**	.584**	1	.362*	.485**
	Sig. (2-tailed)	.005	.003	.005	.001	.000		.014	.000
	N	60	58	54	43	56	67	46	48
Mean of Q11	Pearson Correlation	.267	.286	.305*	.346	.463**	.362*	1	.740**
	Sig. (2-tailed)	.070	.070	.049	.061	.002	.014		.000
	N	47	41	42	30	44	46	49	38
Mean of Q12	Pearson Correlation	.160	.298	.303	.606**	.507**	.485**	.740**	1
	Sig. (2-tailed)	.287	.055	.054	.000	.001	.000	.000	
	N	46	42	41	31	41	48	38	49

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4-37: Correlations between 8 Categories of Tools

4.4.4 Maturity Grid – Importance, Culture, Support & Impact (Q18-Q21)

The maturity level of organisations (table 4-38) in learning informally from others to improve work practices is measured by 4 criteria - level of importance, the culture within, management support and the level of impact it has on the organisation (Q18 to Q21). These 4 criteria or variables were tested for normality using Shapiro-Wilk, Histogram and Q-Q plot tests, and found to be normally distributed (Appendix C).

INFORMAL BENCHMARKING (IB) MATURITY GRID FOR ORGANISATIONS						
	Characteristic	**1 point**	**2 point**	**3 points**	**4 points**	**5 points**
1	**Importance of IB:** The reason or rationale for IB *Q18 What is the level of importance for informally learning work practices from other organisations in order to improve work practices in your organisation?*	***Not important*** -informally learning from others to improve our work practices is not important nor relevant as a tool	***Slightly important*** - informally learning from others to improve our work practices is important insofar as to know what are the benchmarks out there in the industry but not doing anything about it	***Moderately important***-Informally learning from others to improve our work practices is important only when problems or challenges arise in order to improve one's practices. There is internal or external pressure to do troubleshoot and improve	***Important*** -Informally learning from others to improve our work practices actively in key functional areas. Importance is given to remain competitive by adapting new practices to improve our practices in key areas of the organisation	***Very important*** - Informally learning from others to improve our work practices is very important and takes place at every level of the organisation. The management uses such learning to gain a competitive edge and achieve best in class performance
2	**Culture of Learning:** Learning from others and level of knowledge management practices *Q19 What is the culture of informally learning from others to improve work practices in your organisation?*	***Little or No Culture*** - informally learning from others to improve our work practices is hardly seen nor practiced	***Awareness Culture*** - random informal learning from others but the information is not used to improve work practices beyond the individual level of learning	***Reactive Culture*** - random and ad-hoc informal learning from others to improve our work practices but limited to areas deemed critical only	***Active Culture*** - deliberate informal learning from others to improve our work practices. Staff actively take up learning opportunities such as conferences, seminars and learning visits, etc. The new practices learnt are readily shared for adaptation and adoption in these key areas of the organisation.	***Pervasive Culture*** - An integrated system is in place for informally learning from others to improve our work practices and the sharing of these practices for organisational wide implementation. There is very strong buy-in by staff. Incentives/ awards for sharing, adopting and adapting these practices at all levels of the organisation. It includes the review and refinement of approaches taken to informally learning from others, measuring its results and sharing them.

3	**Management Support of IB:** The extent IB is used as a management strategy and level of support given *Q20 What is the level of support from management for informally learning from others to improve work practices in your organisation?*	***Not Supported*** - informally learning from others to improve our work practices is not supported at all	***Little Support*** – little support from management. Staff are left on their own to informally learning from others to improve work practices	***Supported*** - limited provision of resources such as conferences, seminars or learning visits, etc. from management to support informal learning from others to improve work practices. Only a very limited number of best practices learnt are adapted to the whole organisation	***Strongly Supported*** - active participation and belief by management that informally learning from others to improve our work practices is cost-effective. There is ample resources and prioritisation for implementing best or better practices	***Very Strongly Supported*** - full support and participation of management. Informally learning from others to improve our work practices is part of the management strategy to improve performance and gain a competitive edge
4	**Impact of IB:** The impact of IB on organisational change *Q21 What is the impact of informally learning from others to improve work practices in your organisation?*	***No impact*** - no benefits of informally learning from others to improve our work practices whatsoever	***Little impact*** - benefits of informally learning from others to improve our work practices is not known or measured but there is some evidence that learning has taken place	***Some impact*** - informally learning from others to improve our work practices is known to benefit and is shared qualitatively i.e. stories or narratives but not articulated in quantifiable terms	***Considerable impact*** - the impact of informally learning from others to improve our work practices is assessed at timely intervals. Efforts to quantify its benefits are made to ensure its continued support and promotion	***Great impact*** - value and cost of informally learning from others to improve our work practices can be clearly demonstrated in both qualitative and quantitative terms. Incentives/rewards are given for its continued use

Table 4-38: Informal Benchmarking Maturity Grid for Organisations

4.4.5 Key Findings for Maturity in Organisations (Q18-21)

4.4.5.1 Maturity level of Informal Benchmarking in Organisations

On a 5-point Likert scale, 39% of the 81 respondents rated a high maturity score of 4 or 5 for the organisation, while the majority or 43% of respondents gave a moderate rating of 3. The rest or 18% gave a low maturity rating of 1 or 2. The means of the 4 criteria were slightly above the median of 3; 3.5 for level of importance, and 3.2 for level of culture, support and impact (table 4-39). It can be inferred that informal benchmarking might be regarded as important (mean of 3.5) to organisations, its impact, however, have a lower corresponding mean (3.2). **This observation is consistent with the initial literature review of the GBN report of informal benchmarking being very popular in usage but not quite having the matching level of impact** (R.S. Mann & Kohl., 2008).

	Mean	Std. Deviation	N
Q18.Level of importance for informally learning work practices	3.52	.823	81
Q19.Level of culture for informally learning work practices	3.23	.926	81
Q20.Level of support for informally learning work practices	3.21	.971	81
Q21.Level of impact for informally learning work practices	3.21	.817	81

Table 4-39: Maturity of Informal Benchmarking in Organisations

4.5.5.2 Relationship between the 4 Characteristics of Maturity

Tests conducted on the 4 characteristics of the maturity grid indicate they are parametric in nature (Appendix C) and due to the linearity of the relationships between the 4 variables, Pearson's correlation test was used (table 4-40). ***The level of culture and level of support have the strongest positive correlation where r=0.68, p=0.01.*** The level of culture and level of impact are positively correlated but relatively weaker, r=0.43, p=0.01. Similarly the level of support and level of impact are positively correlated, r=0.43, p=0.01. There are no significant correlations with the level of importance.

4.5.5.3 Relationship between the 4 Characteristics of Maturity and IB tools

In the social dimension, the level of effectiveness of IB tools correlated with the following:

- Moderate and positive correlation with the level of culture, r=0.41, p=0.01
- Moderate and positive correlation with the level of support, r=0.43, p=0.01

- Moderately weak and positive correlation with the level of impact, r=0.31, p=0.01

In the non-social dimension, the level of effectiveness of IB tools correlated with the following:

- Moderately weak and positive correlation with the level of support, r=0.32, p=0.01
- Moderately weak and positively correlated with the level of impact, r=0.30, p=0.01

The strongest positive correlations in both dimensions are with the level of support. There are no significant correlations with the level of importance.

		Level of importance for informally learning work practices	Level of culture for informally learning work practices	Level of support for informally learning work practices	Level of impact for informally learning work practices	Mean of Q5toQ8 all SD	Mean of Q9toQ12 all NSD
Level of importance for informally learning work practices	Pearson Correlation	1	.052	.050	.022	.039	-.022
	Sig. (2-tailed)		.647	.659	.845	.739	.852
	N	81	81	81	81	77	73
Level of culture for informally learning work practices	Pearson Correlation	.052	1	.682**	.430**	.407**	.210
	Sig. (2-tailed)	.647		.000	.000	.000	.074
	N	81	81	81	81	77	73
Level of support for informally learning work practices	Pearson Correlation	.050	.682**	1	.432**	.434**	.316**
	Sig. (2-tailed)	.659	.000		.000	.000	.006
	N	81	81	81	81	77	73
Level of impact for informally learning work practices	Pearson Correlation	.022	.430**	.432**	1	.310**	.300**
	Sig. (2-tailed)	.845	.000	.000		.006	.010
	N	81	81	81	81	77	73
Mean of Q5toQ8 all SD	Pearson Correlation	.039	.407**	.434**	.310**	1	.429**
	Sig. (2-tailed)	.739	.000	.000	.006		.000
	N	77	77	77	77	77	72
Mean of Q9toQ12 all NSD	Pearson Correlation	-.022	.210	.316**	.300**	.429**	1
	Sig. (2-tailed)	.852	.074	.006	.010	.000	
	N	73	73	73	73	72	73

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4-40: Correlation between Maturity Characteristics & IB Tools

4.4.6 Formal Benchmarking vs Informal Benchmarking (Q13-Q17)

- **Performance benchmarking** is the process of comparing performance, without any implementation.
- **Best practice benchmarking** is the process of comparing performance and implementing better practices.

Q13: How important is it for your organisation to compare the performance levels of a process/activity with other organisations? Indicate the level of importance for the functional areas you are familiar with

Performance Benchmarking (Formal & Informal)	Mean	N	Std. Deviation
Whole organisation	3.80	66	.932
Service	4.05	60	1.126
Finance	3.56	54	1.076
Operations	3.96	56	1.044
Sales & Marketing	3.62	55	1.209
Information Technology	3.53	57	1.104
Human resources	3.67	55	1.187
Strategy	4.13	61	.826
Research & Development	3.62	56	1.169
Others	*5.00*	*1*	*only 1 score, no deviation*

Table 4-41: Level of Performance Benchmarking within Organisations

Q14: How important is it for your organisation to follow a structured process for comparing performance levels with other organisations and adapt/implement those better practices? Indicate the level of importance for the functional areas you are familiar with

Best practice benchmarking (Formal only)	Mean	N	Std. Deviation
Whole organisation	3.52	65	1.133
Service	3.72	61	1.097
Finance	3.40	52	1.125
Operations	3.66	58	1.035
Sales & Marketing	3.25	55	1.075
Information Technology	3.41	54	1.108
Human resources	3.39	51	1.097
Strategy	3.76	58	1.014
Research & Development	3.24	50	1.222
Others	*5.00*	*2*	*(only 2 scores so omitted)*

Table 4-42: Level of Formal Best Practice Benchmarking within Organisations

4.4.7 Key Findings for Formal Benchmarking vs Informal Benchmarking

4.4.7.1 Importance of Formal and Informal Benchmarking

Performance benchmarking, both formally and informally (Q13), is an important activity in organisations as a whole, with a mean score of 3.8 on a 5-point Likert scale. The most benchmarked functions are strategy (4.1), services (4.0) and operations (4.0). In terms of formal best practice benchmarking (Q14), that is, following a structured process, organisations scored a mean 3.5. The most important functions here are also strategy (3.8), services (3.7) and operations (3.7). In terms of informal best practice benchmarking, organisations scored a mean of 3.5 (score from maturity grid) which has the same mean score for formal efforts. ***This suggests informal and formal best practice benchmarking are "somewhat" equally important to organisations.*** (Note: "somewhat" because the data is slightly skewed at -2.65 & -2.68 for both Q13 & Q14 respectively).

Q15: To what extent are better practices or processes readily learnt in your organisation?

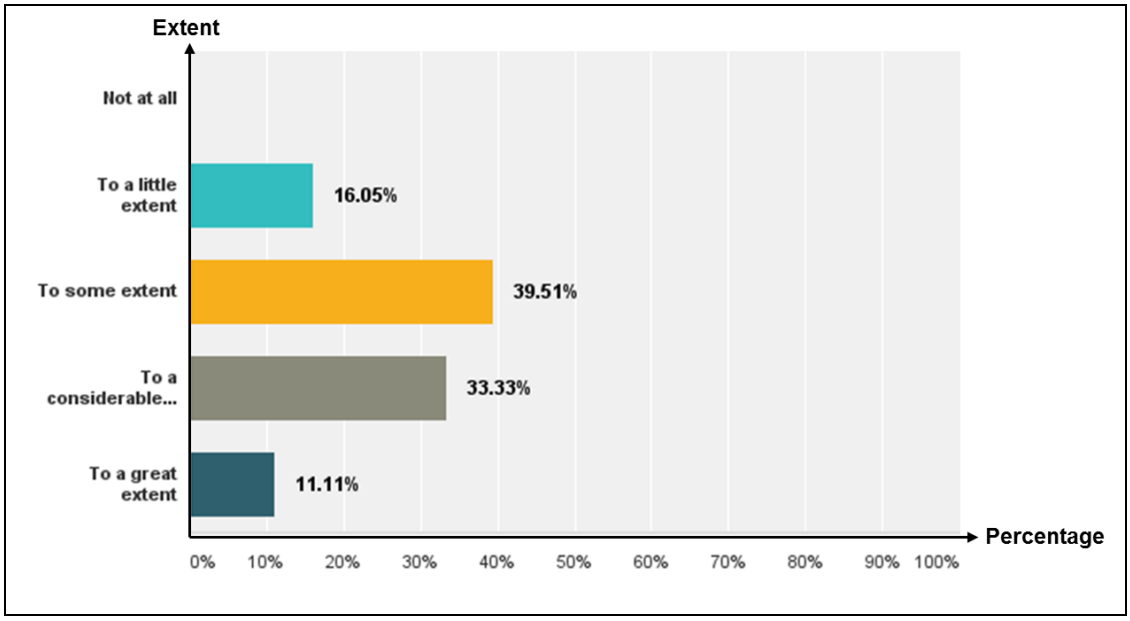


Figure 4-11: Mean of Extent of Better Practices Learnt

Mean	N	Std. Deviation
3.33	81	.894

Table 4-43: Mean of Better Practices Learnt

Q16: To what extent are better practices or processes readily implemented in your organisation?

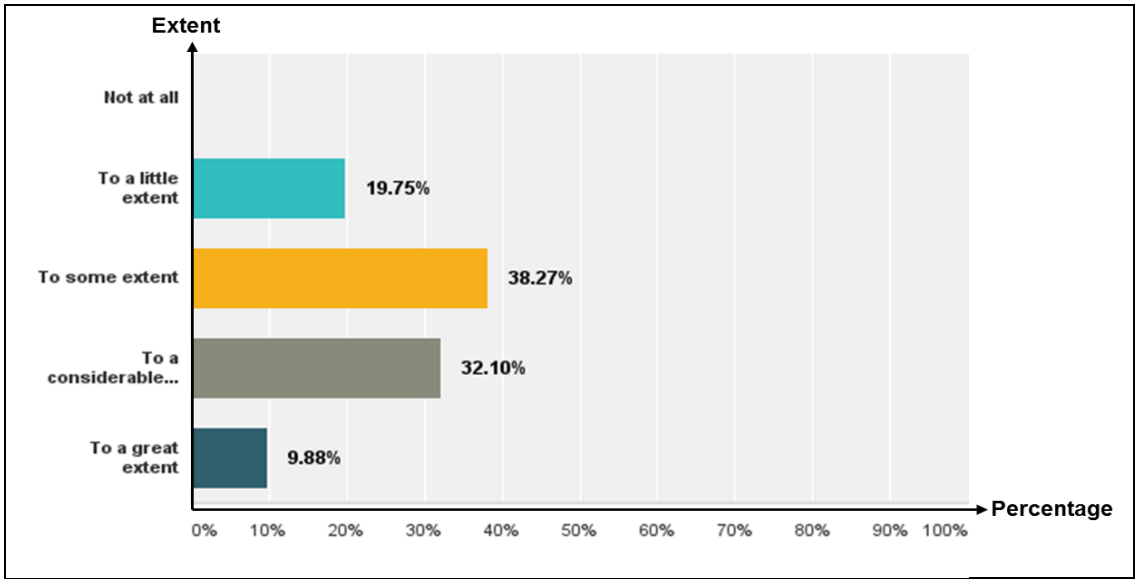


Figure 4-12: Extent of Better Practices Implemented

Mean	N	Std. Deviation
3.46	81	.867

Table 4-44: Mean of Better Practices Implemented

Q17: To what extent does your organisation use the activities specified in Q5 to Q12 to obtain information and knowledge to aid in formally organised benchmarking projects?

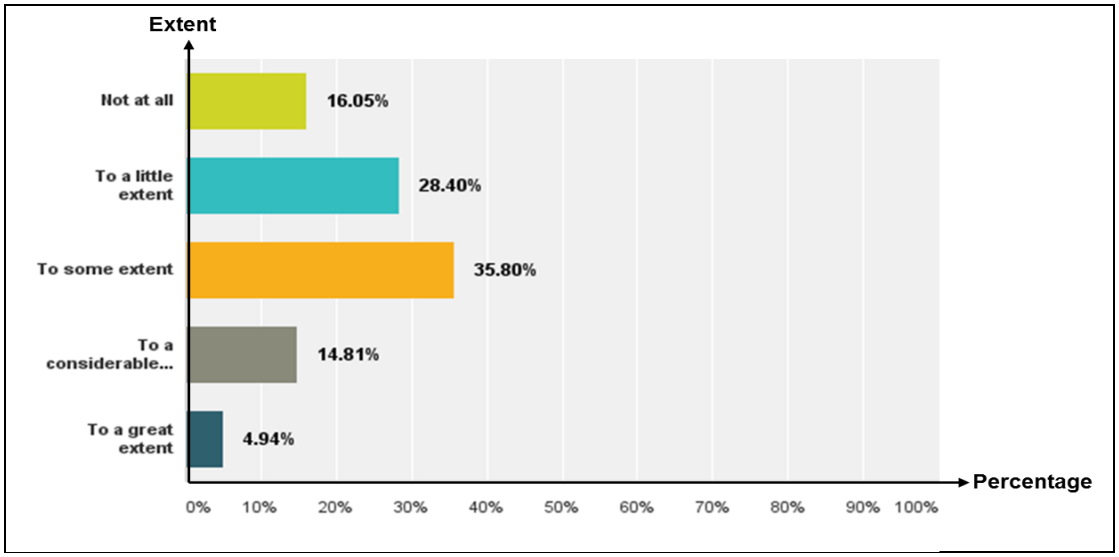


Figure 4-13: Extent of Activities that Aid Formal Benchmarking

Mean	N	Std. Deviation
2.61	80	1.073

Table 4-45: Mean of Activities that Aid Formal Benchmarking

A Spearman rho correlation coefficient was computed to assess the relationship between items from Q13 to Q17 (table4-46). Spearman rho was conducted because the data in Q13 and Q14 appeared slightly skewed in and not very normally distributed. The questions used a Likert Scale; 1 - not important, to 5 - very important, or 1-not at all, to 5- to a great extent.

Correlations

Q13-Q17			Whole organisation - performance benchmarking only either formal or informal	Whole organisation - best practice benchmarking formal	To what extent are better practices or processes readily learnt in your organisation	To what extent are better practices or processes readily implemented in your organisation	Use Q5 to Q12 to aid in formally organised benchmarking projects
Spearman's rho	Whole organisation - performance benchmarking only either formal or informal	Correlation Coefficient	1.000	.570**	-.164	-.070	.009
		Sig. (2-tailed)	.	.000	.189	.575	.940
		N	66	65	66	66	65
	Whole organisation - best practice benchmarking formal	Correlation Coefficient	.570**	1.000	-.262*	-.349**	-.055
		Sig. (2-tailed)	.000	.	.035	.004	.666
		N	65	65	65	65	64
	To what extent are better practices or processes readily learnt in your organisation	Correlation Coefficient	-.164	-.262*	1.000	.724**	.291**
		Sig. (2-tailed)	.189	.035	.	.000	.009
		N	66	65	81	81	80
	To what extent are better practices or processes readily implemented in your organisation	Correlation Coefficient	-.070	-.349**	.724**	1.000	.410**
		Sig. (2-tailed)	.575	.004	.000	.	.000
		N	66	65	81	81	80
	Use Q5 to Q12 to aid in formally organised benchmarking projects	Correlation Coefficient	.009	-.055	.291**	.410**	1.000
		Sig. (2-tailed)	.940	.666	.009	.000	.
		N	65	64	80	80	80

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4-46: Correlations between Items in Q13-Q17

Q13 – importance of comparing performance formally or informally with other organisations (formal and informal performance benchmarking)

Q14 – importance of implementing better practices formally in your organisation (formal best practice benchmarking)

Q15 – extent better practices or processes are readily learnt formally and informally in your organisation

Q16 - extent better practices or processes are readily implemented formally and informally in your organisation (formal and informal best practice benchmarking)

Q17 – extent toolsets in Q5 to Q12 are used to aid formally organised benchmarking projects (informal benchmarking complementing the formal)

Positive Correlations: There is a strong positive correlation between the extent of learning better practices (Q15) and the extent of implementing better practices (Q16), $r = 0.72$, $p = 0.01$.

There is a moderate positive correlation between the importance of comparing performance with other organisations (Q13) and the importance of implementing better work practices (Q16), $r = 0.57$, $p = 0.01$.

There is a moderately weak positive correlation between the extent of implementing better practices (Q16) and the extent of using informal benchmarking toolsets to aid formally organised benchmarking projects (Q17) $r = 0.41$, $p = 0.01$.

There is a weak positive correlation between the extent of learning better practices (Q15) and the extent using informal benchmarking toolsets to aid formally organised benchmarking projects (Q17), $r = 0.29$, $p = 0.01$.

Negative Correlations: There is a weak negative correlation between the importance of implementing better practices formally (Q14) and the extent of implementing better work practices (Q16), $r = -0.35$, $p = 0.01$.

There is a weak negative correlation between the importance of implementing better practices formally (Q14) and the extent of learning better work practices (Q15), $r = -0.26$, $p = 0.05$.

4.4.7.2 Relationships between items from Q13-Q17

The findings indicate organisations have a strong positive correlation between learning and implementing better work practices, both formally and informally. In other words, ***when they discover a new or better practice, there is a strong inclination (r=0.72) to implement it***. However, when they only regard the importance of comparing performance, they is also a relatively strong inclination (r=0.57) to implement practice, albeit weaker than when they have learnt it.

Interestingly, the negative correlation between the importance of implementing better practices formally and the extent of learning/implementing better work practices (both formally and informally), suggests something unusual: If performance benchmarking (formal and informal) & learning of better practices (formal and informal) are positively correlated with best practice benchmarking (formal and informal), and importance of best practice benchmarking (formal only) are negatively correlated with learning of better practices (formal and informal) & best practice benchmarking (formal and informal), then formal best practice benchmarking decreases as the importance/learning of better work practices increases, albeit weakly (r= - 0.35, r= -0.26 respectively). **The implication is that a substantial portion of benchmarking which took place in organisations of the informants were performed informally rather than formally, and that these were done independent of formal benchmarking projects.**

4.5 Summary of Findings

The primary purposes of the quantitative survey questionnaire were twofold. Firstly, it served to support research objective 2, that is, how the informal benchmarking toolsets could be applied more effectively. Secondly, to inform the sample of the qualitative interview for richer insights into the toolset of informal benchmarking using the sequential quan-qual design (Ivankova et al., 2006).

In supporting objective 2, the most/least effective and popular tools in all 8 categories of tools/activities are highlighted. The top 5 most effective tools are all from the social dimension while 4 of the most popular tools are from the social dimension. In the overall top 30% of tools both in terms of effectiveness and popularity, 4 of the tools are highlighted. **In the toolset application model in part 4 of the research, all the top tools would be highlighted according to the type/content of benchmarking they support.**

In informing the sample for the qualitative phase, top scorers, one business excellence award winner and one particular organisation (for high scores in specific tools), were selected from the pool of 81 survey informants. These informants would provide insights to meet all 4 research objectives, and also provide further explanation as to how organisations executed the top 10 most effective tools.

4.5.1 Useful Findings

The results from the maturity grid correlation indicate the **importance of management support in building a culture of informal benchmarking (r=0.68, p=0.01).** In addition, the strongest positive correlations in both dimensions of tools are with the level of support. This undergirds the significance of management support in building a culture and augmenting the effectiveness levels of informal benchmarking within organisations.

When organisations discover a new or better practice, there is a strong inclination (r=0.72, p=0.01) to implement it. Both informal and formal best practice benchmarking are "somewhat" equally important to organisations. Notwithstanding, the **data also suggest a substantial portion of benchmarking are performed informally rather than formally**, **and that these were done autonomously**, that is, not as an aid or complement to formal benchmarking projects. This observation is in line with the findings from the GBN survey in the initial review of literature (R.S. Mann & Kohl., 2008)

4.5.2 Unexpected Findings

The data (4.5.3.4) indicate that the internal & incidental learning of work practices in both the social and non-social dimension are the most effective categories. This inference that organisations appear to learn work practices more effectively by accident than by intentional efforts should be treated with caution as the differences in the means are not statistically significant at all. Nonetheless, the scores are relatively higher.

4.5.3 Regression Analysis not Appropriate

The coefficient of determination or R^2 used to predict the variation in the means between two variables, was omitted from the analysis for two reasons. Firstly, two strongly correlated variables might not be functionally related in a significantly way. For example, the extent of learning and the extent of implementing work practices had a strong correlation of R=0.72. Any employee in an organisation can discover or learn a better practice from others.

However, implementing or adapting the practice is a different matter altogether because of the resources required, the authority to do so, and the complexity involved with streamlining it with other practices in the system. In other words, cultural and management proactive support might have been a hidden variable, or that the informants of the survey held high positions of authority and could easily implement most of what they learnt; in fact, 63% of informants held managerial positions or higher. Secondly, the effect size of multiple independent variables on a dependent variable might have been too simplistically calculated in an additive manner. In multiple regression, the marginal effect of one variable is simply added or subtracted (controlling) without regard for how each independent variable could amplify the effect of the other.

4.6 Recommendations for Future Research

The sample size of N=81 is insufficient for a comprehensive model of the dataset to be constructed. Most researcher recommend a minimum sample size of at least 200 and 10 cases per parameter for powerful multivariate techniques such as structural equation modelling (Kline, 2011). Such models would be very suitable for an exploratory analysis in relatively new fields of study.

4.7 Chapter Summary

This chapter outlined how the survey was designed and executed. The findings have met research objective 2, showing how the tools could be applied more effectively, and served its purpose to inform the subsequent qualitative interview phase. In addition, other useful findings included the importance of management support in building a culture of informal benchmarking, and also how informal benchmarking remained a popular means of improving work practices. The next chapter would show the interview analysis and how organisations execute the top 10 most effective tools. Part 4 would show how the most effective and most popular tools are used to build a toolset application model to support the informal benchmarking roadmap.

Part 3 - DATA COLLECTION & ANALYSIS

PART 1 THE RESEARCH PROBLEM	**Chapter 1**	INTRODUCTION
	Chapter 2	LITERATURE REVIEW
PART 2 RESEARCH DESIGN & METHOD	**Chapter 3**	MIXED METHODS RESEARCH DESIGN, DATA SAMPLING, VALIDATION AND ETHICAL CONSIDERATIONS
PART 3 DATA COLLECTION & ANALYSIS	**Chapter 4**	ANALYSIS OF QUANTITATIVE SURVEY QUESTIONNAIRE
	Chapter 5	ANALYSIS OF QUALITATIVE INTERVIEWS
PART 4/ CHAPTER 6 DEVELOPMENT OF INFORMAL BENCHMARKING QUANTUM ROADMAP	CONCEPTUAL MODEL OF INFORMAL BENCHMARKING	
	TOOLSET APPLICATION MODEL	
	MATURITY ASSESSMENT FRAMEWORK	
	INFORMAL BENCHMARKING ECO-SYSTEM STRATEGY	
PART 5 DISCUSSION & CONCLUSION	**Chapter 7**	RESEARCH REVIEW BY OBJECTIVES & IN THE CONTEXT OF ORGANISATION IMPROVEMENT
	Chapter 8	IMPLICATIONS, LIMITATIONS & FUTURE RESEARCH

Chapter 5 Analysis of Interviews

5.1 Chapter Overview

This chapter details the plans for the interview, the interpretative stance, and the actual interview process. Meaning condensation and meaning coding are two methods deployed for a more comprehensive analysis of the interview transcripts. From the concept-driven data, 6 main themes emerge - purpose, characteristics, execution, benefits, development strategy, and measurement of effectiveness. As part of the sequential quan-qual explanatory design, the interview data explains the various techniques associated with the most effective tools indicated by the quantitative survey results.

5.2 Interview Plan

The full interview investigation (pre-interview, during interview, and post-interview) is a complex one (Gibbs, 2007). It should thus follow a plan for a thorough and complete investigation of the concept/phenomenon of informal benchmarking. Kvale specifies such a model for qualitative interview in seven stages. These steps serve as a guide and have been adapted for the purposes of this research:

i) Thematizing – what is the purpose and theme of the interview?
ii) Designing – How will the intended knowledge be obtained?
iii) Interviewing – Conduct the interviews objectively and collaboratively
iv) Transcribing – Should the interviews be converted into written form?
v) Analyzing – What modes of analysis are appropriate for the interviews?
vi) Reporting - Communicate findings in a scientific and ethical manner

Adapted from Kvale's stages of interview (Kvale, 2007, pp. 35-36).

5.2.1 Thematizing

The broad purpose of this research is twofold: produce a conceptual model of informal benchmarking, and develop a roadmap for the implementation of informal benchmarking. The qualitative interview was a succession to the quantitative questionnaire survey, which served to inform the sample for the interviews. The purposes of the interview is firstly to explore the various notions of informal benchmarking to help establish a conceptual model;

and secondly, to search for empirical evidence of informal benchmarking practices in organisations.

5.2.2 Designing

The interviews design is concept-driven, in line with the research objectives. This explicated notions of informal benchmarking and also elucidated different perspectives on informal benchmarking practices in organisations (Creswell, 2006, p. 74). In order to generalise findings, typical interview studies perform about 5 to 25 interviews. Saturation (Strauss & Corbin, 1998) would be expected to occur within 15 average-length interviews (Kvale, 1996, p. 102).

The questions are more general and structured, rather than too narrowly focused since the research is attempting to establish a fundamental understanding rather than a thorough, in-depth analysis of just one or two case studies. It was important to use words like “best practice”, stemming from the trans-discipline area of benchmarking and/or “learning”, stemming from the trans-disciplinary areas of informal and organisational learning to set contextual specificity of the subject matter (Adcock & Collier, 2001), namely informal benchmarking and explain what informal benchmarking is, before the interview. Even so, the informal benchmarking terminology can be very subjective and dependent upon the organisation’s perception of it. This allowed the interviewer to be aware of probing in such a way as to maximise responses from the informants.

Each interview consistently followed a set of pre-determined questions. Refinement occurred as each interview progressed, taking the form of secondary questions and probes, direct and indirect questions, structuring questions, interpreting questions, and silence (Kvale & Brinkmann, 2009). The same person conducted all interviews so as to maintain a consistent interviewing style (Irvine, Drew, & Sainsbury, 2013, p. 93).

Skinner (Skinner, 1961) argued against the use of large groups for general knowledge. Instead he advocates the obtaining of significant knowledge from just a few subjects via intensive case studies. Such a tactic was not plausible for this investigation since a broad base of diverging views was required for some representative data regarding organisation learning of practices.

The stance of the interviewer was that of co-optation (Pfeffer & Nowak, 1976) where the interviewer goes native and does not try to maintain too much of a professional distance to

underscore mutual benefit in the interview process. Hence the semi-structured interview consisted of both structured questions and secondary impromptu questions.

Additionally, the use of a reflective journal allowed the autonomy to capture, biases, assumptions, expectations, and reactions from each encounter with informants to add rigor to qualitative inquiry (Morrow & Smith, 2000).

5.2.3 Interviewing

An interview might be conducted face-to-face, via a video call (visual and audio), or an audio only call via the phone or internet. The traditional telephone call (audio only) is discouraged in established literature (Creswell, 2006; Gillham, 2005; Novick, 2008) due to concerns surrounding the lack of a visual and social encounter. However, establishing rapport and obtaining quality responses, especially from elite respondents is still possible. The interview environment should be cast in as optimum a way to invite interviewees to be as open and comfortable as possible to disclose as much information with as much in-depth insight as possible. A skype call without a video aid is plausible for as long as the interviewer-interviewee mutual receptivity is present (Stephens, 2007; Sweet, 2002), and in this research, the preferred mode of most of the informants.

Keeping the questions easy to understand, short and to the point was important, while maintaining a strong line of sight to the bigger thematic research questions. In understanding phenomenon, two general lines of questioning on “what have you experienced in terms of the phenomenon (informal benchmarking)?”, or “what contexts or situations have typically influenced or affected your experiences of the phenomenon?” were extremely useful to leading to both a structural and textual description of informants’ common experiences (Moustakas, 1994).

5.2.4 Transcribing

There are distinct advantages to full transcription. Besides having a visual copy of the conversation, the document could be used to help with thematising and coding using qualitative analysis software (Kvale & Brinkmann, 2009).

5.2.5 Analysis

Immersion, a time-consuming effort given to absorb and “soak” oneself in the sea of data collected (Green et al., 2007, p. 547) was an effective method for garnering insights from

the interview session, especially when it was performed immediately. Reading over and listening to the recording several times caused an incubation of ideas and stimulated possibilities in the analysis (Hunter, Lusardi, Zucker, Jacelon, & Chandler, 2002). These actions brought about greater clarity and understanding of the evidence in the context which it was gathered.

Coding was another very effective and vital process of organizing the information gathered from all the data sets (Green et al., 2007, p. 548). Words, sentence, phrase and paragraph and the context to a particular point or question could be sorted and coded with overlaps being considered normal. Judgment was forced by requiring all pieces of data be tagged with an associated code (Denzin & Lincoln, 2000). Going to and fro the data, refining the previous coded data would be part and parcel of coding to link it to the bigger picture of systems and theoretical concepts (Neuman, 2006, p. 458).

The linking of codes would create coherent categories of information (Green et al., 2007, p. 548). Of the many interview samples collected, some were expected to “not fit” the norms of association. These would have to be separated as anomalies (deviant) but should not be omitted as all data is important. The meaning associated with all the interview accounts should be emphasised. It is a common shortcoming to selectively analyse or describe categories of interviews to the research question only in general. For example, by stating that “some” or “a few” of the participants said this or that, no explanation is given for those experiences which fall into the “others” category (Ensink, 2003).

The final step of the analysis was the identification of themes. Themes are more than mere descriptions of categories, they are explanations and even interpretations of issues under investigation (Silverman, 1989). Coding can either be concept driven or data driven. In the former, there are prior ideas as to how to frame the codes whereas in the latter, coding is purely determined by the data (Gibbs, 2007, p. 45). In framework analysis as proposed by (Ritchie & Lewis, 2003), a researcher is encouraged to develop themes even before coding occurs. Testing the themes by relating them to the concepts of the research is essential to allow a strong linkage between the results of the interview with organisation realities and the knowledge workers in their settings. When this is achieved, generalisations and extrapolation of results are made possible to other groups and settings (organisations, in this case) (Bradley, Curry, & Devers, 2007), thereby strengthening the evidence to support theory or a conceptual model.

5.2.6 Reporting

The report might be presented as a spreadsheet (Taylor-Powell & Renner, 2003) or in the form of tree nodes via the use of qualitative software, such as NVIVO 10, which was used for the coding of narratives to explain the themes. (Miles & Huberman, 1994) suggests an impairment without software assistance, given the larger amount of data to be processed. Running queries on tree nodes as the research progressed would be advantageous to keep a tab on understanding the data better than to wait till the end when data analysis is at its final stages (Bergin, 2011).

Various meanings and interpretations could be associated with interviews, regardless of how well the design is developed. Qualitative interviews depends largely on the interviewees' subjective response and as such, a reflexive framework for its interpretation (Alvesson, 2003) would assist in the later stages of this research.

5.3 Neo-positivism, Romanticism & Semi-Structured Approach

The intent of an interview needs to be clearly mapped before deciding whether it should be unstructured, structured or semi-structured (Kvale & Brinkmann, 2009).

Neo-positivism, romanticism and localism are the most popular traditions of interpreting interviews (Alvesson, 2011; Have, 2008; Silverman, 2011). The Neo-positivist seek to establish a very rigid protocol to attain a context-free interview without any researcher influence or informant bias. The fully structured interviewed supports this view so as to enable a comparison and aggregation of data (Alvesson, 2011). The romantics are on the other end of the extreme where closeness and rapport building are key to soliciting in-depth authenticity and truth. An unstructured interviewing style supports informants who possess a wellspring of knowledge on the subject-matter, along with strong interpretative and expounding abilities (Holstein & Gubrium, 1995; Silverman, 2006). The localists emphasises the specific content of the interview where the empirical data can be used only to interpret that particular situated account (Alvesson, 2011).

Since this mixed methods research intended to take some of form of generalisability, localism does not fit**. The intents and purposes of the interview were inclusive of both the positions of neo-positivism and romanticism**. The requisite highly structured method of neo-positivism coupled with the socio-personal tactic of the romanticism befitted the in-

depth inquiry and response required. Thus the semi-structured interview with an open-ended questioning approach was guided by these two positions. Neo-positivism, demonstrated by structured questions or lines of inquiry for consistency and neutrality; and romanticism, demonstrated by the rapport building and flexibility of questioning during the interview for insider information and a richer account.

The interview was focused but not too highly structured. This enabled the explanations, clarifications and probes into the deeper meaning of what was being said to be expounded and not dampened by the sequence and rigidity of the interview structure. It was also not so open leading to digressions and divergences, bringing very little value to the research questions. The value of a semi-structured interview rests upon the fact that proceeding through the pre-decided interview questions would provide full coverage of the inquiry, sequentially or otherwise. Follow-up questions were posed as and when throughout the interview proceeding. Besides, these fully-decided questions were disseminated to interviewees in advance for them to mull over, which generally speaking, should produce a more substantive content during the actual interview (Kvale & Brinkmann, 2009).

In addition, research that places emphasis on both exploration and theorisation would do well with a semi-structured interview approach. The semi-structured interview should follow both a structured set of questioning and maintain a highly interactive and collaborative stance to diverge or delve deeper into information provided by the informant, and to pursue potentially new and interesting content relevant to the research (Irvine et al., 2013). Constant comparison and thinking about how the interview relates to the reviewed literature and preliminary model of informal benchmarking was necessary to facilitate an abductive-deductive and inductive process in this investigation (Shepherd & Sutcliffe, 2011).

5.4 Interview Process

Upon the completion of each interview, I performed an initial reflection and took theoretical notes of the conversation to note ideas, connections, insights and critiques (Gibbs, 2007, p. 31). The 4 research objectives at the back of my mind mapped to 5 interview questions (table 5-1), served to guide and prompt relevant inquiry throughout the interview proceedings to ensure informants provided value-added inputs. The research objectives:

1. Develop a conceptual model of informal benchmarking including its definitions, purposes, characteristics, taxonomy and toolset

2. Develop a model for applying the informal benchmarking toolset effectively

3. Develop an assessment framework to assess the maturity level of informal benchmarking in an organisation

4. Provide recommendations on how to organise, integrate and implement informal benchmarking to be an effective and sustainable platform for organisational improvement throughout the whole organisation

5.4.1 Interview Question mapped to Research Objectives

The table describes the theme and focus for each of the five interview questions and the sub-questions associated with each of them. The theme is meant to guide the interview process while the focus is the end goal, or research objectives. Each question is mapped to one or more research objectives:

	INTERVIEW QUESTIONS	**Theme**	**Focus**
INTRO	**Introduction** • Introduce self, small talk, and thank him for his time • Inquire of his job role, level of responsibility, and length of service • Set simple ground rules/time-frame • Refer him to his scanned survey response • Request permission for taping Rating: 1-not effective, 2-slightly effective, 3-moderately effective, 4-effective, 5-very effective	To break the ice and get the interviewee comfortable	To prepare the interviewee for the topic .To get him/her comfortable with talking, and also to get the interviewer comfortable with listening to the conversation and build initial rapport.
1	**Main Qn: Based on the list of tools, technique or activities (show survey response)** How effective has the tool(s) been? (1 to 5) Can you elaborate on how the tool was used? What else is missing from the tool set shown?	An opening question to solicit all types of tools to learn or benchmark from inside and outside the organisation	**Objective 1,2** Understand tool-types, typologies and taxonomy to refine model; Focus on the effectiveness of tools shared
2	**What is the purpose of the _____ (name of informal benchmarking tool, technique or activity)?**	Informs the definition, purposes, uniqueness, and how the tool fits	**Objective 1** Understand purposes and definition of tool-

	What are the pros and cons of the tool, technique or activity described? Can you share an example or two of how you or others have benefited from the tool, technique or activity?	in with proposed taxonomy of informal benchmarking tools	types to refine model
3	**How does the tool, technique or activity support Informal Benchmarking?** What are some of the characteristics of the tool, technique or activity? In what ways do they differ from more formal methods of learning or discovering better work practices?	Informs the characteristics and "forces" the interviewee to relate the tool to informal benchmarking. This too assists in categorisation or classification schemes	**<u>Objectives 1,3</u>** Invokes a description of the characteristics of the tool and how it relates to formal benchmarking; Aids development of assessment framework
4	**Main Qn: How do you get people to share work practices and experiences within the organisation?** Does your organisation have an approach to align or put together these tools, techniques and activities, as part of your overall development strategy? Any enablers to support informal benchmarking? - someone responsible for alignment (1 to 5) - system and structures (1 to 5) - office environment, open work spaces (1 to 5) - networks (1 to 5) - any others (1 to 5) What are some of the potential barriers to sharing or extending these tools, techniques of activities? Is it possible to overcome these barriers? If so, can you suggest how this can be done?	How are networking, sharing and collaboration encouraged in the organisation to improve performance or practices of any kind? Is the design of the work environment considered?	**<u>Objective 3,4</u>** Description of the propensity of the organisation to learn; culture and environmental factors to aid the development of an organisation-wide approach
5	**Main Qn: How can the tool, technique or activity be measured for effectiveness? (This relates to Qn2 on benefits of the tool)** How would you know the overall approach to using these tools is effective? (1 to 5) Can you elaborate a little more or how the tool has saved you time, money, human resource, or other resources? e.g. feedback Has the impact been ongoing or is it one-off?	Informs how the tool characteristics have led to improvements in organisation development, the ROI, and references to outcome indicators	**Objective 3,4** Aids the assessment and the development of an organisation-wide approach in a definitive way by the use of quantitative measures

Table 5-1: Interview Questions Mapped to Objectives of Research

5.4.2 Techniques to Interpret Interviews

Two simultaneous techniques were deployed to analyse and interpret data (figure 5-1). The primary technique was meaning coding, augmented by meaning condensation, including reflection and notes (Kvale, 2007, pp. 104-106), which essentially was a summary of key ideas and insights obtained from the conversations. Both the techniques were oriented to the dualistic position of neo-positivism and romanticism.

The neo-positivist advocates a model of data immersion, coding, categorisation and identifying themes to link data to quality evidence (Alvesson, 2011; Green et al., 2007, p. 546). The romanticist advocacy takes into account the social interactions and systems factors associated with the larger context of organisation development or business improvement this research sits within (Alvesson, 2011; Layder, 1998).

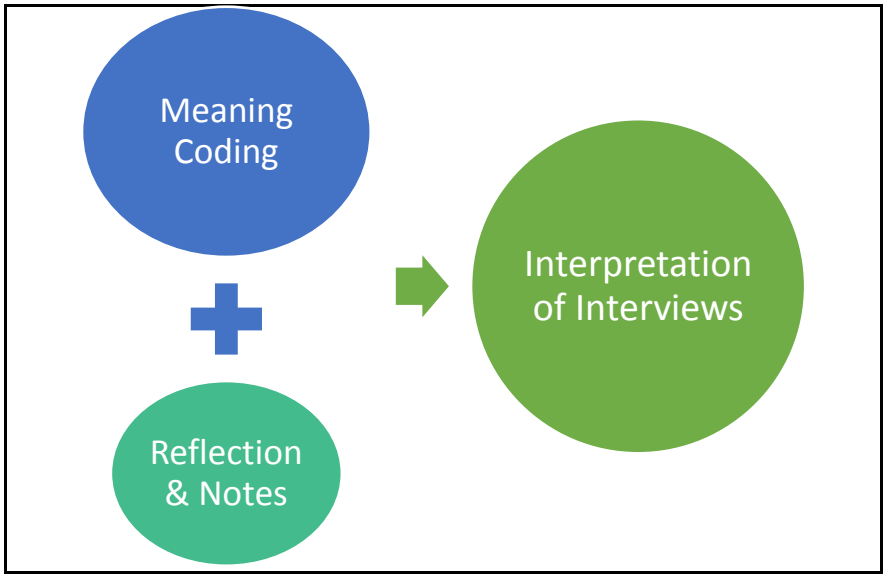


Figure 5-1: Interpretation of Interviews

5.4.3 Data Saturation of Interviews

From the 81 surveys conducted, the top scorers of the 5-point Likert scales questions were selected for interviews (Appendix D). The scores ranged from a low score of 8 points to a high score of 189 points based on total points accumulated for 2 groups of data: i) list of informal benchmarking activities/tools (Q5 to 12), and ii) the maturity grid (Q18-Q21). The maximum score obtainable was 310 - almost impossible to achieve since the informant had to have personally ticked a “5” (rating of 1 to 5) for all 67 informal benchmarking tools/activities experienced in the previous 4 weeks, on the survey. A total of 16 interviews

were conducted for which three exceptions were made. The first two were respondents 63 & 31; though they ranked 36th & 49th of the 81 respondents respectively, they were national business excellence winners, from whom I sought inputs on how they used informal benchmarking to augment formal benchmarking. The second was informant 77; though she ranked 52nd of 81, the few ticks she had on the survey were mostly "very effective" or 5-point Likert scores for whom I felt could lend deeper insights into the usage of specific tools and activities. Survey participants who indicated they were not interested in further participation were not contacted and those who did not respond after 3 email correspondences were omitted. The average length of the interviews was about 75 minutes.

As the interviews proceeded, they were broken into several phases with each phases adding more in-depth and divergent inquiry. This became possible as each interview was transcribed, coded and reflected upon before the next interview was conducted. After about 12 interviews, the answers appeared to repeat themselves, 4 more interviews were performed to ensure data saturation was attained (figure 5-2):

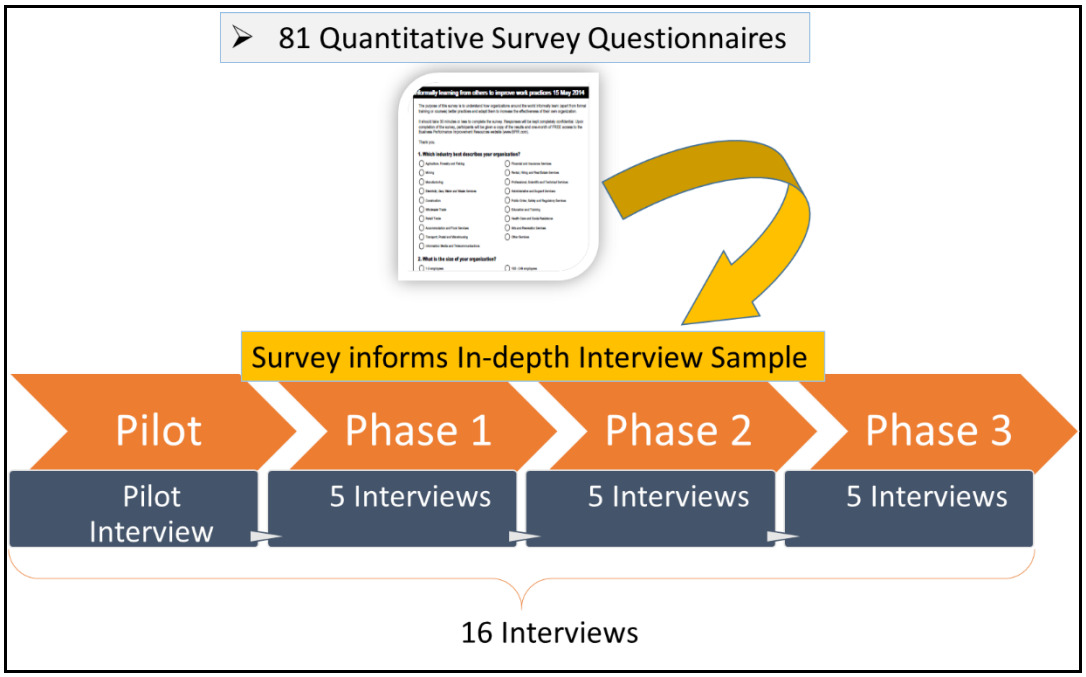


Figure 5-2: Survey Data Informs Interview Sample

5.4.4 Phases of Interviews

Pilot: In the pilot interview, there were very slight deviations from the 5 prepared questions, except to clarify the meaning or to rephrase it to the context of the respondent. It was noted the respondent was more interested in telling his success stories without articulating the

"how" of learning informally to improve work practices. Attempts were made to steer the respondent to move from content to the mechanics of the informal benchmarking tools, which was met with mediocre results. It took a solid hour to deal with the first 3 main questions as the respondent continued very generous sharing, albeit not quite substantively contributing to the questions at hand. He then had to take leave and requested for the Questions 4 & 5 be sent to him via email.

He then stated it would take a few hours to respond to the two final questions and proceeded to send several copies of documents which he envisaged would be helpful to the research. A quick glance at the documents did infer to informal benchmarking but required extensive sifting. When I probed, more files were sent my way.

The episode taught me 2 important lessons. The first was to emphasise and re-emphasise the purpose of the interview – to understand *how one informally learns from others* ***to improve work practices.*** The second lesson reverberates around steering the respondent in the right course at the earliest opportune time.

Phase 1: Being cognizant of lessons learnt in the pilot, phase 2 proceeded with the right emphasis at the onset and several re-iteration of the purpose of the interviews. i.e. *"So you mentioned participated in external conferences as effective… how did it help you to improve a work practice, can you please elaborate? "* In this phase, the inquiry proceeded with caution and were broadly based on the prepared questions. Appropriate amounts of time was extended to the informant to reflect and think without too much probing. After about 4 interviews in this phase it became clear that face-to-face informal exchanges ranked top of the list. Some of the characteristics of other tools were also repeated in the interviews.

Phase 2: The next 5 interviews became bolder and more inquisitive. Certain characteristics of how the formal meeting triggers the informal or vice-versa were evident in many cases. Hence questions like "*Ok, so for this internal kind of sessions that you have, does the formal or the informal, which one triggers action. What triggers implementation? To get things done, is it the informal or the formal?* Another apparent discovery was the use of a suite of informal tools rather than tools in silos. Hence, inquiry in that regard would follow.

Phase 3: In this phase, I probed for deviations from the norm with regards to popular tools or toolsets. It was also important to assist the respondent to think deeper for the final question on measurement. More often than not there were some tangible return on

investment but I had to "dig" for it. Hence two questions posed *include "can you elaborate more on its characteristics?*" or "*how much time would you save if you did it your way (the informal route)?"* Here I became aware of how informal benchmarking acted as a lubricant to relationships and catalyst to the implementation of new, improved or smarter work processes, practices and outcomes. Various concepts and ideas began repeating themselves by the 12th interview. Another 4 more were performed to confirm some point of data saturation had been attained where hardly any new concepts were emerging.

Phase 4: This phase included the informants view and feedback on the analysis to refine the findings to serve as a form of validation from a community of knowledge workers and practitioners involved in informal benchmarking. The phases are shown in figure 5-3:

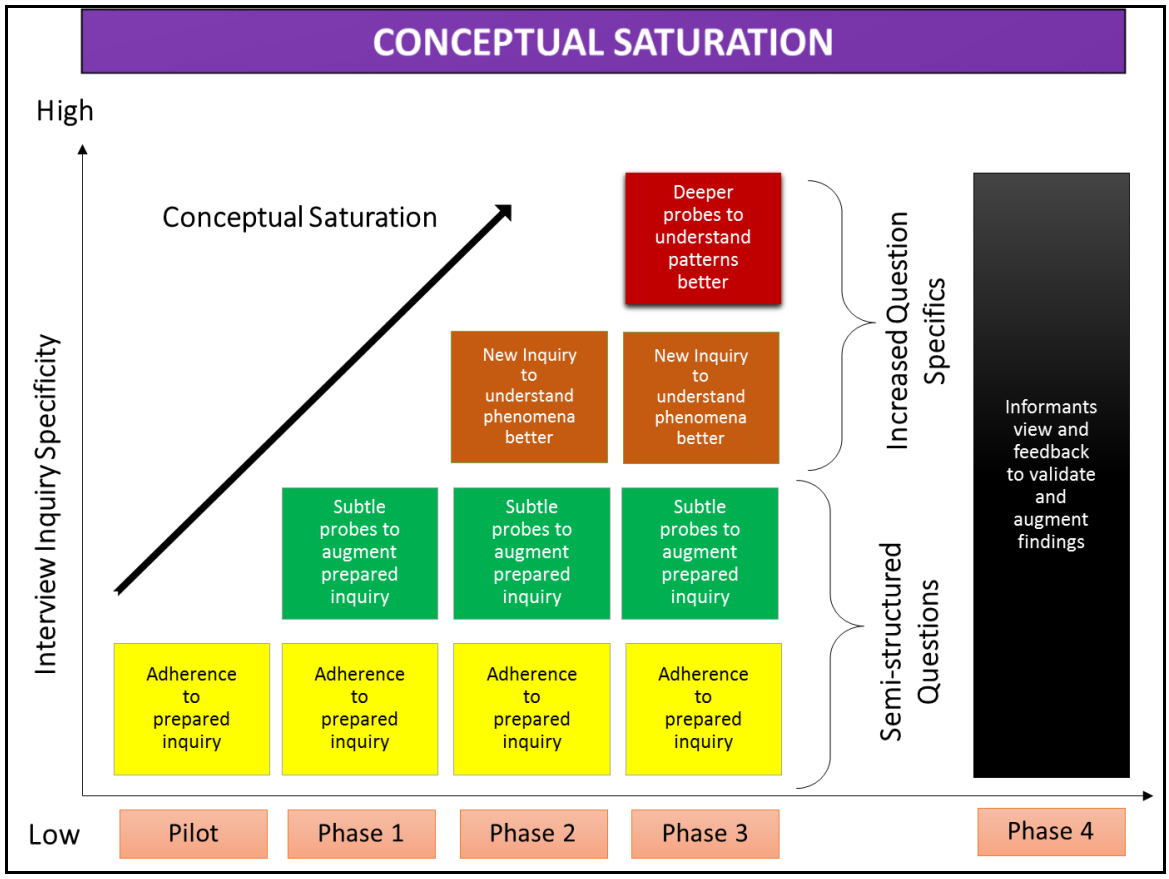


Figure 5-3: Phases of Interview & Data Saturation

5.5 Analysis by Meaning Condensation

The condensation of the meaning of the interview, reflection and note-taking were performed prior to coding (Appendix E). It contained an average of 2 pages per interview session. New tools, activities or applied techniques of informal benchmarking which surfaced in the conversation were also captured in this document.

This condensed version and initial reflection were then delivered to the informant in a document together with the transcription of the interview session. Most informants were agreeable with the transcription and reflection except for two informants who made semantic correction and provided clarification of the terms and titles, names or affiliations associated with the informant and his organisation.

5.5.1 Reflection

An initial reflection took place immediately within hours of the interview to capture all the nuances, the intonations and subtle inferences which might have been forgotten over time. The secondary reflection consisted of reading over and listening to the recording several times to allow an incubation of ideas and stimulates possibilities in the analysis (Hunter et al., 2002). The secondary reflection was a deeper probe into the content and wider implications of the transcription taking into accounts pre-suppositions or mental models of the informant as the session proceeded. The initial and secondary reflections facilitated a deeper understanding of the evidence and the context in which it was gathered.

In one particular secondary reflection, I captured the informant's finale question to me that hinted at a culturally biased disposition to the concept of the informal (informal benchmarking):

> Overall the respondent provided deep insights and high level thinking to the process of inquiry. In my attempt to seek out evidence of informal benchmarking, I might have appeared to have a biased leaning toward an assumed informal organisational culture. Notwithstanding, he maintained his stance as to the truest nature of his company's behaviour which is quite staunchly formal because of its need and adherence to procedure and SOPs as the bread and butter issue for this legalistic industry-type.

The last part of his question *"is there a cultural slant to your questions?"* suggested this possibility.

This leads to the uncanny supposition the informal route may not always be the panacea for organisations to become successful (in his case the company is very successful). It perhaps does depend on the type of industry[5] or culture one is in. He does think, in essence, that the informal way of working can serve to lubricate, soften and heighten clarity and honesty as to the real issues at hand. Above all, speed is an almost certain advantage of the informal, be it for benchmarking or otherwise.

5.6 Analysis by Meaning Coding in NVIVO

"Coding is a way of indexing or categorising the text in order to establish a framework of thematic ideas about it" (Gibbs, 2007, p. 38) There were a total of 67 informal benchmarking tools, activities or techniques listed in the survey, which equated to 67 possible nodes. This coding phase involved a systematic manner of tagging keywords to statements made in each of the interviews until all themes were exhausted (Kvale, 2007, p. 105). This exercise of divergence (multiples layers of coding) was necessary in order for new conceptual categories to emerge on their own.

5.6.1 Concept Driven Data

The 5 interview questions provided a template for the initial coding (Symon & Cassell, 1998) which were mapped to the 4 research objectives. Prior to coding, key thematic ideas were kept at the "back of the head" obtained from literature review and feedback, benchmarking practitioners, feedback from conferences, and by reading the transcripts. These ideas revolved around the relationship between the informal and formal, attitude towards learning and benchmarking, the explication of knowledge, and examining the effect of tools on improving performance (Ritchie & Lewis, 2003, pp. 219-262).

[5] The survey dataset were insufficient to correlate industry types and the use of informal benchmarking tools. This may be an area of interest for future research.

5.6.2 Five levels of Coding

The main themes evolved from the conceptual frame of the 5 interview inquiries (figure 5-4). The first 2 questions revolved around “how was the tool used”, “benefits of the tools” and “pros and cons of the tools” and revealed about 40 main categories (level 3). Question 3 on “Characteristics of the tools” describe tools from the social dimension. There were no descriptions of any tools in the non-social dimension. Questions 4 and 5 contribute towards the discussion of an assessment and sustainable implementation framework for informal benchmarking in organisations.

Coding was a difficult process as many of the codes apparently pre-determined by the 5 interview question framework could also fit into other categories. Some of these codes were therefore duplicated or moved into the specific categories after much deliberation and discussion with supervisors. For example the code “anonymous and honest” was coded in both the “how was the tool used” and “characteristics of the tool” categories because it was akin to a characteristic or trait and at the same time descriptive of how the tool was used. In addition, the informants’ response to the questions were often overlapping with answers to other questions, so it was necessary to sieve out what was deemed relevant to the various questions being asked. There were 5 levels of coding till major themes were revealed (figure 5-4):

- Level 1: Nodes and sub-nodes
- Level 2: Sub-categories
- Level 3: Main Categories
- Level 4: Sub-themes
- Level 5: Main Themes

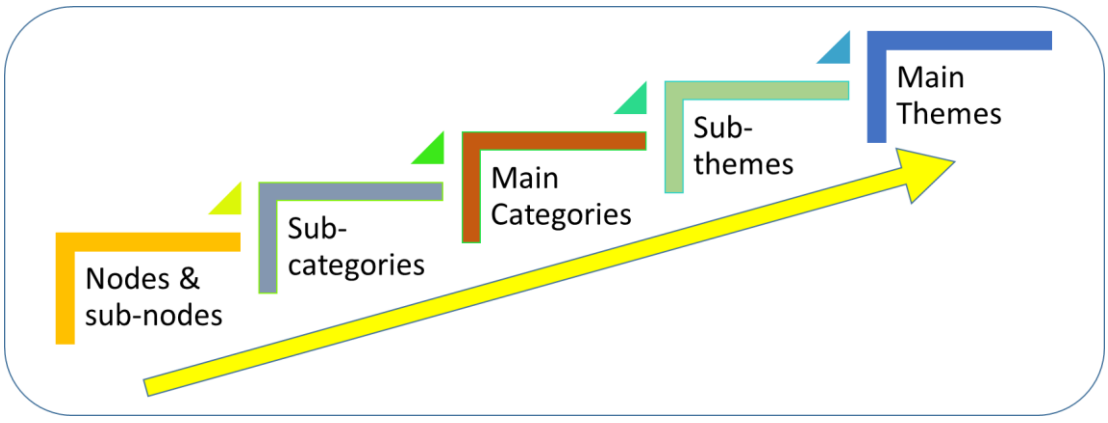


Figure 5-4: Development of Main Themes via Meaning Coding

The following template based on the interview questions was used as the conceptual frame for coding:

Template for Coding of Tools in NVIVO

1.0. Based on the list of tools, technique or activities, how effective was the tool?

- *1.1 What is the dimension and name of the tool?*
- *1.2 Rating of Tool? (1 to 5)*
- *1.3 How was Tool used?*

2.0 What is the purpose of the tool?

- *2.1 Pros and Cons of tool?*
- *2.2 Benefits of tool to you/others by using example?*

3.0. How does the tool, technique or activity support Informal Benchmarking?

- *3.1 Characteristics of the tool?*
- *3.2 How these informal tools differ from more formal methods of learning or discovering better work practices?*

4.0 How do you get people to share work practices and experiences within the organisation?

- *4.1 Approach to align or put together these tools, as part of your overall development strategy?*
- *4.2 Are there enablers to support informal benchmarking?*
  - *4.2.1 Someone responsible for this alignment (1 to 5)*
  - *4.2.2 System and structures (1 to 5)*
  - *4.2.3 Office environment, open work spaces (1 to 5)*
  - *4.2.4 Networks (1 to 5)*
  - *4.2.5 Any others (1 to 5)*
- *4.3 What are some of the potential barriers to sharing/extending these tools, techniques of activities?*
- *4.4 Is it possible to overcome these barriers? If so, can you suggest how this can be done?*

5.0 How can the tool, technique or activity be measured for effectiveness?

- *5.1 How would you know the overall approach to using these tools is effective? (1 to 5)*
- *5.2 Can you elaborate a little more or how the tool has saved you time, money, human resource, or other resources?*
- *5.3 Has the impact been ongoing or is it one-off?*

Table 5-2: Template for Coding of Tools in NVIVO

Level 1 of coding was pre-determined according to the 5 main questions and sub-questions in the interview inquiry. Consistent with the survey (Q5-12), all tools were coded into the 8 categories, and nodes & sub-nodes as shown in figure 5-5:

Nodes

Name	Sources	References
Social Dimension 1 ID - Combination of face to face ph	0	0
Interview questions	0	0
1.0. Based on the list of tools, technique or a	5	15
1.1 What is the dimension and name of th	5	5
1.2 Rating of Tool~ (1 to 5)	2	2
1.3 How was Tool used~	5	7
2.0 What is the purpose of the tool~	1	1
2.1 Pros and Cons of tool~	3	5
2.2 Benefits of tool to you~others by usin	5	7
3.0. How does the tool, technique or activity s	1	1
3.1 Characteristics of the tool~	2	4
3.2 How these informal tools differ from	3	3
4.0 How do you get people to share work pra	1	1
4.1 Approach to align or put together thes	2	2
4.2 Are there enablers to support informal	1	1
---	0	0
Someone responsible for this alignm	1	1
System and structures (1 to 5)	1	1
Office environment, open work space	1	1
Networks (1 to 5)	1	1
Any others (1 to 5)	1	1
4.3 What are some of the potential barrier	1	1
4.4 Is it possible to overcome these barri	1	1
5.0 How can the tool, technique or activity be	1	1
5.1 How would you know the overall appr	2	2
5.2 Can you elaborate a little more or ho	1	1
5.3 Has the impact been ongoing or is it o	1	1
Social Dimension 1 ID - Face to face with colleagues o	0	0
Social Dimension 1 ID - Attachment to other units	0	0
Social Dimension 1 ID - Cross functional operations te	0	0
Social Dimension 1 ID - online meeting platforms or co	0	0
Social Dimension 1 ID - Internal conferences	0	0
Social Dimension 1 ID - Attachment to other unit	0	0
Social Dimension 1 ID - Face to face with stakeholders	0	0
Social Dimension 1 ID - Lunch time talks or similar	0	0
Social Dimension 1 ID - Internal best practice sharing	0	0
Social Dimension 1 ID - Face to face internal customer	0	0
Social Dimension 1 ID - Internal best practice group	0	0
Social Dimension 1 ID - Consulted with internal mentor	0	0
Social Dimension 1 ID - Tea bonding sessions	0	0
Social Dimension 2 ED - External conferences	4	40

Figure 5-5: Level 1 Nodes & Sub-Nodes Example

Level 2 were the sub-categories. It involved the aggregation of all the information in the same sub-node, for example, “how was the tool used?” for different tools. In the example (table 5-3), “improve ability with real hard facts” or “black and white proof” are sub-categories:

NSD1 ID - 360 degree appraisal *1. How was the tool used*
• Anonymous and honest
• Improve ability with real hard facts
• leadership 360 for self-improvement and skill development
NSD1 ID - Benchmarking survey internal or clients *1. How was the tool used*
• Black and white proof
• check service level to customers
• Getting assessments feedback during projects and consultations
• Ground sensing to get honest feedback
• Test people's knowledge of processes and practices
• Types of activities
NSD1 ID - Blog page happenings or new business *1. How was the tool used*
• A blog page where new happenings or business is shared to all
• can chat and blog

Table 5-3: Level 2 Sub-category Example

Level 3 involved the gathering of sub-categories under the main categories of concepts. In the example, the main categories are “Idea generation” and “knowledge growth”:

Idea generation	Knowledge growth
• share ideas • culture of work improve • teams implement big ideas • perform audits on others • collective effort to do • incident generates sharing • Vendor product round table • expert technology sharing • formulating emails make reflection	• get knowledge • get mindset of employees • too much knowledge • knowledge bank • Filing cabinet • repository of docs • scheduled sharing • reading circle • share new learnings • inter dept. accidental exchange • boss weekly address • working committee learn a lot • mixing with other participants • free lunch • talks and experiences • info guarding • management message with morale • supplier knowledge

Table 5-4: Level 3 Main Category Example

Level 4 saw the emergence of sub themes which are the second highest order concepts. Here main categories are grouped together to form a thematic idea. For example, a sub-theme of "feedback" was chosen to identify some of the main categories of concepts as shown in table 5-5. It was important that throughout the coding process, more conceptual words and phrases were chosen over event or activity (Alvesson, 2011):

Sub-theme of "Feedback"
• **Proof, Hard facts –** evidential data
• **Feedback –** from various channels
• **Gaps** - identify gaps fill gaps develop questions on potential gaps
• **Hidden revealed** -these represent revelation of weaknesses, hidden agendas, gaps to be filled, areas for possible improvement, threat assessment

Table 5-5: Level 4 Sub-theme Example

Level 5 were the main themes; essentially the highest level abstract concept of informal benchmarking. These main themes were conceptually driven and interpreted from the informants' experience based on the 5 main interview inquiries and questions:

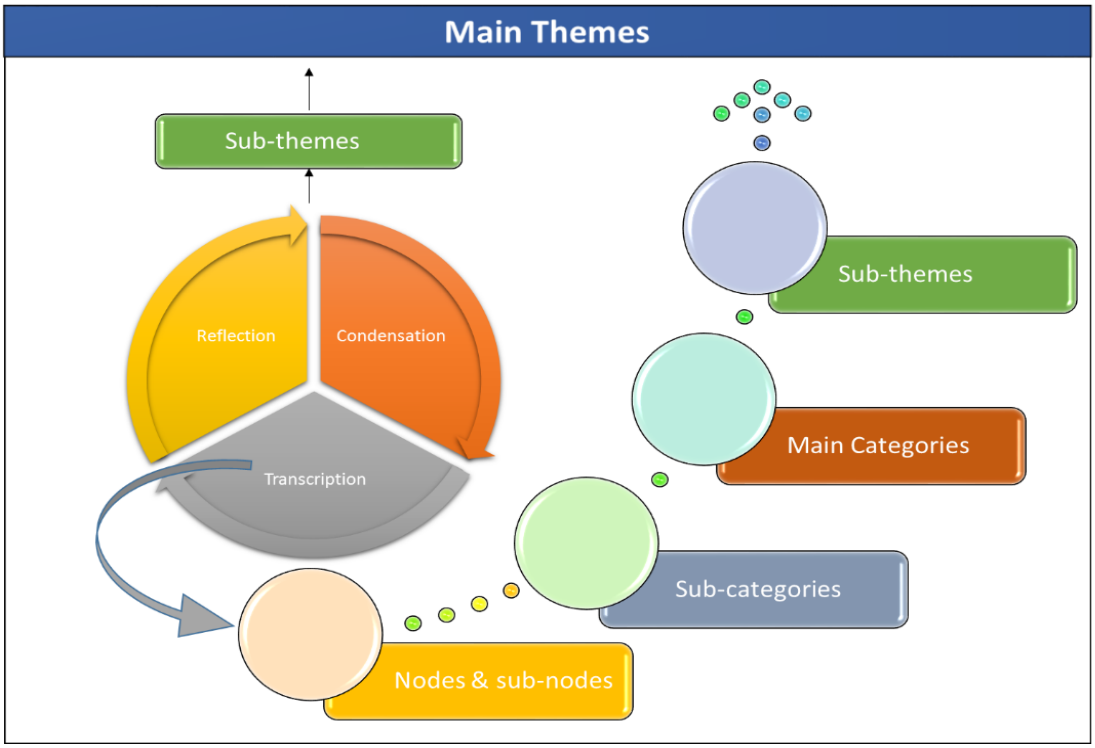


Figure 5-6: Level 5 Main Theme Development

5.7 Main Themes & Sub-Themes

For the purposes of this research, the main themes, sub-themes and main categories are discussed with the exception of main theme 5 on “Development Strategy”, where the sub-categories (level 2 codes) are also discussed. The themes are obtained from both the meaning coding the meaning condensation exercises. The highest level (level 5) concepts have been normalised into 6 main themes, in order to accommodate codes that seemingly do not fit into the pre-determined concept-driven data conceived in the 5 interview questions (table 5-6):

No.	MAIN THEMES	DESCRIPTION
1	Purpose	Teleology (apparent purpose, direct principle and goal) of informal benchmarking. These serve to explain the rationale or purpose behind the use of the various tools in both the social and non-social dimension
2	Execution	How the various tools/activities were used to support informal benchmarking
3	Benefits	Advantages and profit gained from informal benchmarking
4	Characteristics	Description, feature or quality of informal benchmarking toolsets in general
5	Development Strategy	The approach to align, promote and support the tools/activities using several mechanisms
6	Measurement of Effectiveness	The tangible and intangible measurable impact from the use of the tools/activities

Table 5-6: Main Themes Description

The main themes and sub-themes are shown in figure 5-7:

Main Themes	Sub-Themes
PURPOSE	• Acquisition of New Knowledge • Creative Problem Solving • Sharing of Business Practices • Generation of Ideas • Evolution of Ideas
EXECUTION	• Use as a suite of tools • Use of smart technology • By skilful facilitation/specific methods • Leveraging off relationships/networks • Experimentation (silos or collaboratively)
BENEFITS	• Speed & Ease of use • Affinity and Trust • Augmented Perception • No pressure to perform • Variety of communication conduits
CHARACTERISTICS	• Promotes Transparency • Produces a more level playing field • Deepens Trust • Fosters Reciprocity • Creates positive deviance • Generates informed decision-making
DEVELOPMENT STRATEGY	• Approach to align tools • Supporting Enablers • Overcome Barriers
MEASUREMENT OF EFFECTIVENESS	• Approach to know effectiveness • Resource saving i.e. time, money, etc. • Ongoing Impact

Figure 5-7: Main Themes & Sub-Themes

The sub-themes of the main themes of *purpose, execution and benefits* were explicated from both the meaning condensation and meaning coding approaches. Transcription, reflection and condensation were iteratively used to produce deep, insightful and shortened narratives that elucidated main ideas, while "meaning coding" used layers of hierarchical clusters to explain the main themes**.** These sub-themes were aggregated under the main themes according to what was deemed the most suitable. One might argue certain sub-themes fit better under a particular main theme but this was an arbitrary decision. For example, "augmented perception" was categorised under the main theme of "Characteristics" rather than "Purpose". The rationale for this decision was founded on the argument that an improved perception of a situation was not a fundamental design of purpose but more of a description, feature or qualitative trait.

Some of the sub-themes appear under 2 main themes as it was not possible to draw a neat border. Nevertheless, the textual description were modified semantically to reflect the essence of its meaning to support the relevant themes. The 10 sub-themes from meaning condensation and 9 sub-themes from meaning coding are shown in table 5-7:

SUB-THEMES			
Via Meaning Condensation		**Via Meaning Coding**	
i	A suite of tools	i	Feedback (includes systems thinking)
ii	Evolution of Ideas - A Cycle	ii	Evolution of Issues
iii	Mutually Beneficial & Augmenting Transparency	iii	Acquisition of New Knowledge & Terrain Awareness
iv	Formally Informal	iv	Sharing of business practices
v	Positive Deviance	v	Idea Generation
vi	Creativity & Problem Solving	vi	Experimentation & Collaboration
vii	Relationship Building & Emotional bank investment	vii	Multiply Perspectives Methods, Approaches to facilitate
viii	Use of smart technology for quick collegial contact	viii	Smart Communications
ix	Level playing field	ix	Decision-making
x	The informal environment		-

Table 5-7: Sub-themes from Meaning Coding & Meaning Condensation

5.7.1 Main Theme 1: Purpose

The following sub-themes support the teleology of informal benchmarking. These serve to explain the rationale or purpose behind the use of the various tools in both the social and non-social dimensions:

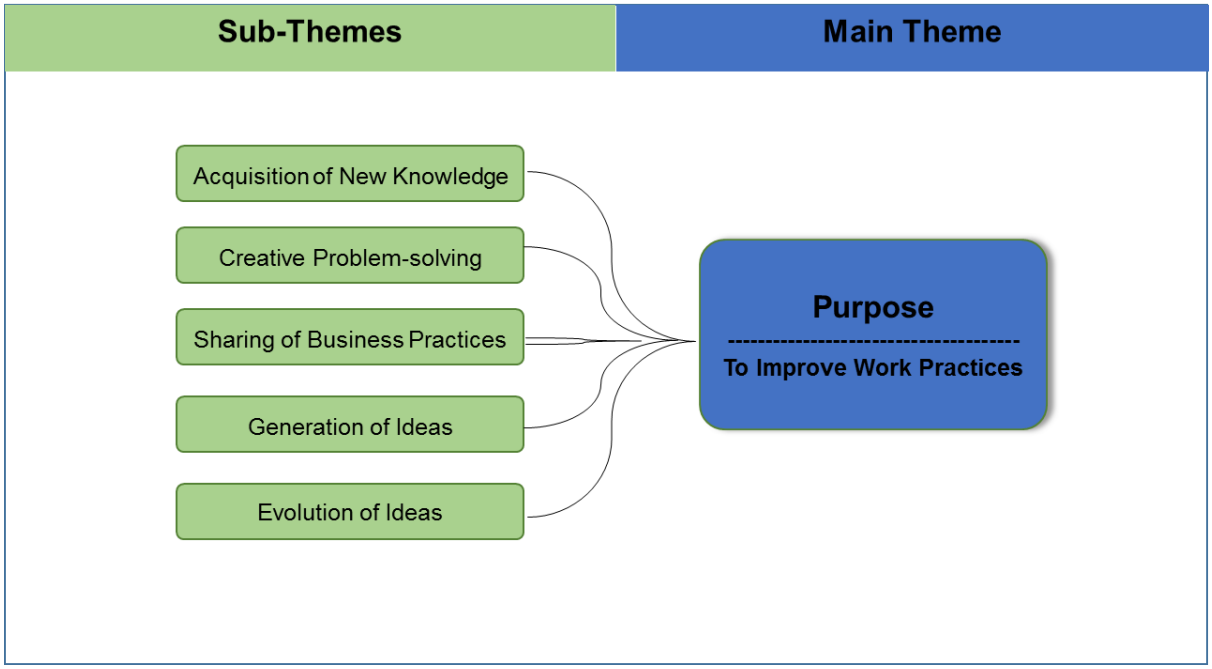


Figure 5-8: Purpose of Informal Benchmarking

5.7.1.1 Acquisition of New Knowledge & Terrain Awareness

Knowledge growth, the deepening of knowledge, and the discovery of new knowledge pertaining to actual work processes and functions, could serve as a prelude or compliment to formal benchmarking.

Knowledge growth took the form of reading circles to support a group function (Informant 73), compulsory sharing of new learnings (informant 73), tea sessions inter-unit incidental exchanges (Informant 31), boss weekly addresses (Informant 20 and 60), working committees (Informant 18), lunch time talks (Informant 18 and 31), metaphor exemplars (Informant 27 and 77), and supplier knowledge (Informant 10).

Both informant 27 and 77 shared the significance of using metaphor exemplars to get a message across:

"For example we want to emphasise the importance of understanding each other…So when they are drinking coffee and eating snacks we screen the video. Then we share with them the morale of the story. So it's through this informal sharing the management wants to convey the message" (Informant 27).

"I look on the internet and try and find organisational examples of things…for example I got 2 really good business excellence award winners that I show ... some of the tools and techniques and practices that they have in place that have made their organisations better" (Informant 77).

Deepening knowledge took the form of research, the impact of experts, collegial exchanges at conferences, external best practice group dialogue and incidental learning from audits. Informant 20 spoke on internal books and magazines that assisted him:

"…like we are reviewing the whole system… I just read the key findings knowing that these research are based on sound methodologies. So they are reliable" (Informant 20)

Informant 27 commented on how internal mentors and experts shared on the set-up of software programme websites, put up all the resources, the manuals and facilitated discussion groups on their expert area. At external conferences, Informant 10 and 62 spoke about the benefits, ease and enthusiasm that came from informal exchanges of ideas and comparing work practices over meals and breaks.

Best practice groups or networks were extremely useful in generating recommendations for complex decisions like the governance of an organisation or a new situation demanding fresh input. Some online groups provided active discussion and quality information. As informant 62 put it;

"So it might be a new policy or procedure or process or it could be a program that we don't have any experience in and want to understand better" (Informant 62).

New knowledge took the form of resources found on the internet and participation at active international forums and discussion groups. Informant 62 on researching the internet, spoke about it as the first stop for new knowledge where she found an excellent skills matrix that could be adapted without the need to re-invent one.

5.7.1.2 Creativity & Problem Solving

The organisation used both formal and informal methods of discovering or improving work practices. The more informal the method, the more creative the thinking appeared to be, according to Informant 16.

In the course of conversations, sometimes fresh issues were surfaced that could lead to a new perspective or a new work practice in the form of procedures or regulations, as articulated by informant 60.

Informant 20 stated that sometimes the informal tools precede a formal meeting for them to iron out issues, such as a quarterly review. The issues gained clarity as they evolve through coffee chats in the building or informal phone conversations. There was a lot of commonality between the departments so benchmark comparisons were made extensively.

5.7.1.3 Sharing of business practices

About 39 meta-tools and techniques of informal benchmarking were identified from the interviews (table 5-8). These included direct best practice benchmarking (comparing and *implementing* better practice), and performance benchmarking (comparing performance *without implementing* better practice):

Work/Business Practice Sharing Meta-tools & Techniques		
1	exemplars sharing	audit results
2	audit results	inspectorate findings
3	article help work improve	acceptable practice in writing
4	specific best practice	success stories
5	action plans	procedures and policy
6	documented best practice	rulebook
7	Others share material	other industry best practices
8	learnt a new practice	auditors findings
9	Case laws influence policy	processes review
10	multi-view teams	cross interrogation of practices
11	specialists discussion	common function sharing
12	discovering redundant process	case studies best practice
13	cross function/discipline sharing	personal or work related best practice sharing
14	show and tell best practice event	similar functions visits
15	compulsory visits to other units	best in class learning
16	direct best practice event	combination tools strategic benchmarking
17	spontaneous conversations	consult to set up program
18	expert project demonstration	discover from commonality in groups
19	inquiring from groups practices	visit similar function group
20	induction programmes	-

Table 5-8: Work Practice Sharing Meta-tools and Techniques

The usefulness, relevance and value of business practice sharing stemmed from a macro perspective of practice taken beyond one's organisation. These were captured in the comments on benchmarking surveys:

> *"This is something that we do quite regularly but it also depends on whether there is any request coming in from other orgs as well. It's a survey that we use for benchmarking services" (Informant 73).*

Informant 60 on reading of newsletters:

> *"My colleague are always trending how we are doing with the rest of the practices in the organisation… There is a section of targeted outcomes of different (entities) within the organisation" (Informant 60).*

Informant 5 on reviewing database or knowledge bank of best practices:

> *"Yes we do a lot of research on comparable organisations and gather information and learn what's working well, lessons learnt. We keep that all on file and of course it shows up in our report. There is a similar circumstance when we know the information we have got is useful. We go back to review it. Sometimes we bring it up to date. That is all done electronically, paper form in our files or reports. And then new research too. But the previous projects we all kind of keep track of that, and build on it, you know refer to it" (Informant 5)*

5.7.1.4 Generation of ideas

The generation of ideas came from blogs, a culture of work improvement, voluntary teams working on big ideas, and random collective efforts. Other innovative ideas surfaced while performing audits on others, reviewing good and bad incidences, listening to expert technologists sharing at a round table and asking questions. Informant 62 shared new perspectives became apparent whilst reflecting on how to formulate an email.

Learning from other industry partner's critical incidences to mitigate threats and weaknesses was a major way in which informant 63 improved practices. These were on external incidences or activities:

> *"…for example (an incident took place) recently. We link up with their colleagues in (country) to ask them what some of the reasons were and what difficulties they faced. If possible when things have settled down a little bit more, we may touch base with them to find out in more detail what happened" (Informant 63).*

One informant shared on the catalytic effect of expert technologist product briefing at a round discussion with other interested parties:

> *"Because there are other participants from different organisations. They will share different experience or problems. So they will share how this solution can help you. You learn and find out what are their problems as well. Maybe your problem is very common or you have this problem and people from other organisations have the solutions to that. It's through these type networking and discussions" (Informant 27).*

She went on to elaborate how such an expert helped them realise a new realm of expertise and capabilities they could develop in analytics to propel the organisation forward.

5.7.1.5 Evolution of Ideas

There appeared to be a progression, albeit ad-hoc, from the informal to the formal as exchanges occurred between individuals, especially when conversations develop over the notion of a work practice. There was a tendency to move towards more formal emails, documentation, when an eventual decision was made to implement an improved practice:

> *"Often a lot of decisions are made face-to-face and then formalised over email or a document or a contract… The small talk can lead to something. Strategic meeting triggers tactical discussions triggers informal conversations, calls, emails for improvement and implementation" (Informant 10).*

> *"As you are having coffee you start talking about something that may be of interest. It's something that you have never planned, just in the course of the conversation…So you have all the things in place but suddenly out of the blue you talk to this guy… he tells you how it affects you or he met an expert who explained certain things to them. So this is never planned but it makes you think…*

> *A lot of the coffee sessions are incidental. You can't make decisions that can be enforced. So it can be fact finding, you can discuss , you can share things, through the exchange both sides can get tremendous insights from this but it's not enforceable , it's not documented. Some of these things you know need to be carried through may have to go to a formal platform to do. In the course of a discussion sometimes a guy would tell you something you never knew about. Then you send someone to attend the course as well" (Informant 20).*

Informal benchmarking appeared to complement at some point, or was a prelude to more formalised structured benchmarking projects. From a human resources perspective as mentioned by informant 16, there was a general chatter that took place across several departments rather than a set meeting amongst people at the first instance. It then moved to a structured form when a full-blown project was determined to be viable. Then within the projects, there were pockets of informal benchmarking tools used to complement and lubricate the entire progress of the project.

5.7.2 Main Theme 2: Execution

The following sub-themes support how informal benchmarking was used in organisations:

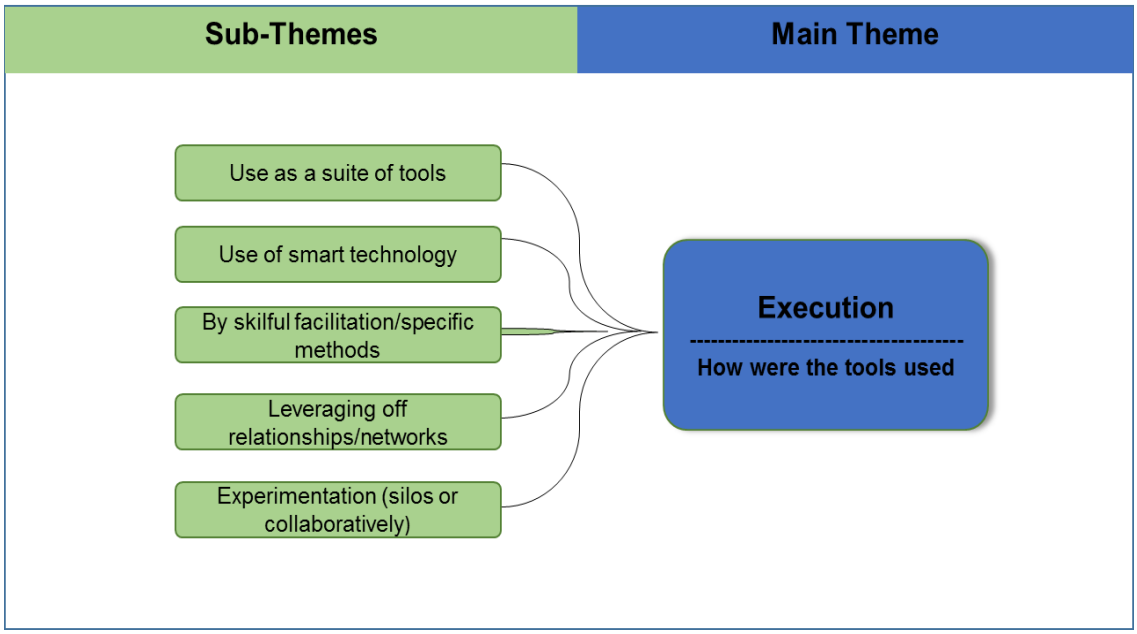


Figure 5-9: Execution of Informal Benchmarking

5.7.2.1 Use as a Suite of Tools

As coding occurred, it was discovered that several tools were used as combinations, as opposed to a singular usage of a tool to accomplish the task of learning a work practice informally. One of the strongest emerging suite of tools in the social dimension consist of the combination of face-to-face discussions, skype (or equivalent), phone calls, emails and documentation. This notion was supported by several informants:

> *"We have monthly meetings where we discuss what's going on and what everybody's doing. That is augmented by the individual conversations we have with one another on projects we might be working on together"* (*Informant 5).*

> *"It could be different for an individual, it could be timing. You would use the email more if you wanted to clarify something a little bit more. What you could actually do with this is that you might have a face-to-face, and then you follow up with an email afterwards to make sure you got the right understanding, to formalise it" (Informant 16).*

"Through discussions, all of the things you are talking about here, face-to-face, emails, phone calls. Mostly the face-to-face, which is the medium that I prefer to use. The project that we had was to turn that mindset around, and we are still doing that" (Informant 60).

There was also a general consensus that tools/activities such as face-to-face contact, emails and phone calls were more efficacious combined than by working in silos:

"If they are only by themselves without materials and information, then maybe a 3. But if you couple these with a review of PowerPoint, or a document a combination of these things. To me it's the combination that is the most effective, a 5" (Informant 3).

"We need to communicate in a variety of ways to properly understand them. Each marketplace is unique and different but you can learn something from each …it becomes a natural way of gaining best practice" (Informant 2).

"Quite often our team mates at our practice always follow up with an email. We are following up any calls, communication that we have like that, with an email else it can get lost. Or we will talk them, this is what you do, and this is how you do it. Sometimes we'll say I'll come over and I'll work with you" (Informant 60).

Often a lot of decisions were made face-to-face and then formalised over email, a document or a contract. These decisions were more informed decisions owing to the insider information or extra knowledge shared in a relaxed, informal manner. Most Informants emphasise face-to-face contact in an informal setting, that is, over drinks at a café or pub, as the most effective way of relating and learning from others to maximise information intake for getting results or resolving issues faster. These results and speedier resolutions relate directly to superior work practices in the form of business functions or processes, aptly summed up by informant 10: *"A novel idea implemented to get sales up."*

5.7.2.2 Use of smart technology for quick collegial contact

WhatsApp, text messaging, online meetings, online collaboration chat, audio and video conferencing provided a platform for immediate collegial contact, without the red tape. Such contact were vital for clarifications and closing the loop in best practice implementation:

"Some of the younger (workers) use it extensively, chat, blog, and internet and intranet. So these interest groups some are work-related and non-work related but through all these you get interesting things coming up, some youtube, stories, anecdotes that you can use. Also some of the courses, they create interest groups just for that course, or when they do their research projects they can share ideas. So gone are the days where people sit down for 2 hours trying to work for a project. Now they sit behind their iPad or laptop and communicating through their WhatsApp, sharing questions, answers and everything. Some submit projects without having meet face-to-face. So they may use even Facebook, FaceTime, everything. Quite often they don't physically meet" (Informant 20).

Speed and ease of accessing one another appeared to be a major advantage of these social media tools to advance the cause of keeping connected in improvement projects or lubricating relationships for future work:

"WhatsApp is used extensively as group chats for projects of all kinds in the organisation...publicity via WhatsApp for social events, organisational accolades, staff accomplishments or birthdays, etc. are a means of keeping staff connected. The informal cuts red tape and quickens the process by a lot" (Informant 31).

"The software…It's a little bit like group Skype but it's a bit smarter so it has a classroom part it's got a whiteboard everyone can contribute and pose questions and answers; group speaking opportunities that sort of thing" (Informant 62).

5.7.2.3 Skillful facilitation and specific methods

Having multiple perspectives on problems and issues was a powerful method of coming up with viable solutions to improving practice. One way of encouraging cross pollination was to provide professional assistance via the facilitation of such work improvement teams:

"Six sigma methodology is used in improvement processes whereby highly trained facilitators lead teams across the organisation… We will actually encourage coming back to any of the green belts or the black belt which is myself. And we will facilitate and go from there. For the time being what we have been doing is to encourage staff to form their own teams. Once that it is done I will go down and facilitate their teams" (Informant 73).

One informant on external conferences:

> *"Big group-small group dynamics were useful in which a conference of 100 people were broken into much smaller groups to tackle specific issues. Thereafter, they would re-assemble and share notes to all…So it was a big group small group thing as well as with the usual conference presentations format. The similar tailored sessions looking at particular topic" (Informant 77)*

Informant 3 shared on the combination of face-to-face collegial contacts, emails and document sharing; how multiple modes from different people shed light on a piece of information or difficult issue:

> *"We need to communicate in a variety of ways to properly understand them. Each marketplace is unique and different but you can learn something from each marketplace so we get better as a company by understanding what our audience is looking at. It becomes a natural way of gaining best practice" (Informant 3).*

The openness to 3rd parties was vital to provide a fresh perspective and be involved in widening and deepening practices. Informant 18 on internal benchmarking surveys:

> *"We provide them a database of people they can contact, like a third party company who can provide this survey and analysis service, and present the findings" (Informant 18).*

This was a case when someone outside the organisation referred a software found on a website which was extremely useful to one informant:

> *"He showed it to me and I decided that it would be useful to me and so he forwarded the link to me. So it was taking the incidental opportunity, recognizing that it had benefit to my work practice or what I was going to do. …. Because this tool I'm now able to use the tool to pull up percentages much more easily instead of going to search for that information in the past" (Informant 62).*

5.7.2.4 Experimentation (In silos or collaboratively)

The product of active interactivity amongst knowledge workers in similar industries could come in the form of experimentation to test the veracity of an idea. These included

homogenous groups, specialist groups, online groups, common purpose groups, and home grown networks. Most of the group learning processes centred on a common purpose of improving work practice (in one's own context) by gleaning from others' perspectives and experiences. One informant mentioned an external best practice sharing event or activity where an opportunity presented itself for them to apply similar techniques towards their own local context:

> *"These provide us the opportunity to see how they do things and to see whether there are some things that would be applicable to us here" (Informant 63).*

Informant 31 saw potential for an extension of good practices with other like organisations:

> *"There are times when another school comes up with a project which I find that we could collaborate with, that is very useful too" (Informant 31).*

Another informant elaborated on how the trials on new ideas come from participating in an association's activities:

> *"For this external promo event (we are) a great supporter for our association of (country) events… frequently do organise talks and site visits to familiar places... This society is actually one of the sources where all these kind of events are being rolled out (which we participate and try out new things)" (Informant 73)*

5.7.3 Main Theme 3: Benefits

The following sub-themes describe the benefits or impact of informal benchmarking:

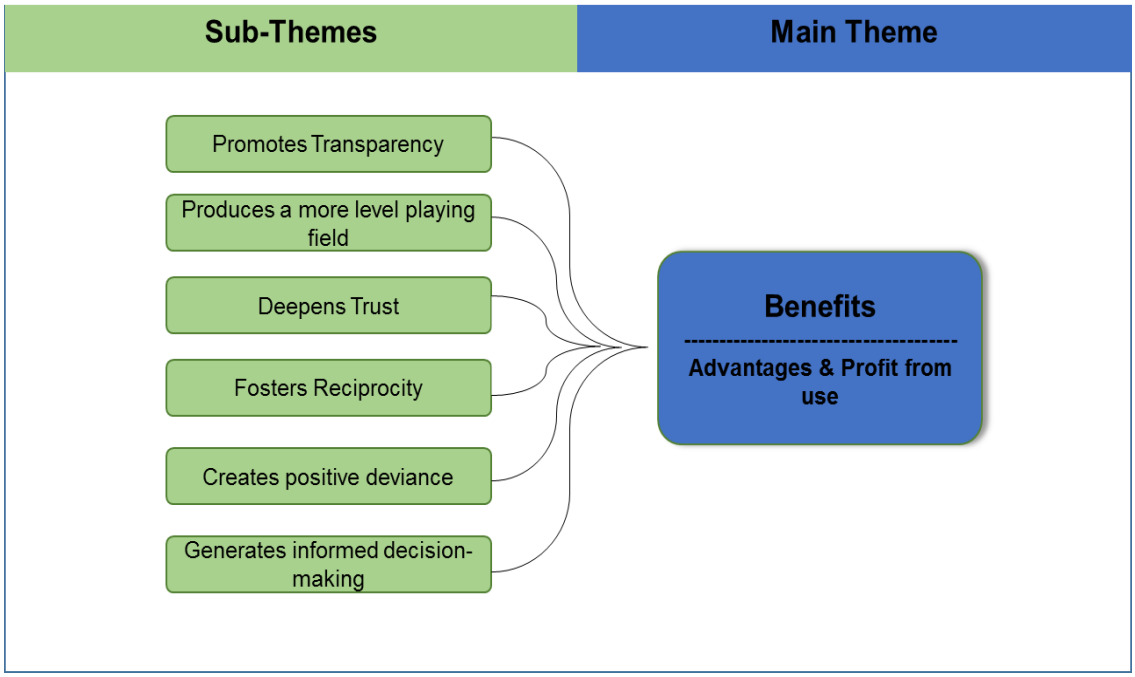


Figure 5-10: Benefits of Informal Benchmarking

5.7.3.1 Sub-theme 1: Promotes Transparency

The difference between a formal method and the informal way, for example, collegial phone calls or emails, were that individuals tended to be more relaxed and open in the informal setting. There was an almost anonymous nature to the information shared with a less perceived sense of risk. Feedback tended to be more candid and ultimately more useful:

> *"In the course of a discussion sometimes a guy would tell you something you never knew about. Then you send someone to attend the course as well. So its spontaneous, its incidental, generally people are not so guarded, they may tell you hidden agenda, stuff they would normally not say in front of someone not ready for that kind of information" (Informant 20).*

Another important aspect of the conversation centred on perceived risk and sharing of deeper information in a formal setting. Many a times in PowerPoint presentation during a meeting, information shared is often sanitised. However, in an informal setting, for example,

having beers after work, informant 10 stated that people were more open to sharing “real’ reasons for the decisions they were taking.

The conversations were also at a deeper level, more detailed and more revealing of the motivations that created a greater sense of trust. Informant 10 shared such trading of information often foreshadow contractual agreements. In other words, the informal preceded the formal. One very important aspect in his business of recruiting resellers was the informal meeting with these individuals to actually determine who they choose. The informal had a tendency to define the formal because a lot was revealed in the informal meetings which aided the selection process before the formal recruitment process began.

Sometimes individuals might be more cautious and hold back information in formal meetings. The pre-post coffee sharing sessions help them to be less guarded and more open to sharing information that lead to better practices.

5.7.3.2 Sub-theme 2: Produces a more level-playing Field

Informant 62 highlighted that “power and authority” was not important in learning best practices. What was important was the ability to share and sharpen one another’s thinking collegially, without the use of rank:

> *“Across all levels of the organisation so it is not about someone at the (top) level telling someone at the local level what to do. It’s about shared learning and very deliberate questioning of each other of best practice, what isn’t working and changing activities on what we have learnt” (Informant 62).*

5.7.3.3 Sub-theme 3: Deepens Trust & Fosters Reciprocity

The informal interactions using the tools in the afore-mentioned sub-themes added value to the organisation and to the employees who were willing and enthusiastic participants. The familiarity with one another inadvertently resulted in stronger relationships which had a direct co-relation with the improvement of work practices and productivity:

> *“I know it works because the process we went through to form a relationship with the organisation in (place) is really good. We built really good relationship with them, we did the ground work with them. Talked to them and told them what we thought benchmarking was. We built a really solid bridge there vs. two quick minutes of*

dribble from people who have no idea of what they are talking about. That's a real good indicator that doing your homework, and working through the process works a whole lot better" (Informant 60).

"Different kinds of people will interact differently. You just got to find different ways to keep it on a very personal basis. A lot of things are time critical, so you need to find somebody who will respond to you. You can use the formal hierarchy but people will do things reluctantly...The better one knows your client, the better and deeper should be the outcomes - new or improved practices. Getting to know clients is a progression. Many informal conversations take place during breaks, lunches and discussions, each time building on the previous. A lot of work gets done relationally in the sense that the good relationship augments the speed, efficiency and effectiveness of work done" (Informant 20).

Both informants alluded to the fact that the social informal tools which they rated as very effective, were instrumental in the micro-learning aspects of new, better and best practices because of the good relationship built over time. It affected the quality and output of more formal discussions and almost always had the effect of improving outcomes. A continual investment (such as coffee!) and use of these tools was necessary to re-establish relationships due to staff turnover.

5.7.3.4 Sub-theme 4: Creates Positive Deviance

Informant 3 shared a personal example where he had done research at each stage of his healing and given feedback to his doctor. His doctor was very impressed and began to empower his other patients with such a mind-set of learning and contributing to their healing process.

Informant 5 shared that her orientation to incidental learning was one that was never-ending. She would constantly learn new things from clients or others for fresh insights into the potential for a work practice improvement. She emphasised the importance of having a win-win perspective of benchmarking rather than a competitive turf-guarding mindset. The former would welcome mutual benefit while the latter would create resistance. The combination of both formal and informal means were used to bring about betterment of work practices.

5.7.3.5 Sub-theme 5: Generates Informed Decision-making

Informant 77 shared how a discreet phone call assisted her in making a quick decision on introducing a new practice in her department. The frankness of the discussion with a colleague aided in the process. Similarly another informant used a relatively informal method to collectively decide on a particular direction the organisation should take regarding an issue:

> *"We ended up part way through it and we polled on our adobe software and getting people to make a decision on the poll so we got a clear direction about it" (Informant 62).*

5.7.4 Main Theme 4: Characteristics

The following sub-themes describe the characteristics of informal benchmarking:

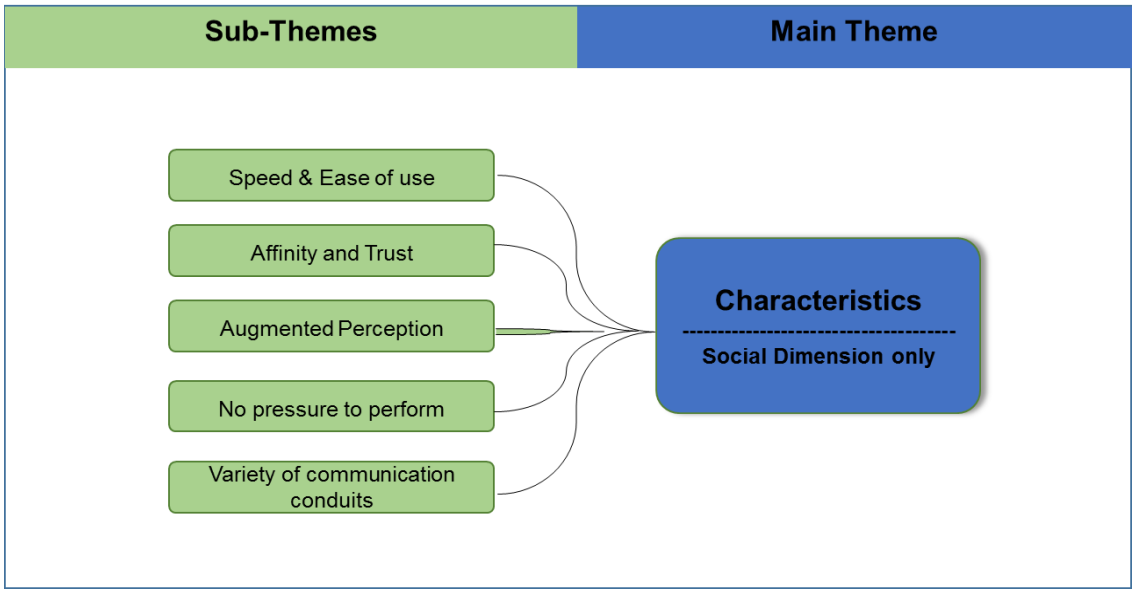


Figure 5-11: Characteristics of informal Benchmarking

Question 3 of the interview inquired of the, "pros and cons", and "how does the tool differ from formal benchmarking". It was interesting to note that all of the descriptions given by informants pertained to tools found only in the social dimension. These characteristics of informal benchmarking tools were coded into 5 sub-themes with main categories under them (table 5-11). These characteristics were an aggregation from all social dimension tools featured in NVIVO which included those from the survey and new tools/activities put forward by the informants. Unlike other themes where the informants were quoted to support an

idea, this theme was interpreted from the informants' experience both directly and indirectly. These would be underlined in the quotes of the informants and summarised in table 5-8.

> *"I would use the word, really something spontaneous, and something that is not on record. If formal, they are not willing to do (share), to put themselves in a bigger risk of being criticised. In a formal setting, where you present a PowerPoint you don't want present something controversial but something that would be very helpful. This type of informal exchange could be very effective for person to person communication and learning from each other" (*Informant 10).

> *"I would say informal is probably kind of more relaxed, people would feel free to share more readily with a sense of less risk. And you probably learn a lot because you are able to draw information from them…You probably sometimes I think when it's informal the things that come out can be a bit of a surprise. Yes. It's probably within the work place because people are freer (more free) to talk. These different things pop up. You realise then oh goodness there needs to more work done in that area" (Informant 16).*

> *"It's more to remove the scaffolding that may exist when you are within the office environment. We can you know come up with ideas, talk freely with bosses or colleagues. I guess that is how it helps" (Informant 18).*

> *"So it's spontaneous, its incidental, generally people are not so guarded, they may tell you hidden agenda, stuff they would normally not say in front of someone not ready for that kind of information" (Informant 20).*

> *"I think more informal you can ask... I mean the answers that you get are not politically correct answers so that is very useful" (Informant 20).*

> *"I believe when it is informal it is definitely a way to cut red tape, quicken the process, come to a quicker understanding and it comes to,,, once you want things recorded, you want a workflow, you want response a bit more traceable that is when you get formal" (Informant 31).*

> *"…sometimes some things is best said and rather than written…" (Informant 62).*

"I think I am quite for the informal. Informal is very good. It keeps things in perspective. It keeps both parties very relaxed, without any constraints. I think we need to … it always has to, firstly in an informal meeting, there is nothing If it is unproductive. If I spend time with a certain person, two-hour basically talking shop and having a beer and laughing about it. I expect that to somehow to move into something formal very soon" (Informant 75).

"I think it is easier, it is time-saving. Your ability to clarify information more easily. It certainly saves time for me. When you are busy, it is easy to speak to somebody than it is to read a document. When you are speaking to me, whether in meetings or informally, you can learn much more because you do talk about other things. It's easier, saves time, get more commitment, less uncertainty, greater clarification, all of those things" (Informant 77).

The main categories of characteristics were grouped under 5 sub-themes in table 5-9:

	SUB-THEMES				
	Speed & Ease of Use	**Affinity & Trust**	**Augmented Perception**	**No Pressure to Perform**	**Variety of Communication Channels**
Main Categories	Quick access to info	More willing to share	Body language can be read	Anonymous	Short bursts of communication
	Anyone can use it	Solidarity & feeling of unanimity	Facial expression can be read	No contract	Various E-means or otherwise
	Fast gauge if everyone going the same direction	Intimate & less guarded	Gauge by words, tone of voice and expressions	Not on record	Get multiple perspectives from many informal exchanges
	Chat spreads to others quickly	Relaxed & friendly	Get more commitment (initial opener)	No formal agenda	Symbiotic creativity
	Spontaneous or incidental	Hidden Agenda revealed	Greater buy-in	Perception of less risk	Ideas flow openly
	Learn a lot more quickly	Surprising sharing	Scaffolding is removed	Can inquire freely	Spoken communicates more than written
	Get immediate responses	Starts with small talk	Greater clarify & less uncertainty	Honest and non-political	-

Table 5-9: Sub-themes for Characteristics of Informal Benchmarking Tools

5.7.5 Main Theme 5: Development Strategy

The approach to align all the informal benchmarking tools involved the use of enabling mechanisms that strategically proliferate improvement of work practices throughout the organisation. These were deliberate efforts designed to promote and support the entire toolset usage. **Many of the informants, if not all, felt their overall strategy did not take into account the plausibility of supporting informal benchmarking more intentionally**. Obstacles standing in the way of such deployment came in the form of bureaucracy, misplaced priorities, fear and mistrust. These could be overcome by fostering trust, realigning priorities, mitigating fear and taking calculated risks. Figure 5-12 shows the development strategy:

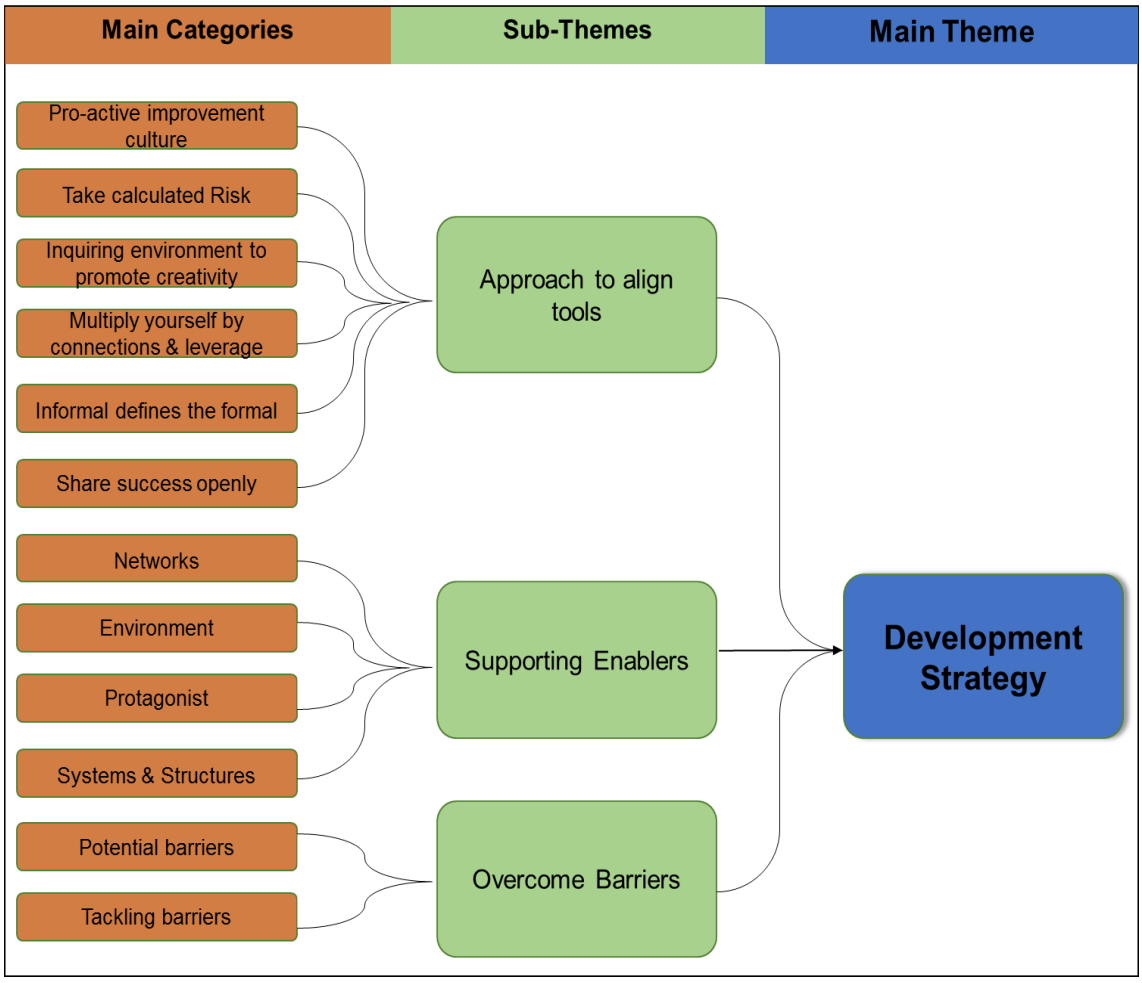


Figure 5-12: Development Strategy Main Theme & Sub-Themes

5.7.5.1 Sub-theme 1: Approach to Align Tools

5.7.5.1.1 Main Category 1: Pro-active improvement culture

The proactive improvement culture implied a propensity to improve practice all across the organisation at all levels. Informant 62 on face-to-face with colleagues or partners:

> *"So we collated all of that together and this group was about 7 or 8 from across the org, at different levels it was not just managers but program coordinators who were interested. As a result if it developed a survey tool…" (Informant 62).*

Informant 60 on external conferences shared:

> *"There is an expectation that when we come back we will present" (Informant 60).*

A reinforcing loop exists between receiving feedback and acting on the information. Informant 60 on face-to-face with stakeholders:

> *"Our set-up is such that we divide them in to clusters and each cluster there is a general manager …, who gets all the sensing on the ground who feeds back upwards to the management" (Informant 60).*

While observing the conduct of a focus group, she noticed it was extremely informal and friendly which she applied to her own organisation's approach. Informant 60 on observing a critical incident:

> *"The key to it is to make it very informal. It's formally informal" (Informant 60).*

There was also discussion on the possibility of exploiting cliques that form around some common issues. Being an example of learning best practice would certainly aid the positively deviant thinker.

5.7.5.1.2 Main Category 2: Take calculated risk

Informant 60 spoke about being daring to experiment with focus groups in her organisation after she had randomly observed an incident completely outside her professional space. Informant 3 on acting on feedback:

> *"…but if they get a chance they will give you some feedback offline or in other ways. It's then gonna be a much more positive presentation" (Informant 3).*

5.7.5.1.3 Main Category 3: Inquiring environment to promote creativity

Creating an inquiring setting in the workplace removes the inhibition to ask questions that will hasten workers' pathway to solution creation. One informant articulated:

> *"Certainly I do have an open door policy with my staff and they do just wonder in. …I prefer you just came and ask me if you were sitting there not able to proceed with your work because you didn't have an answer. Sometimes some things is best said rather than written" (Informant 62).*

Similarly, another informant shared on the stifling of others' creativity by being unwilling to listen to others:

> *"If you are a person that doesn't practice learning from what other persons have to say, obviously you are not gonna learn as much. I only want them to listen to me … won't work" (Informant 3).*

Attempts to formalise a technique might backfire on creativity which an informant aptly stated:

> *"…it was time for us to come up with this capability. But you got to be careful because if you can't go too far if you add too much structure it becomes the formal is no longer informal. Very delicate balance not to have too much structure in place and decide what things you want to be included in this. If you put too many walls, too much in the way people are not going to respond as well as they did before… That would be not the very same thing to do or else u would kill all creativity and all innovation" (Informant 3).*

5.7.5.1.4 Main Category 4: Multiply yourself by connections & leverage in all directions

The process of building strong linkages with others was a vital concept as evident by its appearance in several sub-themes of the interview proceedings. Informant 60 shared on how such a process aided in breaking down defensive walls and fostering goodwill prior to a benchmarking partnership:

> *"We built really good relationship with them, we did the ground work with them. Talked to them and told them what we thought benchmarking was. We built a really solid bridge there vs. two quick minutes of dribble from people who have no idea of*

what they are talking about. That's a real good indicator that doing your homework, and working through the process works a whole lot better" (Informant 60).

Using leverage to take advantage of the connections of others, such as one's own superiors, was expressed by informant 63. He also reiterated the importance of moving beyond one's comfort zone to listen to the perspective of those outside your industry. He talked about the customer experience being akin to *"entertainment areas"* and not just a service centre experience.

5.7.5.1.5 Main Category 5: Informal defines the formal

In an informal setting where all present feel unthreatened, comfortable and free to speak their mind, (which could be physical, virtual or mental), such as the ones proposed by informant 10 and 75 and 77, tacit knowledge flows to create a trusting conduit for knowledge workers to assess the viability of doing business with another. Informant 31 spoke about "sitting under a coconut tree" with others to dream or simply to generate ideas. Informant 10 and 75 on how informal conversations made such a huge impact on business:

"We would recruit resellers and then we go see customers with the resellers and close a sale. The informal part is how we relate with the reseller. What our relationship is with the reseller. How we interact and work with the reseller. The informal unspoken words. How when we agree when ours eyes meet, these actually help us select our resellers. In the finer points of human relationships. In many times, these help determines who becomes the resellers" (Informant 10).

"If you have a very good bonding done at a very informal level, you kind of recommend them at a higher level. You say Hey look, this guy is awesome he has done some very good work, some very good data. Why don't we have some formal collaboration, let's have a contract" (Informant 75).

5.7.5.1.6 Main Category 6: Share success openly

Informant 62 shared on the how performance levels varied widely across similar units within her organisation. Creating best practice sharing sessions catalysed the process of adapting the practices to increase performance across the board. Notwithstanding, one could argue the transferability of such best practice is easier said than done, given the cultural, operational and even philosophical differences in similar units. For example, the different

demographics and size of the units would mean the cost of adapting practice could vary. Sub-themes 2 & 3 are analysed up to the sub-categories level:

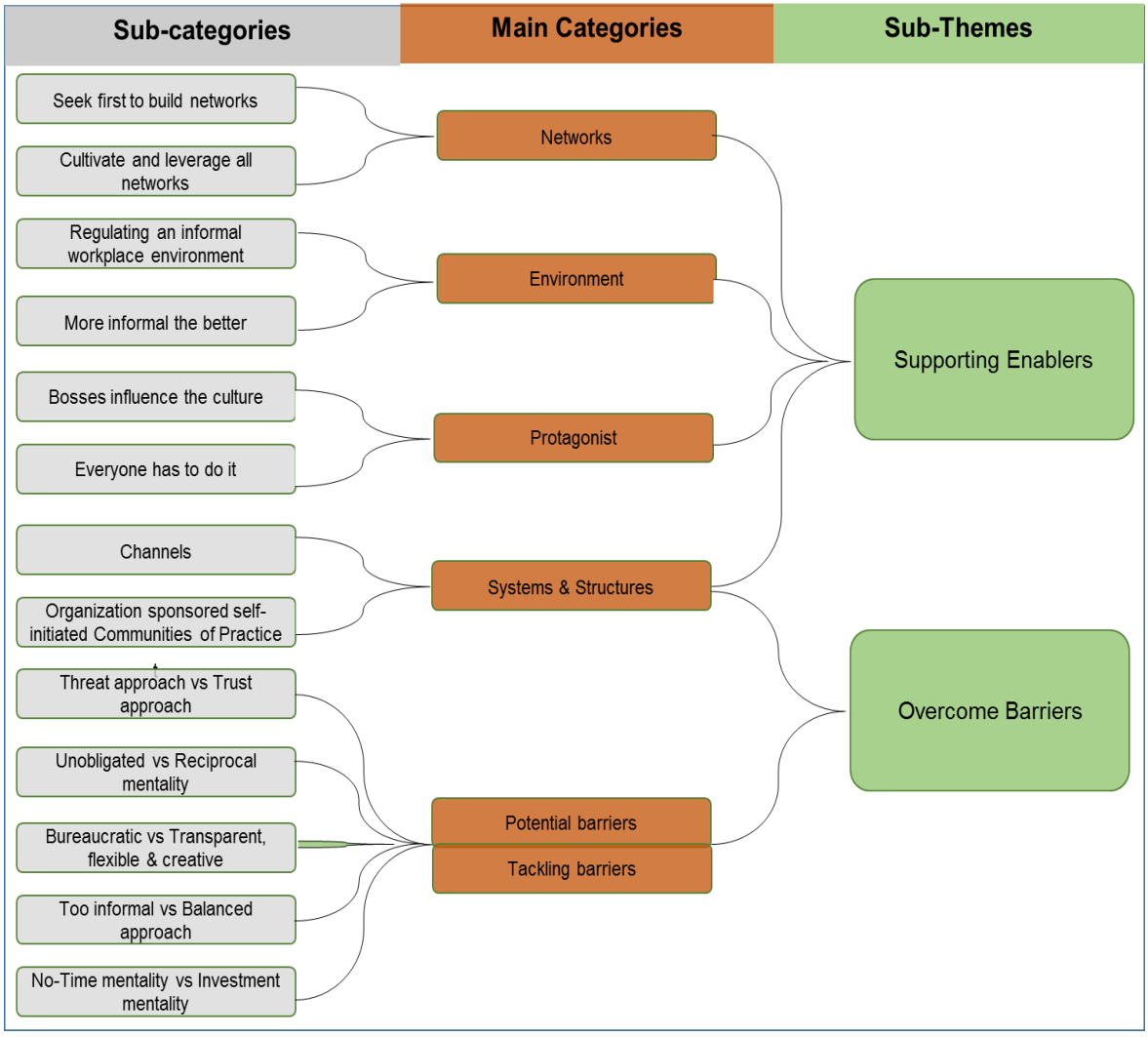


Figure 5-13: Supporting Enablers & Overcoming Barriers Sub-Themes

5.7.5.2 Sub-theme 2: Supporting Enablers

The supporting enablers came from networks, environmental factors, the informal benchmarking cheerleaders or proponents, and organisational systems and structures.

5.7.5.2.1 Main Category 1: Networks

Seek first to build networks: The building of useful relationships to improve work practice could be by individual or collective effort. Informant 73 talked about *a "network of process*

improvers" nurtured over boot camps to emphasise the importance of investing time and effort required to bring it to a productive level. Another informant shared a similar sentiment:

> *"I always believe that organisations set out to be better than anyone else. …So let's build a little bit of a relationship, make it solid, and then start talking about the formal things" (Informant 60)*

Informant 5 stressed the power of harnessing collective networks:

> *"We have networks we are working on together, we all have specialties ourselves and sometimes on projects on our own. Those networks are pretty extensive. We do come together collaboratively in a while like when we have events" (Informant 5).*

Cultivate and leverage all networks: The notion of leveraging off bosses who have access to higher networks was evident from informant 63: *"…his international standing allows us to easily plug in to other countries.",* and informant 10*: "…my CEO has a lot of good relationships with CEOs of other companies".* Such a concept can be extended to other colleagues with useful connections. The need to continually nurture these networks and renew them is essential according to informant 16, especially in the light of these connections transitioning out of their jobs. It was important to quickly glean better practices off those who were willing to cross-pollinate ideas openly vis-à-vis those who felt inhibited because they felt threatened from a competitive viewpoint. One informant shared about such openness and guardedness in benchmarking across processes, products, strategies and costs:

> *"…I've talked to them about their products, strategy, marketing and even the costs and they have been very good about sharing. Sometimes you come across people who are more guarded but for the most times I have been introduced to people who are very open" (Informant 5).*

5.7.5.2.2 Main Category 2: Environment

Regulating an informal workplace environment: Bosses regulate the level of formality of the work environment, according to the general consensus amongst informants. Informant 10*: "…even our CEO sits in a cubicle. He is a multi-billionaire. So it's an informal environment"*. Another informant on an open door policy:

"She is ok about arguing your way through it. Now she is a very open person particularly when it comes to growth. If it is for the betterment of the people" (Informant 60).

Informant 63 described the creating of an inviting environment by copying ideas from top-notch companies like Google. They have successfully created an office environment akin to a virtual playground:

"It's because we hear a lot of good things from companies like Google where they have made innovative use of space to get people to come together, to speak together and to share ideas. Instead of being stuck in a cubicle. How you design your open office space will actually affect the way you interact…We are also seeing how we can make use of green walls, and also open spaces where our staff can congregate and something like coffee corners ... Talk and share and interact instead of being in small and unsightly cubicles" (Informant 63)

More informal the better: The informal appeared to be the preferred mode for collegial contact. Once again the structure or non-structure of the workplace environment is largely determined by management:

"…the way the office is structured; we have 3 people sharing an island. And our cubicles are not very high. All you need to do is … our voices can be heard over one another" (Informant 31).

The environment can be virtual or mentally informal:

"…the way the office is structured; we have 3 people sharing an island. And our cubicles are not very high… our voices can be heard over one another" (Informant 18).

Informant 20 spoke about the fact that they did not even physically meet even though they could, because of Facebook, Facetime, WhatsApp etc. New employees would catch on the environment very quickly and understand that *"these is the way you do things around here",* according to the views of informant 62.

5.7.5.2.3 Main Category 3: Proponent - someone responsible for this alignment

Bosses influence the culture: It was clear the bosses determined the virtual, mental or physical culture in the workplace. However, whether or not this space was intended for the

purposes of informal benchmarking, was not absolutely a given. The intention, however, was not important because promoters of an informal culture would automatically promote informal transactions, be it deliberate or otherwise; and therefore would create a supportive environment for informal benchmarking activities to thrive. What was important though, was the type of approach bosses took to fostering culture. Informant 62, for example took on an informal consultative approach by holding informal virtual collegial chats to make relatively important decisions on work practices. This went along with her open door policy. Informant 60 stated unequivocally: *"The way we operate is indicative of the leadership style."* It's the fluidity and free-flow of information between colleagues that give rise to intended or unintended benchmarking as one informant explained:

> *"Although we have directors they do come to a level where they are very approachable and because of that culture we can meet with them, we can text them, we can be very open with our opinions".* Similarly, informant 63 states: *"I think one of the reasons we are able to do this quite effectively is because our chief is very into such informal sharing" (Informant 31).*

Everyone has to do it: Another school of thought revolved around the notion that everyone had a part to play in influencing a flourishing culture for informal benchmarking. *"It's not that somebody needs to it, because everybody needs to do it"*, stated informant 10, or *"The staff takes the initiative to start a reading circle for a common work area that they are doing*", according to informant 73. Informant 16 put it in a somewhat rhetorical manner:

> *"So there's no one responsible for this thing… I think it's something that you have to do, its best practice because you really got good information" (Informant 16).*

Most, if not all of the organisations interviewed do not have a full-blown deliberate performance management system surrounding informal benchmarking. They do, however, understand how a mindset tuned to informal benchmarking opportunities would immensely benefit the organisation. Taking part in committees and events are conduits to informal cross-functional pollination as one informant stated:

> "…*they also understand in order to be truly engaged or be seen, or be visible, you have to be plugged in. If you don't like being involved in such activities, then it will quite difficult for you to thrive in the organisation" (Informant 18).*

5.7.5.2.4 Main Category 4: System and structures

Channels: There were a few systemic channels for which informal benchmarking was promoted. These were not full-blown systems or structures arising from a dominant business strategy, but rather tactics to improve work practices:

> *"I think it is the way we are structured that makes it very clear that we need such informal platforms. Every year we will budget a certain amount of money for specific areas we want to look into for the year to ensure we will have trip as part of our travel budget for the year. That is a very concrete way of ensuring these networking sessions take place… these best practice, benchmarking take place"* (*Informant 63).*

One of the tactics involved the use of a network of community managers/volunteers to provide feedback on ground sentiment:

> *"Depending on the scale and the amount of concern it is causing, we can actually sense it, we will get a lot of emails, phone calls or issues that are close to the heart of the community. We then need to respond…" (Informant 18).*

Informant 27 appeared ambivalent about whether the events and activities such as bonding sessions or expert sharing sessions were predicated upon an informal benchmarking prerogative; but I do in my view think it is informal benchmarking:

> *"I am not sure if they go and promote informal sharing...it is not obvious… not openly mentioned but they do create opportunities for staff to bond through all these sessions…Culture of informal sharing? Maybe I give you an example and then you tell if this is formal or informal. We have this share -champ once in a while. Let's say we have a new thing and we want to disseminate to the whole information services group or maybe for only those are interested… So we have the expert in Microsoft 2013 who says I am going to conduct this share champion next week in two sessions (best practice on Microsoft). Whoever is interested please sign up…" (Informant 27).*

Organisation sponsored self-initiated communities of practice: Communities of practices were created for the betterment of practice, according to Informant 18, who shared on how his organisation encouraged set-ups that could be work-related or otherwise. Some of these came in the form of interest groups or project groups, and were either virtual or physical groups. Informant 20 saw such autonomous and natural formations via virtual platforms without the need for formal approval. Informant 18 also shared:

> *"We provide them funds to facilitate such sessions…we are giving them the leeway to come together on their own, and we arrange the resource with maybe a place or we engage an expert to help them be better in what they are interested in" (Informant 18).*

Another informant reinforced the same opinion:

> *"…there are WhatsApp interest group. So these are some of the things that have been coming up now. So these interest groups some are work-related and non-work related but through all these you get interesting things coming up, some youtube, stories, anecdotes that you can use…they create interest groups… do their research projects they can share ideas. So gone are the days where people sit down for 2 hours trying to work for a project. Now they sit behind their iPad or laptop and communicating through their WhatsApp, sharing questions, answers and everything. Some submit projects without having meet face-to-face" (Informant 20).*

5.7.5.3 Sub-theme 2: Overcome barriers to sharing/extending tools

5.7.5.3.1 Main Category 1: Potential barriers & tackling barriers

Informants shared on potential barriers to the use or promotion of informal benchmarking which took many varied forms. I went further to query on what they felt could be done to alleviate and overcome these barriers.

Threat approach vs trust approach: Informant 63 spoke about concerns of competitive advantage:

> *"It is a fact they see us as a direct competitor. "You guys already the number 1 … and you want to steal whatever we have!"* (Informant 63).

There are the collaborative and the competitive camps, according to Informant 5, 60, 63 and 75. Informant 5 shared the thinking behind these camps:

> "… *It's just the way the quality professionals are very good at sharing information with one another. It's something that, sometimes others may be suspicious of us, some who are very competitive, they use the information for themselves and not give back themselves" (Informant 5).*

The level of friendship appeared to be co-related to the level of sharing due to concerns of misuse or confidentiality breaches. This theme re-surfaced over and over again in the interview proceedings. One informant elaborated:

> *"So when other orgs share this kind of more in-depth info I think it is critical we manage the info they have shared with sensitively so that it does not actually go out in a way that will make the org sharing with us look bad or in a negative light. I think that will be one of the key issues, whether the info will be abused or used against them. So it ultimately boils down to trust." (Informant 63).*

Informant 63 went on to share on the competitive-camp mentality:

> *"…are quite reluctant to share or they will only show you part of it. The informal learning part is less obvious so they will just give you the formal part of the PowerPoint presentation" (Informant 63).*

Informant 60 spoke of specific benchmarking partners they were gunning for in their industry. In one organisation the quality team were very open but in another, barriers went up when the quality team was approached. She attributed success rate to the approach taken. Firstly, it was important to benchmark from a position of *"my need to improve"* rather than *"what have you got to give me"* approach:

> *"We don't want to compare ourselves with you. What we do want to know is " Why we are not doing this well?" We made it about us, nor about them" (Informant 60)*

Secondly, building friendship and camaraderie were keys to assisting others to warm-up to the idea of sharing good work practices informally for mutual benefit rather than for a one-sided gain:

"Perhaps that was one of the things that deep down the teams knew but they got into the formal before they could even start with the informal stuff" (Informant 60).

Unobligated vs reciprocal mentality: Culture within played an important role in whether or not knowledge workers pro-actively engaged in informal benchmarking. In one such setting, a strong culture of sharing and a flat organisation structure promoted active engagements within and without the organisation. Even new employees could easily pick up on the culture of open sharing:

"The culture has existed long before I did so it's a culture that has been part of the organisation ever since we came together and it's not something that we had to work on introducing" (Informant 62).

In a contrasting setting within the research industry, knowledge workers had a tendency to share very little with external organisations because of a protectionist mentality:

"I think something people do not think much about work. If it is done within work hours I guess you kind of think about it. But once you have finished nobody really talks about it much" (Informant 75).

He went on to share that memorandums of understanding (MOUs), non-disclosures and agreements were the dominant routes for mutual formal benchmarking. Notwithstanding, a portion of such partnership were a result of informal exchanges that worked out. Several were experimentations of ideas to produce a better product or practice, which eventually led to official mutually beneficial contracts. There were other informal collaborations that did not work out though, primarily due to non-delivery of agreed upon outcomes:

"I think the disadvantage with that is that you don't really have any control of what is happening… It might not be contractual but you agreed that this will happen. In an informal scenario although you shake hands and say …yes there is no paperwork there is nothing binding…" (Informant 75).

Similarly, informant 20 shared*:*

"lots of the coffee sessions are incidental. You can't make decisions that can be enforced. So it can be fact finding, you can discuss, you can share things, through

the exchange both sides can get tremendous insights from this but it's not enforceable, it's not documented" (Informant 20).

Organisations that had a protectionist mentality prefer to keep their sharing undocumented due to risks of over-disclosure, or they may have concerns about what their bosses thought of their openness:

"Depending on what is happening on the ground, they don't want the bosses to know, some things they are working on, some of it don't want to go on record" (Informant 20).

Bureaucratic vs being transparent, flexible & creative: Formal meetings were usually held to track the progress of several agenda items and were relatively void of a creative pitch, as described by informants 18 and 31. Informant 18 stated: *"the more informal the better",* when it came to ideas and creativity, inferring the need to have other forms of less formal interaction for innovative ideas to germinate. Some colleagues were unware of how valuable their knowledge were to others, It was in these interactions that knowledge transfers took place, birthing a new practice caused by the cross-pollination of ideas. Informant 62 shared:

"there is always a barrier in that people got to understand the info they hold is valuable and others may well be interested in it even if they are not and so that becomes challenging" (Informant 62).

Informant 77 briefly explained the distinction between the product-centric slant (facts and figures) and the personal-process-centric ("heart to heart") slant to knowledge amplification found in the formal aspects of interactivity verses the informal post-gathering conversations:

"The conversations that go on after the formal meetings are more honest and robust. People go into meetings to say something because they have to or they feel very strongly sometimes and but not necessarily. So we learn facts and figures but we don't necessarily learn tools and techniques and things that we could use in our jobs and in our roles. Its only after that meeting we might discuss an agenda item over tea" (Informant 77).

Too informal vs balanced approach: Information passed through informal channels could sometimes be insufficient or even misleading:

> "*…you have to make sure you carefully consider what is being said before you take action. Sometimes, something informal that came through could take someone up the wrong path" (informant 16).*

She continued to highlight the importance of not undermining managers in the hierarchy by using or giving knowledge to the boss which should have come through them in the first instance. If the professional integrity were to be compromised, it would become very difficult to implement learned practice in an environment of distrust.

Informant 31 shared the contradictory nature of annual retreats where the annual and future goals were reviewed. The purpose of these retreats were to generate conversations that would lead to creative ideas for the future plans. However, he observed the opposite occur on several occasions:

> "*Nothing creative comes out of it …and more often than not during platforms there is a general fear of speaking out"*`*(Informant 60).*

On the other hand, several other informants (informants 5, 16 & 62) found the annual retreats very useful in the generation of ideas. The primary difference in those who found it beneficial was because of the level-playing field in which everyone was contributing to conversation. In addition, the atmosphere was highly collegial in an informal setting. Informant 5 shared the need to balance the formal and informal with the use of an external professional. The ratings she received was an indication of how well she had done her job as a facilitator for retreats or otherwise:

> *"It's a balance between the formal and informal. Usually they are looking to the (facilitator) to plan the day. We deliver what we think will work for the clients, and customise them. It's the experience and the rating we get back that is the confirmation. Sometimes we are working with the clients in a setting where we are working with their people, and we are working with them on projects, some are simpler, some are more engaged. Some are easier to work with then other." (Informant 5).*

No-time mentality vs investment mentality: Sifting out information of value is an art nowadays, given the voluminous amounts of information pushed to the mail box, physical or electronically, shared informant 5, 20 and 75. Informant 5 spoke on the need for discretion in sharing:

> *"I think these days there is a little bit too much information and bombarded with all of it. The big challenge is filtering out the relevant information is useful to you…Just imagine an organisation with about 5000 people, they are taking a minute to click on, just think how much time they lost collectively. It adds up to an awful lot. We have to be really careful with that. I think people should be careful to provide information of value and be sure to ask themselves the question before they put information out there" (Informant 5).*

If not careful or savvy, knowledge workers could become counter-productive by spending excessive amounts of time in their quest for new knowledge. In some organisations, social space, gatherings and events were channels for informal benchmarking to transpire serendipitously. The promotion of such opportunities for incidental learning were popular for harnessing creativity and sustaining interest. However, management might sometimes question the investment value of such sessions. Informant 26 spoke of tea sessions with a light agenda organised weekly or fortnightly to promote cross-departmental bonding*:*

> *"These are relatively well-attended though some supervisors and colleagues perceive attendees of such activities as having "too much free time" (Informant 26).*

Informant 20, nonetheless, was convinced the coffee time spent in building relationships with work colleagues and external counterparts was essential to increasing productivity and the generation of new knowledge. The need to move from a "wasting time" mentality to a "time well-invested" mentality in the informal spaces/activities that induce informal benchmarking to take place needed to be strongly supported:

> *"If your boss knows every day you are having tea …, this guy haven't got much work to do. So you got to find ways to communicate with him that you are investing in these coffee times that these are the relationships i need to maintain to get things done" (Informant 20).*

Informant 73 belongs to an organisation that have successfully managed to "formalise the informal" in that the informal spaces and activities are well received and attended, despite the very busy schedule of their staff. Employees enjoy the tea-bonding sessions, visits, sharing events for process improvement and other self-directed communities of practices:

> *"So time is a factor in order to gather all the people together. From a scale of 1 to 5, from "difficulty" to "easy to do", it's a 4 so it is still relatively easy to get people together … it's not a big factor" (Informant 73).*

5.7.6 Main Theme 6: Measurement of Effectiveness

The measurement of effectiveness of informal benchmarking could be either tangible or otherwise. Examples range from time, man-power savings, and efficiencies to better communication, less stress and fewer problems to solve amongst others discussed in this section:

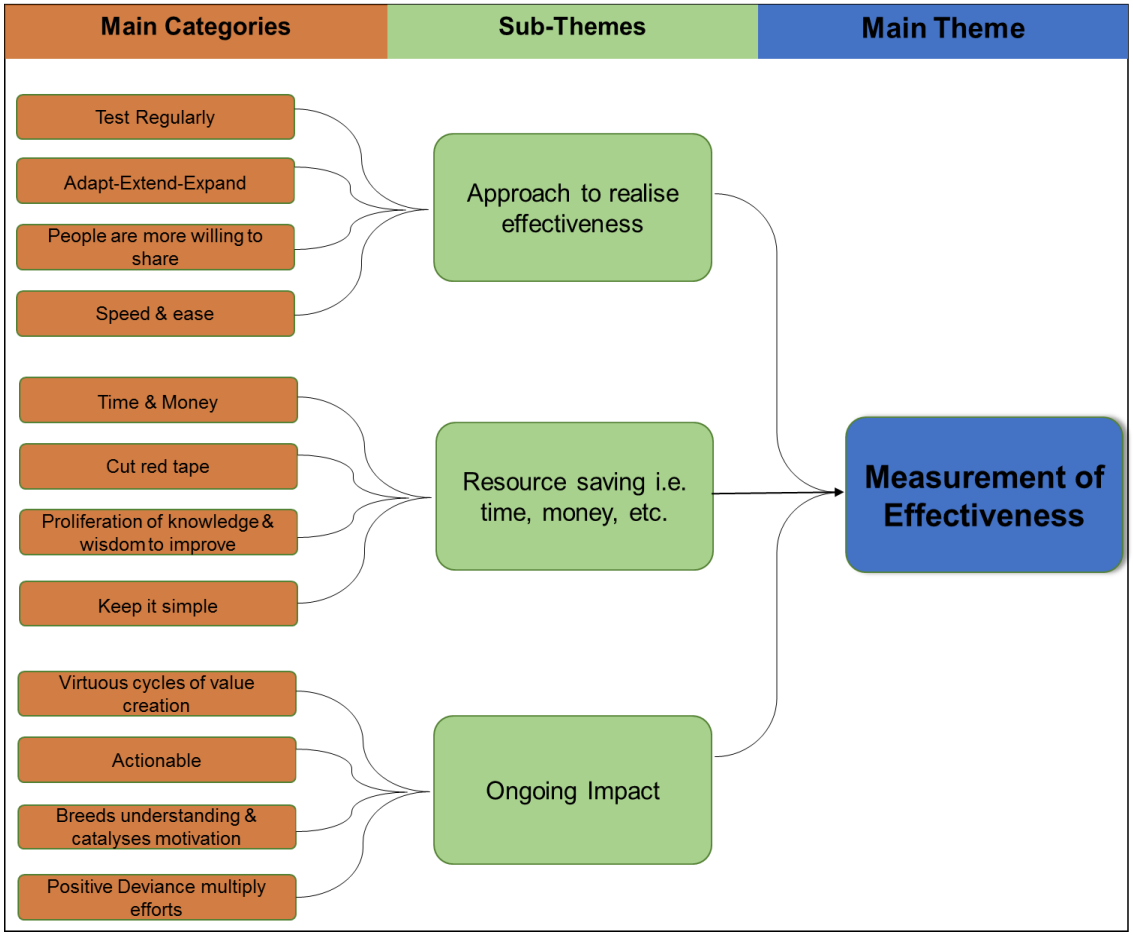


Figure 5-14: Measurement of Effectiveness Main Theme

5.7.6.1 Sub-theme 1: Approach to realise effectiveness

5.7.6.1.1 Main Category 1: Test regularly

Informant 16, 62 and 73 shared on regularly testing and benchmarking their processes and improving them. Audits therefore should not be viewed as extra work but necessary to bring the practices up to standard. Informant 3 on the use of informal techniques to improve customer satisfaction over time:

> *"Obviously if you are a customer facing or an organisation and if you are using informal techniques, you could say you over trundle for a few years as your customer feedback improved" (Informant 3).*

Informant 10 alluded to the fact that change to any practice is directly related to the loci of control in relation to himself. So actual facilitation of change gets harder with professional distance.

5.7.6.1.2 Main Category 2: Adapt-Extend-Expand

Adaptions, expansions & extensions came as a result of collaboration or otherwise. The informants discussed changes to policies, procedures, due to the introduction of new information from case law, new ideas, feedback, resources from the net, other's presentation, and so forth. Informant 62 gave an example:

> *"…there was a really good matrix from Deloitte that they use on (type of organisation). We were able to customise take a look at the skills matrix and adapt for our own use…" (Informant 62).*

She also spoke about a lawyer's newsletter which influenced a change of their procedures:

> *"…And so one of the things that we became aware of through case law was around some of the procedures that have resulted in not a good outcome for organisations that haven't done things properly. That influenced some of the policies and procedures in our organisation" (Informant 62).*

Informants 60 shared about how others copied each other's practice, thereby creating potential for synergy. Informant 31 reiterated the potential for collaboration, especially with similar types of organisation:

"There are times when another school comes up with a project which I find that we could collaborate with that is very useful too" (Informant 60).

5.7.6.1.3 Main Category 3: People more willing to share

Benchmarking partnerships, formal or otherwise, was based on trust and mutual benefit. The building of such relationships was a time-consuming effort which more often than not, required an informal approach at initiation, according to informant 60*:*

"So in terms of measurement, if you can build a really good strong relationship with who you want to benchmark with, that's the best indicator that you have had of success, in terms of those indicators to theirs, they are those things that you have to do" (Informant 60).

This view was shared by informant 10 and 75 on how the informal assisted in defining formal relationships. Informant 75 shared:

"If I spend time with a certain person, two-hour basically talking shop and having a beer and laughing about it. I expect that to somehow to move into something formal very soon" *(Informant 75).*

Internally, one informant discussed the power of maintaining informal networks to catalyse job completion:

"…a lot of things they will just say I need to go through my boss and that will take 3 weeks. But if i want to get something done I need to sit down with you over coffee and it is done" (Informant 20).

The importance of maintaining reciprocity amongst colleagues and external stakeholders was concurred by informants 10, 18 and 63:

"They do it because it is you who ask them to do it" (Informant 18).

"…it is based on the trust built up on the other side. When there is that trust there are more receptive to us. Similar when they ask us for help we must reciprocate*" (Informant 63).*

Possession of knowledge which others have no access to was an advantage to creating better solutions. Informants 18 and 20 shared on creating a very casual environment to help others feel at ease:

> *"…the taking care of their appetites help them to share better!*" (Informant 18).

A lot of the information in such a setting that support informal benchmarking were incidental:

> *"So its spontaneous, its incidental, generally people are not so guarded, they may tell you hidden agenda, stuff they would normally not say in front of someone not ready for that kind of information" (Informant 20).*

5.7.6.1.4 Main Category 4: Speed and ease

Informant 18 spoke of the usefulness of a level-playing field or flattened organisation structure in lubricating work relations both in the present and for the future. The conversation I had with the respondent was about how informal benchmarking could be supported. Hence it is fair to assume the projects he was referring to pertains to benchmarking projects:

> *"It doesn't really affect their own work directly. But it does help them work better with each other. In the future, definitely they would need to work each other in many other projects. It's quite a flat organisation, you can be the top guy or the bottom guy. Everybody is nice to each other" (Informant 18).*

In response to the overall approach of using the informal benchmarking tools, informant 62 queried if she should be more intentional or strategic as she found the tactical level usage very effective:

> "*Absolutely! Absolutely effective. I am very aware that we have got a centre performing particularly well in an area. One of the things we do is we say is what are you doing and publish these on the Friday updates. For example we introduced a new tool for measuring the progress… So other (units) started doing things in response to that. What it did it drove the (target) completion rate across the org" (Informant 62).*

Informant 73 shared a similar view of being more deliberate in the use of tools supporting informal benchmarking. She rated the current experience of such tool usage for the specific purpose of learning work practices as moderately effective (rating 3/5):

> *"I think we could probably do much better and probably learn from others how they institute informal learning into their training programme or as part of their knowledge acquisition" (Informant 73).*

Notwithstanding the rather modest rating, her organisation had instituted several informal learning or benchmarking activities and programs such as the "learn and share always" sessions, reading circles and numerous other informal benchmarking (she called process improvement) activities that pro-actively promote new, better and best practice with others in the industry locally and globally.

5.7.6.2 Sub-theme 2: Resource Saving

5.7.6.2.1 Main Category 1: Time & Money

Both informant 18 and 20 captured the time-saving facet of trust and possessing good relations with counterparts. Informant 18 mentioned:

> *"Given a choice, how fast they respond to you depends. They can delay. If they think you are someone worth working with in the future. There is trust between the parties involved, you can get the job done quite fast" (Informant 18)*.

Albeit working in a very small unit in a big outfit, Informant 20 spoke on his work scope being large and all-encompassing, requiring the discovery and publication of better practices all the time. He was thus heavily dependent on other units and external networks to get the job done. The informal network was so important to him he called them his *"secondary workforce":*

> *"So in order to get things done I need to maintain very good informal relationships so when I need something done I can get someone to do it. So if I need a specimen of something i can just make a phone call. If I don't have the relationship i have to go through the formal process… Because I don't have that i need to tap my network. So they are my informal secondary work force" (Informant 20).*

When asked how much time is saved, he estimates it to be about 3 times faster*:*

"Yes can be one week vs 3 weeks. Something like that" (Informant 20).

Informant 27 shared how the organisation's informal tea-bonding sessions which started 2 years back, was positively co-related with performance improvement across the board:

"Last year our staff survey showed our team bonding went up. We say team bonding, management engagement, dissemination of information and all these ... actually the performance went up. …we do see improvement" (Informant 27).

One informant co-related how a more informal environment provided increased levels of open communication and increased numbers of process improvement suggestions, and thereby enhanced the sense of well-being in the organisation, and decreasing the need for a secondary voice in the form of unions:

"If people are happy within the organisation, the processes is right, and the communication is right. Then union membership is lower" (Informant 16).

If the processes and feedback directly contribute to key performance indicators, then these were likely to be implemented.

5.7.6.2.2 Main Category 2: Cut red tape

Informant 63 discussed accessibility into networks and organisation via informal channels for the purpose of studying the practices of others in his industry:

"…And even access. If you write to go through the bureaucracy chances are that you would be turned down. You will somehow not be able to meet the right people or go expeditiously to the place. It is through such contacts that we go thru the door to quickly access the right people and perhaps get there quicker than others" (Informant 63).

One of the primary strategies of his organisation to improve processes was via both formal and informal benchmarking. Hence his organisation's ability to remove external obstacles and receive accurate inputs from partners or competitors was crucial to not lag the industry.

According to Informant 27, good results could still be achieved through proven "short-cuts" without the risks involved. Such knowledge, possessed by seasoned individuals or experts assist the organisation to save time and money:

> *"So we will get the new system administrators to attend the course. So as a systems administrator you have do A to Z. But if they really follow the procedure it's gonna be a lot of work. But if informally you meet up with an experienced systems administrator certain things no need to be so serious and you can still pass audit" (Informant 27).*

5.7.6.2.3 Main Category 3: Proliferation of knowledge & wisdom to improve

Feedback served the purpose of pointing out areas for improvement and confirming the action she had taken in response to those improvements were working, according to informant 5*:*

> *"I think it is that combination of using ratings and comments to give you feedback… I wanted to work with that information and improve what we were doing there. But I wanted to raise the bar, improve it further , do things in a different fashion, entertaining, fun and educational and there was a little more rigour to what we were doing …and I saw the ratings increase, and the open-ended comments were reinforcing. The changes we were making were working. That served as a confirmation for me. Sometimes we know when they get the external recognition from others. Or we track with them the improvements they have made, time and money. The difference it has made to their organisation. That is proof that we are doing is working as well" (Informant 5).*

She shared that she had taken seriously the feedback from customers who gave very constructive comments, and constantly worked at improving her products and services. Informant 18 shared how public sentiment was a good-sounding board for the policies implemented to impact the community. Though prior public views were taken into account, reaction from the community post-implementation showed what could have been done better:

> *"Depending on the scale and the amount of concern it is causing, we can actually sense it, we will get a lot of emails, phone calls or issues that are close to the heart of the community" (Informant 18).*

This was a good example of how informal benchmarking could possibly be a prelude to more formal benchmarking projects incorporating a full project structure and implementation team. Informant 77 shared how a phone call and quick discussion was all that was necessary to improve a procedure that could be implemented the next day. The issue was the clarity of information to a particular group of customers: *"So it was an informal way of dealing with a formal issue."*

Informant 62 mentioned how informal gatherings over an entire day for similar units in her organisation was very beneficial in getting the high performing teams to disclose their best practices. Organisational key performance indicators were the initial benchmarks to identify the units/teams' performance:

> *"So defiantly learning from each other, that talking together, that people were doing, does definitely make a difference. It wasn't about going out and getting someone to come in to do a research project, it was very much just about people learning from other and publish on our relatively informal Fri update newsletter what was going on in some of the (units) which were doing particularly well. So we don't do is shame those that aren't doing well" (Informant 62).*

How the learning units' adjusted their processes were left entirely up to them. Though they were not tracked or monitored formally, the indicators did improve across the board, demonstrating the effectiveness of the informal benchmarking process.

5.7.6.2.4 Main Category 4: Keep it simple

The notion of sharing what one have learnt in short one to two hour sessions to one's own community of practice or unit is very useful and appreciated in the current time-scarce work environment. Informants 27 and 73 had instituted several informally-based activities/events incorporating expert sharing or course attendees abridged version of workshops. Informant 27 on experts/mentors sharing sessions:

> *"They only share what we need to know. So we don't need to attend the 5 day course or 3 day course. We only need to know what is required. So I thought that saves a lot of time because not everybody can afford to go for a 3 or 5 day course" (Informant 27).*

One informant thought of conversations as an alternative to elaborate emails when discussing the details of a work practice improvement:

> *"Yes. It saves you time from analysing the situation and wondering how to word your emails so that you don't offend anyone because EQ is definitely something that you cannot separate from work." Face-to-face conversations are particularly useful in sizing up the other party's motivation and intentions given the verbal and non-verbal cues in such a communication" (Informant 31).*

Informant 20 highlighted how the initial impressions, *"gut-feel"* of particular individuals were best gauged during such informal sessions. Informant 10 shared the same sentiment:

> *"The informal unspoken words. How when we agree when ours eyes meet, these actually help us select our resellers. In the finer points of human relationships. In many times, these help determines who becomes the resellers" (Informant 10).*

The integrity of partners/customers is proven by what they deliver but the value of an initial face-to face assessment is inexpensive, quick and very effective, according to the majority of organisations interviewed.

5.7.6.3 Sub-theme 3: Ongoing Impact

5.7.6.3.1 Main Category 1: Virtuous cycles of value creation

When individuals learn, it does not mean that the organisation has learnt as well, and vice versa. The issue at hand is whether or not the individual chooses to transfer his learning to others. Likewise, its whether or not individuals have the propensity to absorb the knowledge of new processes the organisation have implemented (Lähteenmäki, Toivonen, & Mattila, 2001, p. 116). Informant 5 captured this notion in a somewhat rhetorical manner:

> *"I think the ratings and the feedback we get is one part of the story. The other part is what difference has it made to our clients? What impact has it had in their organisation? Are they working more efficiently, more effectively, is there an improvement in their level of service or product quality, are they getting the desired results? Are they even getting some unexpected results? Things we hear them say, like we are communicating better, we getting rid of duplication, these activities are hitting the bottom line financially? It's very tangible at the end of the day. We receive*

the proof in the data really. Or then it's the open-ended is the communication better. Is the satisfaction going up things like that?" (Informant 5).

5.7.6.3.2 Main Category 2: Actionable

The final part of measuring effectiveness revolves around implementation - acting of feedback, closing gaps or building a culture of always following up on fresh knowledge. Informant 5 on receiving feedback and continually improving:

> *"…we have a feedback form, open ended, ratings , that we take back and track and we learn some, and it continues to give us ideas on how we can do things better" (Informant 5).*

Informant 16 made a point about the germination of ideas and creating value without giving up:

> *"…you see something that you know needs to be improve. And because it has such a huge impact, can make changes that can have quite an impact potential on the people or the culture in the org. so you're bouncing ideas around other people to see what else they are using. You are customising. There is no one model. So for your culture you're creating something that will meet the org needs" (Informant 16).*

5.7.6.3.2 Main Category 2: Informal breeds understanding and catalyses motivation

The informal environment, as oppose to the formal environment provided opportunity to clarify, ask silly questions without being judged, and to gain understanding for the rationale behind management decisions and goals. Knowledge workers function more efficiently and effectively when convinced such goals were worth their time pursuing. Informant 31 gave a rendition of what took place in his organisation with regards to decision-making, and how informal benchmarking illuminated the considerations behind those decisions:

> *"I believe that they (informal benchmarking tools) will continue to proliferate because it is not just something, it is not just a good to have it is actually a need to have, with the pace of the org, a lot of orgs, not just mine, with how fast things are going, how abstract instructions are being passed down the only way people on the ground are coping is when they start organizing themselves onto these informal platforms to find better ways of working. A lot of times we find ourselves getting tasks and then we can't make head or tail of it. So instead of just looking at the powers above… why is*

it like that? And poking people, I think it's productive when we try to seek our own problem solving groups. …I know as a matter of fact we always go into conversations: what do we know, what do we not know…. We try to see things as problems statements and we ask ourselves those questions. And I always hear over the partitions so and so have asked this so how we do we move and I always see people gravitate towards each other in their cubicles and say now, what we do. It's just part and parcel of the work environment. It's not even a case where it's a movement that is going to happen more and more, its (informal benchmarking) already happening" (Informant 31).

5.7.6.3.3 Main Category 3: Positive Deviance multiply efforts

Informant 18 spoke of his ability to tap on networks and relationships to leverage and not only get work done quickly, but to also innovate processes to make work easier:

"Given a choice, how fast they respond to you depends. They can delay. If they think you are someone worth working with in the future. There is trust between the parties involved, you can get the job done quite fast. So i personally have such relationships." (Informant 18).

Hence, over a period of time, such workers have the capacity to outdo their peers to implement newer and better practices many times over, and to repeat their performance year after year.

5.8 Description of Most Effective Tools

Out of the 67 tools/activities of informal benchmarking, table 5-10 provide the descriptions of the top 10 (out of 44) most effective tools in the social dimension, and table 5-11 shows the top 5 (out of 23) most effective tools in the non-social dimension. In this case, the qualitative data served to explain the quantitative set as part of the quan-qual explanatory sequential mixed research design (Ivankova et al., 2006).

5.8.1 Exemplars of Top 10 Most Effective Tools in the Social Dimension

Tool/Activity		Exemplar - How the tool/activity was used
1	Organised site visits to other units/departments to learn from their work practices	• Intra site visits that were compulsory and one gets to know other units' practice. In these instance the units were service centres in different regions. Hence there were all types of benchmarking done here (Informant 62) • Similar function visit led to new practice discovered. These were visits specifically targeted to learn how to perform a certain function at the department level (Informant 73)
2	Met face-to-face with an external supplier and learnt of their work practices	• Learnt from the industry practice of an experienced suppler. In this case the supplier had vast experience in data communications and shared how he performed service and integrated solutions for customers. This gave the learner new approaches to serve his own customers (Informant 10) • Involved technology transfer when supplier teaches how to use an integrated solution for which the practice could be shared with other colleagues (Informant 10)
3	Attachment to other units/departments to learn from their work practices	• Learnt deeply about the processes, functions and strategies through dialogues and attending meetings (Informant 18) • Most effective was the shadowing of an expert or experience person performing his job and gleaning from the tacit know-how (Informant 18)

4	Taking part in external best-practice sharing event/activity and learning from the best practices of other organisations	• Contributed and benefited from mutual sharing of best practices in one day "training seminars" conducted 3 times a year amongst similar service centres (Informant 62) • Experimented with new practice learnt to see if it worked. Some did and became full-fledged benchmarking contracts. Some didn't work and were dropped. One was very successful and helped the learner in her writing of a book (Informant 75 & 77) • Formation of best practice groups because of common areas while learning from the best in class (Informant 5) • Others wanted to ride on your best practice so that sparked an enlargement and promotion of your organisation, and those benchmarkers opening you to sharpen your current practice (Informant 3 & 5) • Sharing is triggered by incidents, stories about successes and failures between CEOs (Informant 60)
5	Met face-to-face with an internal customer and learnt of their work practices	• Discovered a superior method of presenting an argument when discussion a project with another department (Informant 20) • requested for a template and examples in projects from another unit (Informant 31) • Improved an approach to a process/problem while doing a live presentation and obtaining live feedback (Informant 3)
6	Met face-to-face with an internal supplier and learnt of their work practices	• Technology transfer while speaking with the chief technology officer to improve practices & solution presentation when dealing with customers (Informant 10) • Discussion with multiple parties to iron out internal process of approval from bureaucratic finance department so innovation does not get stumbled and profits go up (Informant 10)
7	Participated in business excellence	• Learnt many different techniques and approaches while assessing others (Informant 77)

	assessments or audits and incidentally learnt from the work practices of other	• Learnt the rationale for policy and procedure (Informant 77) • The assessor asked questions and in the process of answering one improves the work practice, in addition to being pointed out by the assessor practices and procedures that needed to be changed (Informant 27 • The audits kept one on his toes to ensure "the house is tidy" and industry standards are met at all times (Informant 75) • The yearly assessments and audits results shared across various organisations enable one to learn how others do things better than you (Informant 20) • Audits and assessments drive one to want to benchmark with other similar agencies (Informant 60 & 63)
8	Consulted with a mentor/expert inside your organisation to learn from the work practices of other units/departments	• Expert shared on a new software and how to exploit it to technologise and streamline a certain process (Informant 27) • Internal mentors/experts were listed for employees to consult when they encounter an issue (Informant 27) • Use of an internal consultant to improve processes and functions on a consistent basis. These were quality teams, innovation team project leaders, or lean & black belts (Informant 16, 60 & 73)
9	Regular face-to-face discussions with colleagues of other units/departments to learn from their work practices	• Helped to understand "impact on other depts." when certain practices were enforced so that steps to mitigate harm could be taken (Informant 16) • Helped to understand other depts. business processes to improve one's processes (Informant 16) • Casual conversations with other colleagues were much more effective face-to-face to understand their circumstance in order to customise a quality improvement program that suit them (Informant 60)

		• Spoke with colleagues about issues and roadblocks to implementing a certain procedure or practice in engaging outside customers (Informant 31)
10	Regular face-to-face discussions with associates of other organisations to learn from their work practices	• Always making it a practice to ask associates for best practices and success stories and failures in order to learn from them (Informant 3 & 5) • Informal powerful sharing amongst marketers at a conference or event when technology transfer and tacit knowledge flow abounds (Informant 5, 10, 16, 60, 73 & 77) • Getting feedback on a product presentation (Informant 3)

Table 5-10: Exemplars of Top 10 Most Effective Tools in the Social Dimension

5.8.2 Exemplars of Top 5 Most Effective Tools in the Non-social Dimension

Tool/Activity		Exemplar - How the tool/activity was used
1	Participated in a benchmarking comparison survey to deliberately learn from the work practices of other organisations	• A benchmarking survey conducted once every several years by an association for like industry-type organisations for best practices. Results were shared to all the participants Informant 73) • Organisational health survey conducted and shared within the government sector for sharing of best practices (Informant 18) • A survey of organisations for which you wish to benchmark against to test the viability of using them as partners (Informant 20)
2	Observed a critical incident of other organisations that enabled you to learn from their work practices	• A disaster or accident on media which sparked thinking of how to avoid or mitigate in case something similar happened. Also a possibility for site visits to understand better and learn what were the improved practices (Informant 63) • Received a report of a negative incident that had bearing or consequence if your own procedure was not changed to accommodate such an incident in your workplace (Informant 20) • A very positive observation of the conduct of a very informal focus group session. It was copied and customised to her organisation and has been running successfully for many years (Informant 60)
3	Observed a critical incident of other units/departments that enabled you to learn from their work practices	• Manager who observed a critical accident which caused the potential destruction of institutional information and took steps to improve standard operating procedure to rectify and ensure there were no repercussions if it recurred (Informant 27) • A small but important process that did not take into consideration certain vital needs of customers. Policy was changed to accommodate the needs overnight informally (Informant 77)
4	Read internal books/magazines which incidentally helped you	• Magazine discussed the mind sets of employees and how people will react under stress and many other insights… “an overall developmental thing to

	to learn from the work practices of other units/departments	help you tweak policies and programs" (Informant 20) • By reading other magazines, developed own practice of putting up good newsletters and articles as a communications executive (Informant 31) • Picked up a software idea which could be used for the organisation without re-inventing the wheel (Informant 62) • Books & magazines served to confirm methodologies used in own department were sound and reliable by comparing with well-researched methodologies (Informant 20)
5	Deliberately researched a topic on the internet to learn from the work practices of other organisations	• Research the net and found a useful HR matrix which could be used for HR practices in organisation (Informant 62) • First stop for any information or ideas to be developed (Informant 16, 27, 63, 75) • Constant search for practices for which to share with counterparts in organisation (Informant 27) • Use the net to search for video exemplars to share with colleagues to demonstrate better practices (Informant 77)

Table 5-11: Exemplars of Top 10 Most Effective Tools in the Non-Social Dimension

5.9 Chapter Summary

This chapter showed how the entire interview was planned and executed. Raw data was brought through the analysis process via both a meaning condensation and meaning coding approach for a reflexive and systematic interpretation of the interview data. The 5 sets of inquiries in this qualitative stage of semi-structured interviews were conceptually driven to elucidate 6 main themes which were closely aligned with the intent of the interview inquiry. Finally, the most effective tools from the quantitative survey results were explicated from the interview informants' experience. The next chapter will outline the development of the informal benchmarking roadmap.

Part 4 - DEVELOPMENT OF QUANTUM ROADMAP

PART 1 THE RESEARCH PROBLEM

- **Chapter 1** INTRODUCTION
- **Chapter 2** LITERATURE REVIEW

PART 2 RESEARCH DESIGN & METHOD

- **Chapter 3** MIXED METHODS RESEARCH DESIGN, DATA SAMPLING, VALIDATION AND ETHICAL CONSIDERATIONS

PART 3 DATA COLLECTION & ANALYSIS

- **Chapter 4** ANALYSIS OF QUANTITATIVE SURVEY QUESTIONNAIRE
- **Chapter 5** ANALYSIS OF QUALITATIVE INTERVIEWS

PART 4/ CHAPTER 6 DEVELOPMENT OF INFORMAL BENCHMARKING QUANTUM ROADMAP

- CONCEPTUAL MODEL OF INFORMAL BENCHMARKING
- TOOLSET APPLICATION MODEL
- MATURITY ASSESSMENT FRAMEWORK
- INFORMAL BENCHMARKING ECO-SYSTEM STRATEGY

PART 5 DISCUSSION & CONCLUSION

- **Chapter 7** RESEARCH REVIEW BY OBJECTIVES & IN THE CONTEXT OF ORGANISATION IMPROVEMENT
- **Chapter 8** IMPLICATIONS, LIMITATIONS & FUTURE RESEARCH

Chapter 6 Development of Informal Benchmarking QUANTUM Roadmap

6.1 Chapter overview

This chapter describes the development of a conceptual model, an application model (how to apply the toolset effectively), an assessment framework and a strategy for building the informal benchmarking eco-system. The integration of these 4 elements represents the Informal Benchmarking QUANTUM Roadmap, that is, an implementation plan using informal benchmarking as a sustainable organisational improvement initiative. In Appendix H, the Informal Benchmarking QUANTUM Roadmap is presented as a practical application for organisational improvement practitioners to use.

6.2 Conceptual Model of Informal Benchmarking

After the survey and interview analysis, the final conceptual model of informal benchmarking was re-designed to comprise 4 major components:

i. Concept of informal benchmarking
ii. Taxonomy of informal benchmarking
iii. Informal benchmarking toolset (tools & activities) descriptive model
iv. List of tools and activities of informal benchmarking

The first component is a concept of informal benchmarking consisting of its definition, purpose and characteristics. The second component is a taxonomic classification of how informal benchmarking functions in the organisational context. The third component is a descriptive model showing the relationships between the social and non-social dimensions, internal and external environments, and deliberate & incidental orientation of the tools and activities of informal benchmarking. The fourth component is the list of tools/activities which increased from 50 (preliminary conceptual model) to 67 (final survey design), and to 82, taking into account the interview informants' experience. The conceptual model of informal benchmarking (figure 6-1) evolved through an abductive-deductive-inductive research process. The list of tools and activities (toolset) are defined and organised into 3 descriptive

groupings of dimension, orientation and environment. The taxonomy assists in defining the type and content of benchmarking that each tool/activity support.

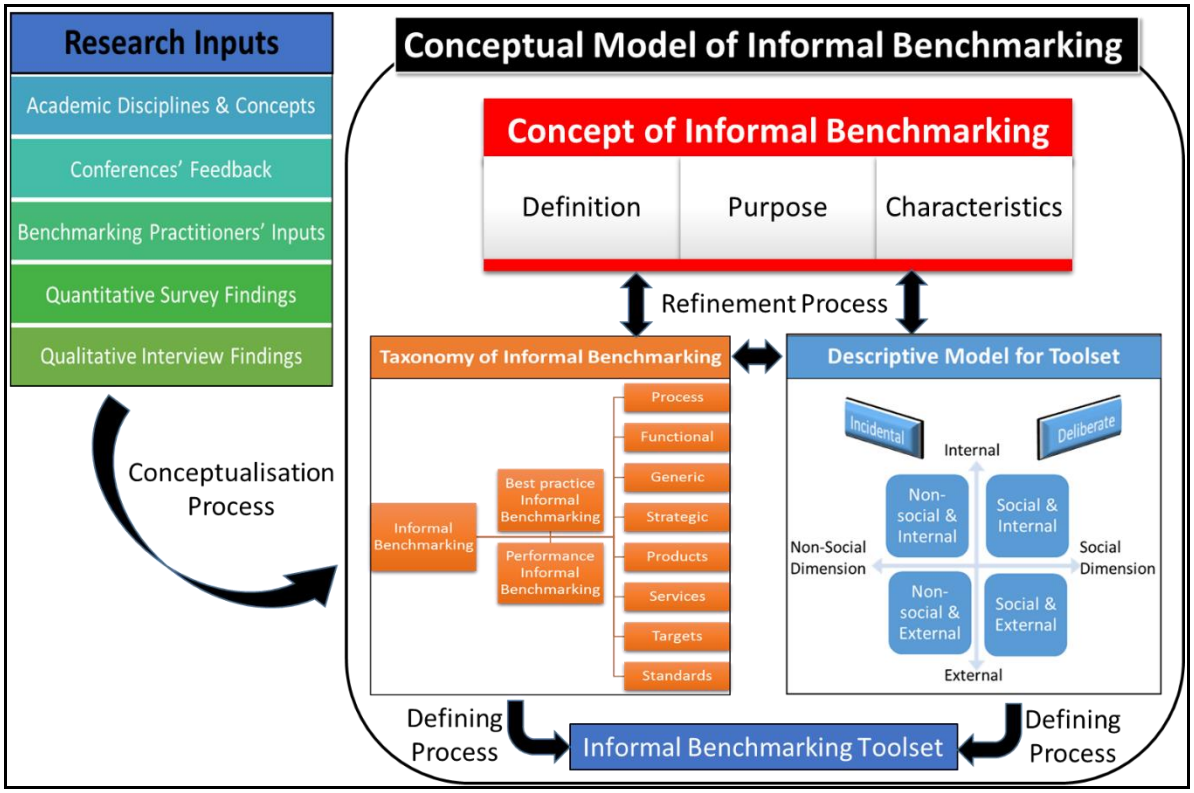


Figure 6-1: Final Conceptual Model of Informal Benchmarking

6.2.1 Concept of Informal Benchmarking

The concept of informal benchmarking comprises its definitions, purposes and characteristics (figure 6-2):

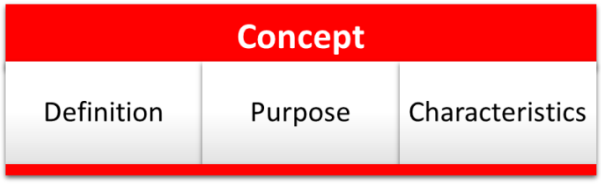


Figure 6-2: Concept of Informal Benchmarking

6.2.1.1 Definition

There are 2 definitions of informal benchmarking provided. The first is a short statement of the meaning of informal benchmarking. The second definition is a series of three statements describing what it does, how it does it, and what it hopes to achieve as a result of its implementation (table 6-1):

Definition of Informal Benchmarking
Short Version Informally learning from others to improve work practices in your own organisation. **Long Version** • The learning of better, smarter or new practices from other sources, including the experience and work practices of others, for the purpose of improving work practices in your organisation. • It leans towards intuition, flexibility, spontaneity and speed, rather than structure, methodology, or a formal project-oriented approach. • It endeavours to bring about improved practices upon the implementation of its learning, and may be a prelude or an aid to formal benchmarking.

Table 6-1: Definition of Informal Benchmarking

6.2.1.2 Purposes

There are 5 purported purposes of informal benchmarking arising from the interview analysis as shown in table 6-2:

Purposes of Informal Benchmarking		
1	Acquisition of New Knowledge pertaining to work processes and functions	In the process of informally benchmarking with others, there is knowledge growth, the deepening of knowledge, and the discovery of new knowledge pertaining to actual work processes and functions. The knowledge gained could also serve to complement formal benchmarking projects.
2	Creative Problem Solving of practices requiring improvement	Organisations use both formal and informal methods of discovering or improving work practices. The more informal, the more creative the solutions appear to be. In the course of conversations, fresh issues are surfaced that could lead to a new perspective or a new work practice. Sometimes informal benchmarking tools and activities precede a formal meeting to iron out issues in preparation for a formal project roll-out. Following, extensive brainstorming occur informally throughout the stages of the project to stimulate innovation in practices improvement agenda of the project.

3	Sharing of Business Practices	The usefulness and value of business practice sharing stem from a macro perspective of having access to relevant practices beyond one's organisation. Informal benchmarking meta-tools and techniques provide ease of such accessibility for organisations to compare or adapt accordingly. The sharing suggests informal benchmarking may be used as a stand-alone, a prelude to formal benchmarking, a process in the midst of formal benchmarking, or a post-intervention to a formal benchmarking project (Appendix G lists of 39 work/business practice sharing meta-tools and techniques).
4	Generation of Ideas to improve work practices	The generation of ideas pertain to new, inventive thinking that could possibly lead to a paradigm shift in work practice innovation. Such ideas can come from, a culture of work improvement, voluntary teams working on big ideas, or random collective efforts. Other innovative ideas surface while performing audits on others, reviewing good and bad incidences, listening to expert technologists sharing at a round table and asking questions. In the pursuit of learning new ways of improving business processes, functions, strategy, products or standards, organisations should always endeavour to make room for fresh perspectives to re-engineer a far more cost-effective way of improving work practices.
5	Evolution of Ideas & issues surrounding work practice improvements	Issues gain clarity as they evolve through contact with colleagues and associates. There is a progression, albeit ad-hoc, from the informal to the formal as exchanges occur within or between organisations over the notion of a work practice improvement. At some point, Informal benchmarking tools and activities appear to complement more formalised structured projects to develop the thinking behind, lubricate and navigate through the sea of thought processes associated with process improvement via the project.

Table 6-2: Purposes of Informal Benchmarking

6.2.1.3 Characteristics

The characteristics represent the collective attributes and features of informal benchmarking tools and activities from the social dimension, as interpreted from the interview analysis. No inference was made as to whether or not the non-social dimension tools and activities carry similar attributes and features, since there were no available data to do so. The breakdown of the 5 characteristics are shown in table 6-3:

Characteristics of Informal Benchmarking					
	Speed & Ease of Use	**Affinity & Trust**	**Augmented Perception**	**No Pressure to Perform**	**Variety of Communication Channels**
Attributes & Features	Quick access to info	More willing to share	Body language can be read	Anonymous	Short bursts of communication
	Anyone can use it	Solidarity & feeling of unanimity	Facial expression can be read	No contract	Various E-means or otherwise
	Fast gauge if everyone going the same direction	Intimate & less guarded	Gauge by words, tone of voice and expressions	Not on record	Get multiple perspectives from many informal exchanges
	Chat spreads to others quickly	Relaxed & friendly	Get more commitment (initial opener)	No formal agenda	Symbiotic creativity
	Spontaneous or incidental	Hidden Agenda revealed	Greater buy-in	Perception of less risk	Ideas flow openly
	Learn a lot more quickly	Surprising sharing	Scaffolding is removed	Can inquire freely	Spoken communicates more than written
	Get immediate responses	Starts with small talk	Greater clarify & less uncertainty	Honest and non-political	-

Table 6-3: Characteristics of Informal Benchmarking

These characteristics are embodied in the definition of informal benchmarking to distinguish the nature in which benchmarking is carried out, as compared to formal benchmarking, which is highly structured and methodical.

6.2.2 Taxonomy of Informal Benchmarking

A preferred taxonomy of informal benchmarking (table 6-4) is prepared after literature review and data analysis. It is adapted (discussion in section 2.4.2) from the classification scheme by Fong (Fong et al., 1998). The taxonomy classification:

Taxonomy of Informal Benchmarking				
Type	**Content**	**Focus**	**Boundary***	**Outcome**
Best Practice	Process	Improve a process/procedure	Internal	Adapted better or new practice (learn ***and*** implement)
	Functional	Improve specific function	Related Industry	
	Generic	Improve core process	Unrelated industry	
	Strategic	Improve long-term approach	Consortium/global	
	Products	Improve product	Compare/learn within any boundary	
	Services	Improve service		
	Targets	Improve internal target		
	Standards	Improve industry standard		
Performance	Process	Compare a process/procedure	Internal	Identified improvement opportunity (***not*** implemented)
	Functional	Compare specific function	Related Industry	
	Generic	Compare core process	Unrelated industry	
	Strategic	Compare long-term approach	Consortium/global	
	Products	Compare products	Compare/learn within any boundary	
	Services	Compare service levels		
	Targets	Compare internal targets		
	Standards	Compare industry standards		
*Boundary – usually but not always				

Table 6-4: Taxonomy of Informal Benchmarking

Adapted from (Adebanjo et al., 2010; Fong et al., 1998)

Description of the taxonomy is provided here:

i) Type – the distinction between benchmarking that compares only (performance), and benchmarking that compares and implements (best practice) (Adebanjo et al., 2010).

ii) Content– refers to 8 specific content of benchmarking. Sometimes content are referred to as “Types” of benchmarking (table 6-5):

a. “Process” refers to a discrete work process or procedure within a function of a unit or department. For example, sales order processing, patient processing, billing process, or recruitment process.
b. “Functional” or “Function” refers to a particular business function or operation within a unit or department. It usually contains several processes. For example, an administration function or human resources function.
c. “Generic” refers to a core process of an organisation, which are sometimes compared with others outside the same industry.
d. “Strategic” refers to top management strategy or capabilities. For example, blue-ocean strategy, product development approaches, or development of certain capabilities.
e. “Product” refers to the merchandise or result of innovation and is usually tangible
f. “Services” refer to intangible products as a result of innovation. For example, customer service.
g. “Targets” refer to performance targets or key performance indicators.
h. “Standards” refer to industry standards. For example, ISO 9000.

Table 6-5: Description of Contents of Benchmarking

Adapted and modified from (Anand & Rambabu, 2008)

iii) Focus - best practice or performance benchmarking

iv) Boundary – the limit of the environment; internal or within the organisation, related industry, unrelated industry or global environment.

v) Outcome – actual improvement after comparison, or comparison without action so that the difference or gap between the compared entities is known.

6.2.3 Informal Benchmarking Toolset Descriptive Model

The toolset descriptive model shows how informal benchmarking tools and activities are grouped:

i) Social & non-social dimension

ii) Deliberate & incidental learning orientation

iii) Internal & external environment

The model also shows how the tools and activities possess varying levels of informality.

6.2.3.1 Social & Non-social Dimension

Informal benchmarking may be separated into two dimensions, the social and non-social dimensions. In the social dimension, there is human interaction but not necessarily face to face. In the non-social dimension, the interaction is predominantly without human interaction but with objects of knowledge. Within each of the dimensions, informal benchmarking may be performed internally or externally, and incidentally or deliberately (Schugurensky, 2000, p. 3).

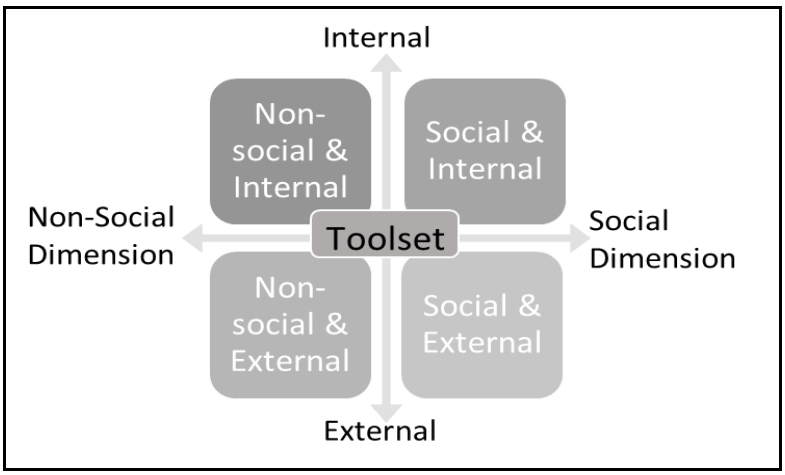


Figure 6-3: Toolset Descriptive Schema

6.2.3.2 Deliberate & Incidental Learning Orientation

The deliberate or self-directed form of informal benchmarking is rather straightforward whereas the incidental unintended gleaning of better practices may not be. The incidental learning is a result of a pre-meeting of minds before a formal high-level meeting, casual functions, drinks or meals with counterparts, an observation of a disaster in a similar industry and other serendipitous contact with knowledge assets, according to informants.

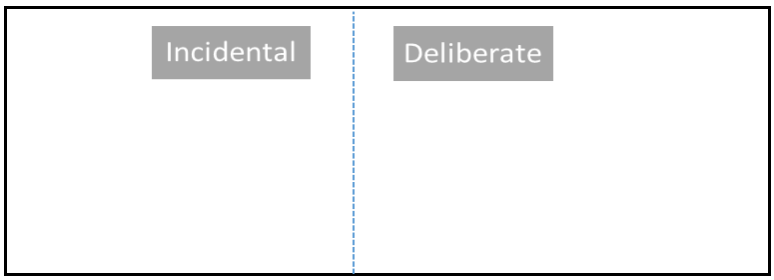


Figure 6-4: Incidental-Deliberate Orientation

The incidental-deliberate dichotomy (figure 6-4) is an important element in distinguishing the formal from the informal. All formal benchmarking efforts are consciously directed but not all informal efforts are. Sometimes consciousness of actually having learnt a better or new work practice comes after the learning has taken place. The recognition of this divide allows for organisations to be more intentional and strategic in creating environments that fosters such forms of informal benchmarking.

6.2.3.3 Internal & External Environment

The spectrum of informality suggests some tools and activities are more informal than others. For example, a collegial coffee chat in an interest group is more informal than an organised site visit. The coffee chat might be more popular than the organised site visit but the organised site visit might be more effective, thus giving rise to considerations of a trade-off in terms of resource intensiveness.

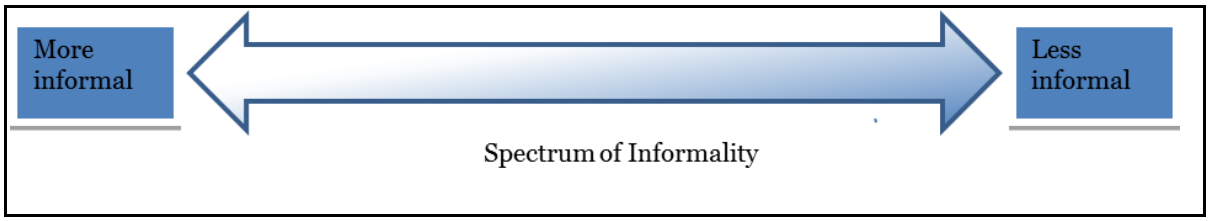


Figure 6-5: Spectrum of Informality

The informal benchmarking toolset descriptive model, comprising all the elements just described, is depicted in figure 6-6:

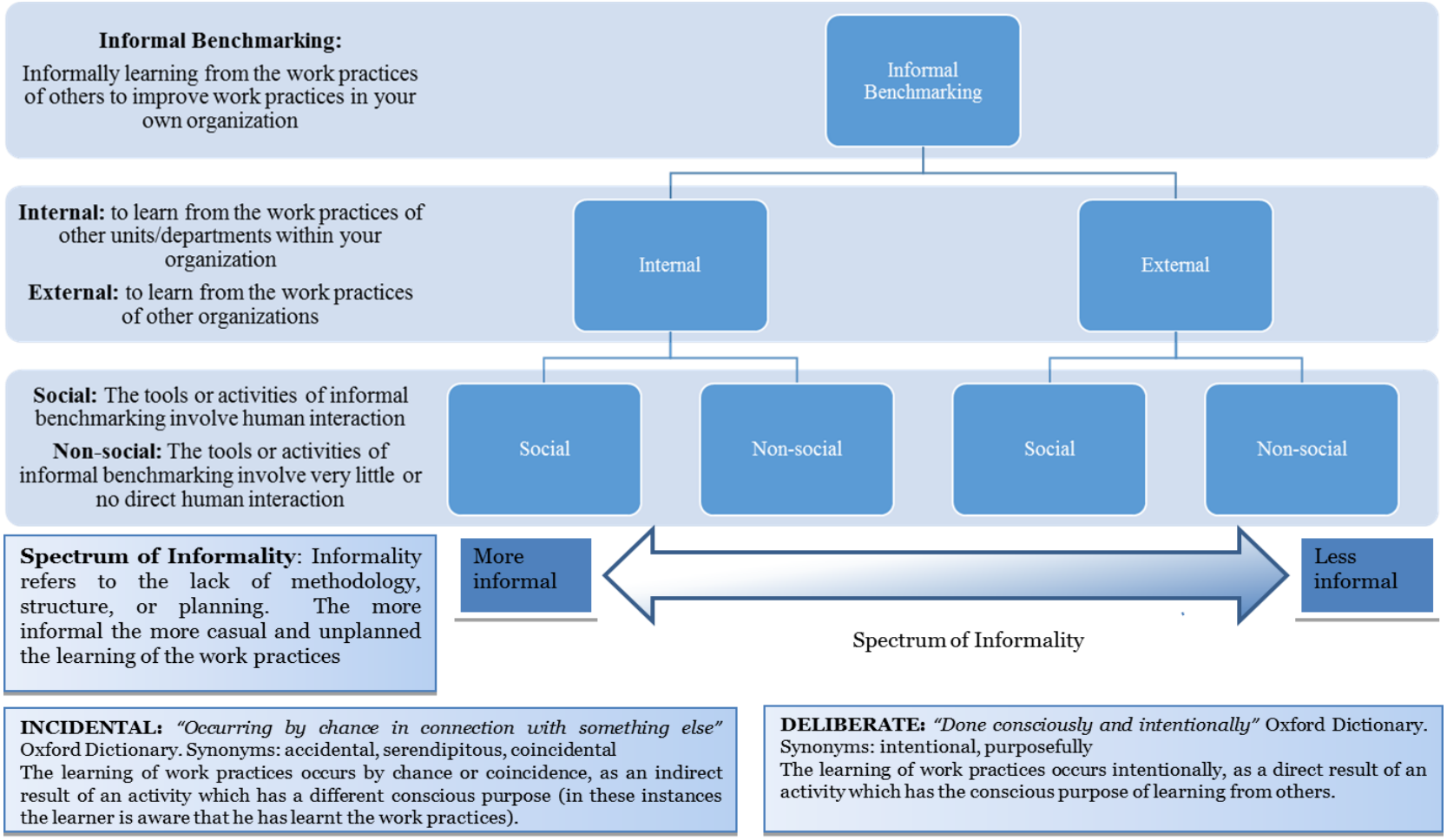


Figure 6-6: Informal Benchmarking Toolset Descriptive Model

6.2.4 List of Informal Benchmarking Tools & Activities (Toolset)

A total of 82 tools and activities of informal benchmarking are presented. The first 67 were heuristically constructed after the pilot survey questionnaire. Another 15 tools and activities were added to the list from the main survey and interview analysis phases. The list of tools and activities (tables 6-6 and 6-7) are categorised according to the toolset descriptive model (figure 6-6).

SOCIAL DIMENSION		
Deliberate Learning of Work Practices from These Tools/Activities		
INTERNAL (own units/departments)		**EXTERNAL (other organisations)**
1	Participated in internal conferences	Participated in external conferences
2	Regular face-to-face discussions with members of a best practice group/network within your organisation e.g. community of practice, innovation team, cross-functional work group, focused group	Regular face-to-face discussions with members of a best practice group/network or association/club outside your organisation e.g. best practice club, industrial association
3	Regular face-to-face discussions with colleagues	Regular face-to-face discussions with associates of other organisations
4	Emailed colleagues from other units/departments	Emailed associates from another organisation
5	Made a phone/Skype call to colleagues from other units/departments	Made a phone/Skype call associates from another organisation
6	Emailed an internal customer	Emailed an external customer
7	Met face-to-face with an internal customer	Met face-to-face with an external customer
8	Emailed an internal supplier	Emailed an external supplier
9	Met face-to-face with an internal supplier	Met face-to-face with an external supplier
10	-	Emailed other stakeholders
11	-	Met face to face with other stakeholders (partners/shareholders)
12	Attachment to other units/departments	Attachment to other organisations
13	Organised site visits to other units/departments	Organised site visits to other organisations
14	Taking part in internal best-practice sharing event/activity	Taking part in external best-practice sharing event/activity i.e. global, national, industry level, private and public service organisations
15	Accessed our organisation's intranet and asked others inside my organisation if they had information concerning the work practices of other units/departments	Accessed other organisation's internet and asked them if they had information concerning the work practices of their organisation
16	Participated in internal formal organisation events or activities e.g. planning retreats, official launches or inaugural openings	Participated in external formal organisation events or activities e.g. official launches or inaugural openings, ceremonies

17	Actively participated in a discussion in an internal electronic forum or social network	Actively participated in a discussion in an external electronic forum or social network
18	Consulted with a mentor/expert inside your organisation e.g. mentorship program, assigned peer-to-peer mentoring	Consulted with a specialist outside your organisation
19	Attended presentations/seminar by other units/departments on a regular basis	Attended presentations/seminar by other organisations on a regular basis to learn from their work practices
20	Participated in business excellence assessments or audits and e.g. annual cross-functional audits of units/departments	Participated in business excellence assessments or audits e.g. excellence certifications, ISO standards, Malcolm Baldrige quality awards or equivalent
21	Combined face-to-face, emails & documents	Combined face-to-face, emails & documents
22	*Accessed online best practice group or networks*	*Accessed online best practice group or networks*
23	*Accessed online meeting platforms or conference calls*	*Accessed online meeting platforms or conference calls*
24	*Attended tea bonding sessions*	-
25	*Used WhatsApp or instant messaging*	*WhatsApp or instant messaging*
26	*Attended lunch time talks or similar*	-
27	*Participated in a cross-functional operations team*	-
Incidental Learning of Work Practices from These Tools/Activities		
1	Ad-hoc face-to-face conversation with colleagues from other units/departments that incidentally helped you to learn from their work practices e.g. coffee corner, lunches, tea-breaks at or post meetings	Ad-hoc face-to-face conversation with associates from other organisations that incidentally helped you to learn from their work practices e.g. coffee, lunches
2	Attended informal functions or social activities of other units/departments and incidentally learnt of their work practices e.g. festivity, celebrations, golf game, walk/run	Attended external informal functions or social activities with customers and incidentally learnt of their work practices e.g. festivity, celebrations, golf game
3	-	Attended informal functions or social activities with suppliers and incidentally learnt of their work practices
4	-	Attended informal functions or social activities with other stakeholders (partners/shareholders) and incidentally learnt of their work practices
5	*Participated in internal electronic forum*	*Participated in external electronic forum*

Table 6-6: Tools & Activities in Social Dimension

NON-SOCIAL DIMENSION		
Deliberate Learning of Work Practices from These Tools/Activities		
INTERNAL (own units/departments)		**EXTERNAL (other organisations)**
1	Read regular newsletters of other units/departments to learn from their work practices	Read regular newsletters of other organisations to learn from their work practices
2	Read internal books/magazines/circulars of other units/departments to learn from their work practices e.g. annual report	Read external books/magazine to deliberately learn from the work practices of other organisations
3	-	Deliberately researched a topic on the internet
4	Accessed SharePoint or similar collaborative/learning applications	Accessed extranet or external websites of other organisations
5	Participated in a benchmarking comparison survey inside your organisation e.g. sales performance, studying good or smart practices	Participated in a benchmarking comparison survey e.g. competitors' performance, studying good or smart practices
6	Reviewed our organisation's database/knowledge bank of best practices	Reviewed a database/knowledge bank of best practices of other organisations
8	*Read an internal blog page (happenings or new business)*	*Read an external blog page (happenings or new business)*
9	*Accessed video exemplars*	-
10	*Participated in staff suggestion scheme or quality Improvement program*	-
Incidental Learning of Work Practices from These Tools/Activities		
1	Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organisations	Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organisations
2	Observed a critical incident of other units/departments that enabled you to learn from their work practices i.e. a situation or condition which made you question your own work practices	Observed a critical incident of other organisations that enabled you to learn from their work practices i.e. a situation or condition which made you question your own work practices
3	Found information on SharePoint or other intranet applications which incidentally helped you to learn from the work practices of other units/departments	Found information on extranet or external websites of other organisations which incidentally helped you to learn from their work practices
4	Read internal books/magazines which incidentally helped you to learn from the work practices of other units/departments	Read external books/magazines which incidentally helped you to learn from the work practices of other organisations
5	Read a random internal newsletter which incidentally helped you to learn from the work practices of other units/departments	Read a random external newsletter which incidentally helped you to learn from the work practices of other organisations

Table 6-7: Tools & Activities in Non-Social Dimension

6.3 Application Model for Informal Benchmarking Toolset

The application model (figure 6-7) for the informal benchmarking toolset represents how the tools/activities can be tactically deployed in organisations.

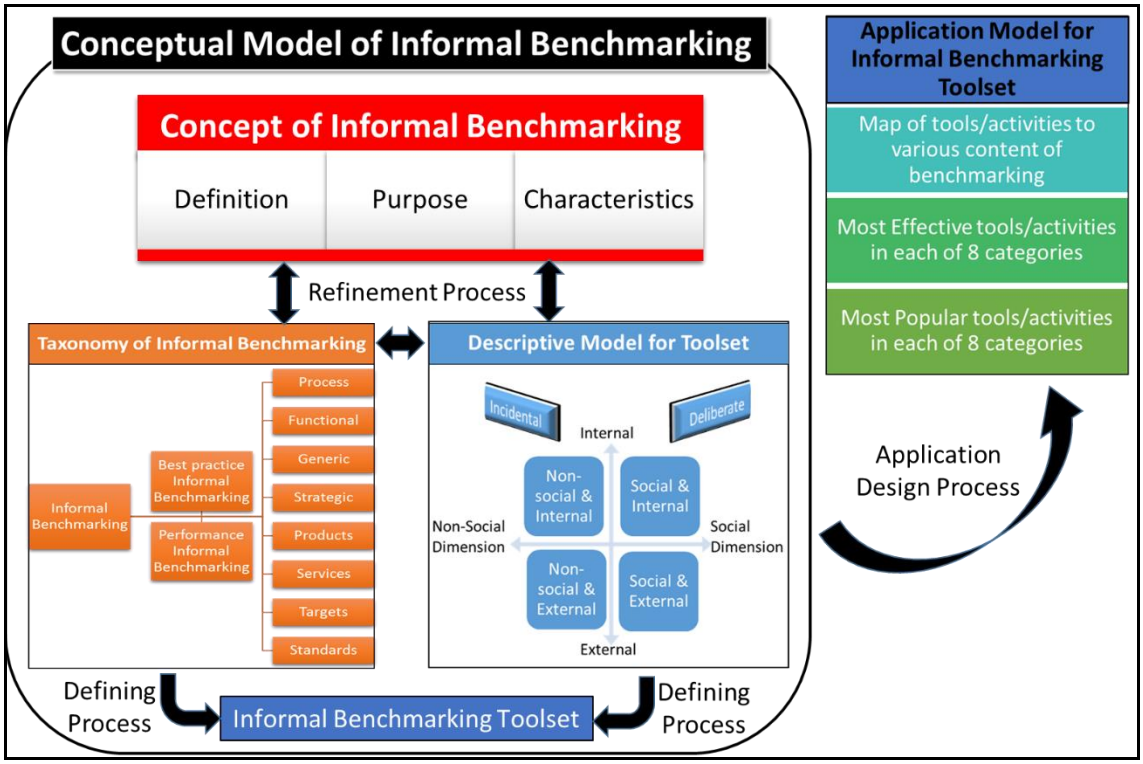


Figure 6-7: Informal Benchmarking Toolset Application Model

This application model is designed primarily from the integration of the taxonomy, the descriptive categories and most effective/popular tools/activities of informal benchmarking. Therefore the application model consists of 3 parts:

i) How each of the tools/activities best support the 8 forms of contents (process, functional, generic, strategic, products, services, targets, standards) of informal benchmarking. The inclination to support the contents is interpreted from the interview informants' experience in their respective organisations.

ii) List of the most effective tools/activities for each of the 8 categories of the informal benchmarking toolset. This enhances the overall effectiveness when organisations know how to deploy the more effective tools for specific work practice improvement.

iii) List of the most popular tools/activities for each of the 8 categories of the informal benchmarking toolset so that organisations know which tools/activities are possibly easier to deploy.

The 8 tables (tables 6-8 to 6-15) show the 8 categories of tools/activities of informal benchmarking, the content of benchmarking they are inclined to support, and the most effective and popular tools/activities:

Most effective tools/activities: **blue**	Most popular tools/activities: **yellow**
Most effective and most popular tools/activities: **grey**	

6.3.1 Social Dimension (4 Tables)

	Internal-Deliberate	Stra-tegic	Func-tional	Gen-eric	Pro-Cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	***Attachment to other units***		√		√				
2	Participate in business excellence assessments or audits	√	√	√	√	√	√	√	√
3	**Combination of face-to-face phone emails documents**	√	√	√	√				
4	***Consulted with internal mentor or expert***		√		√				√
5	Cross functional operations team	√	√	√	√	√	√	√	√
6	**Email to colleagues**				√				
7	***Face-to-face internal customers***				√	√			
8	**Face-to-face with colleagues**	√	√		√				√
9	***Face-to-face with internal suppliers***	√	√		√				√
10	Face-to-face with stakeholders				√			√	
11	**Internal best practice group**		√		√	√	√	√	√
12	Internal best practice sharing event or activity	√	√	√	√				
13	**Internal conference**		√	√					
14	Lunch time talks or similar		√	√	√				
15	Online meeting platforms or conference calls	√	√	√	√				
16	***Organised Site visits***	√	√	√	√	√	√	√	√
17	Tea Bonding Session				√	√	√		
18	WhatsApp or instant messaging group				√	√	√		

Table 6-8: Social Dimension/Internal-Deliberate

	External-Deliberate	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	***Combination of face-to-face phone emails documents***	√	√	√	√				
2	**Consulted with specialist mentor or expert**	√	√	√	√	√	√	√	√
3	**Email to other organisations associates**	√	√	√	√				
4	**Face-to-face with associates**	√	√	√	√	√	√	√	√
5	***External best practice sharing event or activity***	√	√	√	√	√	√	√	√
6	**External conferences**	√	√	√	√	√	√	√	√
7	External formal organisational events or activities	√	√	√	√	√	√	√	√
8	Face-to-face with customers				√	√			
9	***Face-to-face with external supplier***	√	√		√		√		√
10	Focus group dialogue	√	√	√	√	√	√	√	√
11	Online Best practice group or network		√		√	√	√	√	√
12	Organised site visits	√	√	√	√	√	√	√	√
13	Presentations or seminars of institutes or other organisations		√	√					
14	**Face-to-face with best practice group**		√	√	√	√	√	√	√
15	***Business excellence assessments or audits***	√	√	√	√	√	√	√	√

Table 6-9: Social Dimension/External-Deliberate

	Internal-Incidental	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	***Attended informal functions or social activities***	√			√		√		
2	**Ad-hoc face-to-face with colleagues or partners**			√	√				
3	Internal electronic forum or social platform				√				

Table 6-10: Social Dimension/Internal-Incidental

	External-Incidental	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	Ad-hoc conversations with associates		√	√	√	√			
2	***Attended informal functions***			√	√		√		

Table 6-11: Social Dimension/External-Incidental

6.3.2 Non-social Dimension (4 Tables)

	Internal-Deliberate	Stra-tegic	Func--tional	Gen-eric	Pro-ces s	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	Performed 360 degree appraisal	√						√	
2	Participated in benchmarking survey	√	√	√	√	√	√	√	√
3	Blog page chatty box		√		√				
4	Use of Video Exemplars	√	√	√	√				
5	Dreamler online	√	√		√				
6	***Staff suggestion system or quality improvement teams***	√	√		√				
7	Read Internal books or magazines	√	√	√	√	√	√	√	√
8	**Regular newsletters of other units**	√	√	√	√				
9	Reviewed org database or knowledge bank of best practice	√	√	√	√	√	√	√	√
10	Read Weekly Newsletter update					√	√	√	√
11	Accessed SharePoint or others	√	√	√	√	√	√	√	√

Table 6-12: Non-Social Dimension/Internal-Deliberate

	External-Deliberate	Stra-Tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	Accessed extranet or external website	√	√	√	√	√	√	√	√
2	***Participated in Benchmarking comparison survey***	√	√	√	√	√	√	√	√
3	**Read external books or magazines**	√	√	√	√	√	√	√	√
4	Read regular newsletter or subscription	√	√	√	√	√	√	√	√
5	**Researched a topic on internet**	√	√	√	√	√	√	√	√
6	Reviewed database or knowledge bank of best practice	√	√	√	√	√	√	√	√

Table 6-13: Non-Social Dimension/External-Deliberate

	Internal-Incidental	Stra-Tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	**Observed a critical incident**	√	√	√	√	√	√	√	√
2	Read responses in an electronic forum or otherwise	√			√		√		
3	Accessed SharePoint and others				√	√			

Table 6-14: Non-social Dimension/Internal-Incidental

	External-Incidental	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Sv cs	Tar-gets	Stan-dards
1	***Observed a critical incident***	√	√	√	√	√	√	√	√
1	***Found Info on extranet external website***	√			√				
2	Read a random newsletter	√	√	√					

Table 6-15: Non-Social Dimension/External-Incidental

The toolset application model becomes most effective when dovetailed with an overall assessment and overarching informal benchmarking strategy as a dominant organisational improvement vehicle. The assessment framework and strategy will be discussed in the following sections.

6.4 The QUANTUM Maturity Assessment Framework

This QUANTUM maturity assessment framework aims to evaluate the maturity level of informal benchmarking in organisations. The two parts to the assessment comprise firstly, of an organisational maturity self-assessment, and secondly, a maturity assessment grid. The assessment framework is derived from the following:

i) Main theme on development strategy
ii) Main theme on measurement of effectiveness
iii) Sub-theme on execution (how the tools were used)
iv) Adaptation from the maturity grid used in quantitative survey
v) Reflective notes of the interview meaning condensation section

6.4.1 Organisational Maturity Self-Assessment

The maturity self-assessment consists of 7 main components, 19 sub-components and 62 descriptive statements. The abridged version of the 7 components is shown in figure 6-8:

Figure 6-8: QUANTUM Components

It is recommended that management personnel with an oversight of the organisation's function perform the assessment on behalf of the organisation. Organisations are to rate each statement on a 4-point scale to assess their maturity level according to the area the statement pertain:

Maturity Level			
Level 1: None or little	Level 2: Under development	Level 3: Operational	Level 4: Mature

The 4-point scale serves to circumvent neutral tendency and avoid fatigue due to the many number of statements in this organisational assessment gauge (Leung, 2011). A brief introduction is provided for each of the 7 components of the organisational assessment framework.

6.4.1.1 Qualify the Vision & Readiness

From the main theme of development strategy, the sub theme on "approach to align tools" discusses the readiness of organisation to improve work practices and how they intend to approach the use of informal benchmarking for the level of improvement envisaged. From adapting the maturity grid, support can come from management or sponsors, and in different forms such as the provision of resources, funding, and engagement in informal benchmarking activities, and rewarding informal benchmarkers in a systemic manner to promote organisational-wide informal benchmarking.

A	**Qualify the vision & readiness to use informal benchmarking as a strategy**	**1**	**2**	**3**	**4**
A1	*Readiness for informal benchmarking as a primary tool*				
1	Our organisation uses informal benchmarking as a dominant strategy to improve work practices across the board				
2	Our organisation extensively uses informal benchmarking techniques to complement formal benchmarking projects				
3	Our organisation takes a consultative approach to discussing work improvement strategies and ideas across the board i.e. no bad idea policy				
4	Our organisation has multiple channels to gauge the state of work practices so that improvements can be made eg. ground-level feedback, performance management systems, productivity measurement, informal benchmarking activities tracker				
A2	*Management & sponsors support*				
1	Our *top management* supports informal benchmarking activities eg. worker-initiated communities of practices, conferences				
2	Our sponsors support informal benchmarking activities eg. worker-initiated communities of practices, conferences				
3	Our *top management* actively engages in informal benchmarking activities				
4	Our sponsors actively engage in informal benchmarking activities				
5	Our organisation recognises and rewards both work practice suggestions, informal or otherwise that lead to actual improvements				
	Total				

Table 6-16: Assessment Framework - Qualify the Vision & Readiness

6.4.1.2 Use & Commitment of Resources

From the main theme of development strategy, the sub-theme on support enablers discusses the use of networks, the culture & environment, and the systems & structures as resources for informal benchmarking. Organisations are assessed on the level of commitment in these available means.

B	Use & commitment of resources to support informal benchmarking	1	2	3	4
B1	*Networks*				
1	Our workers have and use internal networking opportunities to improve work practices e.g. cross-functional teams, day-to-day work, internal dialogues, conferences and gatherings				
2	Our workers have and use external networking opportunities to improve work practices e.g. counterparts or associates doing similar functions, communities of practices, attending conferences and seminars, organised site visits				
3	Our organisation cultivates and maintains a strong and wide established external network for learning best practices e.g. associations, industry-related memberships, affiliations with best practice networks globally and locally				
B2	*Environment*				
1	Our organisation has created a conducive workplace environment for the proliferation for collegial exchanges that lead to improved work practices e.g. open cubicles, informal working environment				
2	Our organisation has deliberately created additional physical spaces for informal collegial exchanges that lead to informal benchmarking eg. coffee corners, learning rooms				
3	Our organisation has deliberately created additional virtual spaces for informal collegial exchanges to promote informal benchmarking eg. online forums, practice enhancement blogs, web-based collaboration spaces, smart phone technology				
4	Our organisation has deliberately created additional social spaces for informal collegial exchanges to promote informal benchmarking eg. communities of practices, work-based interest groups				
5	Our organisation has created a safe environment for the sharing of knowledge that leads to higher quantities of improved work practices eg. tacit knowledge, know-hows, short-cuts				
6	Our organisation has created a safe environment for the sharing of tacit knowledge that leads to higher quality of improved work practices eg. innovations, creative solutions, breakthroughs				
B3	*Systems*				
1	Our organisation has incorporated informal benchmarking programs or events into its culture eg. regular best practice events, success stories sharing sessions				
2	Our organisation has a system to receive suggestions for improving work practices and processes eg. internal feedback or external feedback, staff suggesting scheme				
3	Our organisation has a system to implement suggestions for improving work practices and processes eg. innovation team set-up, facilitators to assist them				

4	Our organisation codifies and stores records of improved practices, processes and procedures eg success stories, SOPs				
5	Our organisation's repository of best practices can be readily accessed by workers at their authorised levels				
6	Our organisation has mechanisms to ensure new knowledge learnt by workers are shared on a regular basis eg. abridge sharing from a training course, department sharing, newsletters				
	Total				

Table 6-17: Assessment Framework - Use & Commitment of Resources

6.4.1.3 Assess Competitiveness & Culture

From the main theme of development strategy, the sub-theme on overcome barriers discusses opportunities to remain competitive and cost-effective, and the extent to which staff are encouraged to use social and non-social knowledge assets for work practice improvement.

C	**Assess competitiveness and culture of informal work practice improvement**	**1**	**2**	**3**	**4**
C1	*Competitiveness*				
1	Our organisation remains competitive and cost-effective by:				
1.1	Being able to balance between guarding practices and sharing practices informally with other organisations eg. trade secrets, superior processes, better procedures				
1.2	Using appropriate levels of MOUs, non-disclosures and mutual agreements to facilitate benchmarking opportunities, informal or otherwise eg. organised site visits, product development, sharing of best practice documents				
C2	*Culture of work practice improvement*				
1	Our organisation has a strong culture in place to facilitate informal work practice improvement opportunities				
2	Our workers have ample opportunities to source, maintain and use internal resources that help them perform informal benchmarking more effectively eg. subscription to newsletters, magazines, access to best practice archives				
3	Our workers have ample opportunities to source, maintain and use external resources that help them perform informal benchmarking more effectively eg. subscription to external resources, membership of best practice group				
4	Our organisation recognise and reward workers for sharing new and innovative sources for informal benchmarking				
	Total				

Table 6-18: Assessment Framework - Assess Competitive & Culture

6.4.1.4 Nullify Risks & Threats

From the main theme of development strategy, the sub-theme of overcoming barriers discusses bureaucracy, competitive turf-guarding, being overly casual, and having an overly critical time-scarce mentality. Organisations can take steps to mitigate these risks and threats.

D	Nullify risks & threats to informal benchmarking	1	2	3	4
D1	*Bureaucracy vs transparency, flexibility & creativity*				
1	Our organisation uses informal collegial opportunities to promote creativity and innovation in formal work practice improvement meetings and projects				
2	Our organisation combines both formal and informal activities to improve work practices or processes eg. best practice sharing sessions, formal programs, use of cliques, informal dialogues on specific practices				
3	Our organisation adopts a level-playing field or flattened organisation structure so that all levels of staff can participate in informal benchmarking activities and be recognised accordingly				
D2	*Too informal vs balanced approach*				
1	Our organisation has in place checks and balances to ensure the filtering of misleading or detrimental information from informal benchmarking sources				
2	Our organisation is careful to not allow informal benchmarking to become a political tool in undermining others eg. inappropriate bypassing of superior, using other's knowledge as one's own				
3	Our organisation uses external professionals to optimise the use of informal benchmarking as a stand-alone or complement to formal benchmarking processes				
D3	*No-Time mentality vs Investment mentality*				
1	Our organisation ensures workers do not spend excessive amounts of time in the name of informal benchmarking but have nothing to show for it eg. coffee corners, break times, collegial, tea sessions culture				
	Total				

Table 6-19: Assessment Framework - Nullify Risks & Threats

6.4.1.5 Training and Facilitation

From the reflective notes of the interviews, this assessment recognises the predisposition of certain staff to perform informal benchmarking better than others. It is aligned to the secondary concept of positive deviance and how certain homogenous units perform much better than others because of the presence of such positive deviant staff who are consistently improving processes, practices and procedures for a more effective workplace. Informal benchmarking can be systemically facilitated at the organisational level for greater effectiveness.

E	Training & facilitation of informal benchmarking	1	2	3	4
E1	*Facilitation*				
1	Our organisation recognises and promotes workers who perform well in informal benchmarking:				
1.1	By engaging them as facilitators or co-ordinators to promote informal benchmarking techniques within their specific functional areas				
1.2	By engaging them as facilitators or co-ordinators to promote informal benchmarking techniques throughout the entire organisation				
1.3	By engaging them as trainers to increase Informal benchmarking competency eg. expert or mentoring programs in informal benchmarking				
1.4	By organising and engaging a regime of high-performing informal benchmarkers as a strategic resource to increase informal benchmarking competency and proliferation throughout the organisation				
E2	*Certification*				
1	By sending suitable workers for informal benchmarking training, co-ordinating and facilitation courses				
	Total				

Table 6-20: Assessment Framework - Training & Facilitation

6.4.1.6 Useful Measures of Effectiveness

From the main theme of measurement of effectiveness, the sub-theme of resource-saving discusses how the various measures could eventually lead to the tangible savings of time or money. Regular assessment of practices, and obtaining reliable and increased numbers of trusted informal benchmarking partners go towards higher quality and quantity of work practice improvement that lead to the cost-effectiveness of the organisation.

F	Useful measures of informal benchmarking effectiveness	1	2	3	4
F1	*Time & Money*				
1	Organisational performance has improved as a result of informal benchmarking activities eg. better KPIs attributed to informal benchmarking				
	Our organisation get a lot more communication, ideas and assistance in the informal benchmarking setting than compared with formal methods				
2	Organisational cost effectiveness has increased as a result of informal benchmarking activities eg. cost savings in product development or services, speed in implementing changes				
3	Organisational innovation has increased as a result of informal benchmarking activities eg. new or smarter processes in product development or services, breakthroughs, fresh approaches				
F2	*Regular assessment of practices*				
1	Our organisation readily uses audits and assessments to identify practices and processes that can be improved				
2	Our organisation uses the feedback/results from audits and assessments to improve those practices and processes that can be fixed immediately i.e. without formalising into a project				
3	Our organisation regularly uses internal feedback to informally improve practices eg. internal customer or supplier feedback				
4	Our organisation regularly uses external feedback to informally improve practices eg. external customer, stakeholder, supplier feedback				
F3	*Reliability and frequency of informal benchmarking*				
1	Our organisation is able to ensure accurate & reliable inputs when benchmarking informally with other organisations				
2	Our organisation is constantly being sought after as a benchmarking partner, informal or otherwise because of our abilities and/or approachability and/or reciprocity				
	Total				

Table 6-21: Assessment Framework - Useful Measures of Effectiveness

6.4.1.7 Momentum & Sustainability

From the sub-theme of execution, main theme of development strategy and reflective notes, this section discusses how to sustain the momentum of using informal benchmarking as a strategic tool in organisations. How well an organisation creates a cycle of value, encourages experimentation, renews informal benchmarking sources,

and institute informal benchmarking activities and programs into organisation life, will determine the long term sustainability and effectiveness of informal benchmarking for eventual business improvement.

G	Momentum & sustainable impact	1	2	3	4
G1	*Virtuous cycles of value creation*				
1	Our organisation has a robust system to ensure that when workers learn, the organisation learns as well, and vice versa				
2	Line of sight to returns on investment in informal benchmarking is visible and rewarding				
G2	*Experimentation*				
1	Our organisation encourages experimentation with work practice improvement ideas across all levels				
2	Our organisation uses its resources to support experimentation with work practice improvement ideas across all levels				
	Total				
G3	*Speed and ease, renewal of benchmarking sources*				
1	Our organisation is constantly discovering new avenues and opportunities to improve work practices				
2	Our organisation is constantly being sought after for informal benchmarking activities (micro level) because of our integrity and reciprocity				
3	Our organisation is constantly being sought after as a benchmarking partner (macro level), informal or otherwise because of our integrity and reciprocity				
G4	*Informal benchmarking the primary tool*				
1	Our organisation is able to keep pace on what is learnt with what is implemented via informal benchmarking, that is, not lag in implementing what is learnt				
2	Our organisation has instituted informal benchmarking activities and programs that are delivering results				
3	Our organisation uses informal benchmarking as the preferred organisational improvement tool as a stand-alone or complement to formal benchmarking projects				
4	Our organisation uses informal benchmarking techniques as a quick and cost-effective prelude to future formal benchmarking projects				
	Total				

Table 6-22: Assessment Framework - Momentum & Sustainable Impact

6.4.2 Evaluating Scores & Gap Analysis

Upon completion of the maturity self-assessment, organisations can use the maturity grid to gauge the level of informal benchmarking in each of the 7 QUANTUM components.

6.4.2.1 Overall Self-Assessment Score

1. Inputs your points obtained for each of the 7 components in table 6-23 below.
2. Multiply each category's points by the weighted index for a weighted score. The weighted index = Total Score / (max points for component X 7).
3. Obtain your Total Weighted Score.

	Component	Max. Points	Points attained	Weighted Index	Weighted Score
1	Qualify the Vision & Readiness	36		0.98	
2	Use & Commitment of Resources	60		0.59	
3	Assess Competitiveness & Culture	24		1.48	
4	Nullify Risks & Threats	28		1.27	
5	Training and Facilitation	20		1.77	
6	Useful Measures of Effectiveness	36		0.98	
7	Momentum & Sustainable Impact	44		0.81	
	Total Score	**248**			**/248**

Table 6-23: Self-Assessment Score

Band	Maturity Assessment Band	Score
1	None or Little	62 to 99
2	None or Little **to** Under Development	100 to 137
3	Under Development **to** Operational	138 to 175
4	Operational **to** Mature	176 to 213
5	Mature	214 to 248

Table 6-24: Maturity Assessment Levels

4. Identify which band your organisation is in: _____
   (Note that though there are **4 levels** of maturity, there are **5 bands** of maturity to accommodate scores that are in between the 4 levels of maturity)
5. Identify the desired band your organisation wishes to be in: _____

6.4.2.2 Compare Scores against the QUANTUM Maturity Assessment Grid

The maturity assessment grid describes 4 levels of maturity for each of the 7 QUANTUM components. Using the raw scores for each component, organisations can perform a gap analysis between their current and desired maturity levels. The maturity assessment grid is shown in table 6-25 below:

Informal Benchmarking (IB) QUANTUM Maturity Assessment Grid					
Maturity Level		**Level 1**	**Level 2**	**Level 3**	**Level 4**
1	**Vision & Readiness** **Your Score:** **Desired Score:**	**None or Little**	**Under Development**	**Operational**	**Mature**
		9 points	18 points	27 points	36 points
		Aware that IB is a popular business improvement tool and probably should get to know how it is done Little or no management support. Staff are left to perform IB on their own.	Aware that there is a need to improve work practices because of internal or external pressure. Though there is some informal learning of work practices, implementation is carried out in an ad-hoc manner, sponsors and management do see some value in IB.	An active stance is taken to engage IB for innovation and work practice improvement across the board. IB is more than comparison and includes identifying, adapting, and implementing the practices that produce a relatively high level of performance.	To gain a competitive edge and achieve best in class by the use of IB independently or as part of a formal benchmarking strategy. Organisation is in a position to win internationally recognised business excellence awards. Desires to learn from best practices irrespective of industry. IB is a major approach used by management to gain a competitive edge. Incentives/ awards for knowledge sharing are provided
2	**Use & Commitment of Resources** **Your Score:** **Desired Score:**	15 points	30 points	45 points	60 points
		Aware of resources available to support IB but none or little are used	Limited provision and use of resources. These are used as and when to support IB. Limited number of work practices implemented.	A centralised and co-ordinated effort to use resources such as networks, people and teams, the environment and systems & structures. The learning of work practices are well supported and improvements are adequately adapted for organisation use.	Systemic. The organisation is committed to use IB as a dominant approach to improve practices. IB is highly integrated into the culture and processes. Programs/activities incorporate IB techniques and tools to improve work practices at all levels of the organisation.
3	**Assess Competitiveness & Culture** **Your Score:** **Desired Score:**	6 points	12 points	18 points	24 points
		Aware sources for IB but no drive to tap into those sources. Not interested in using IB for competitive advantage	Learning better practices are ad-hoc such as external conferences, seminars or learning visits. Only a small portion of staff are selected to attend and perform IB.	There are varied sources of IB in learning from others, activities/events and non-social assets. All staff are encouraged to discover and benchmark against those sources regularly.	Staff are encouraged to look for potential sources of IB with the purpose of exploiting them. A system is in place to support their continued search and maintenance of these sources. IB is embedded in the culture and used as a main tool for competitiveness and cost-effectiveness
		7 points	14 points	21 points	28 points

4	**Nullify Risks & Threats** **Your Score:** **Desired Score:**	Aware of barriers to IB but have not done anything about them	Attempted to overcome some of identified barriers as they surfaced so that some IB could be carried out	Analysed the major and minor barriers in a systematic fashion, and put it place systems and resources to tackle the issues. As a result a lot of the improvements via IB could be successfully implemented	A framework for assessing and managing threats and potential risks of IB with a view to systematically eliminate and mitigate the effect of these barriers. The results of the assessment is used for strategic planning so that future IB is cultivated as a powerful approach to business improvement.
5	**Training and Facilitation** **Your Score:** **Desired Score:**	5 points	10 points	15 points	20 points
		Aware that some staff perform IB better than others, but nothing is done about it.	Staff observed to do IB better are asked to train others on an ad-hoc basis.	There is identification and recognition of staff competency levels in conducting IB. Facilitators are deployed across the organisation to increase competency in IB.	Staff are identified and sent for IB facilitation courses to become fully-trained IB facilitators. A regime of trained IB co-ordinators and facilitators are used to increase IB competency and sharing at a strategic level.
6	**Useful Measures of Effectiveness** **Your Score:** **Desired Score:**	9 points	18 points	27 points	35 points
		Aware of the benefits of IB but have not considered any measures	Able to describe the benefits of IB in a nebulous manner. System to measure its impact is being considered.	Able to quantify the benefits of IB in a clear fashion. The changes as a result of IB is documented and tracked.	A system of documenting and monitoring the impact of IB is in place. There are people assigned to manage and link it with a knowledge management system for sharing with others. Improvements related to IB are presented regularly.
7	**Momentum & Sustainable Impact** **Your Score:** **Desired Score:**	11 points	22 points	33 points	44 points
		Aware of the need to support IB in the long run for work practice improvement but nothing is done about it.	IB is recognised and performed at a tactical level. Random and ad-hoc sharing of learnt practices exist.	A coordinated approach is used for sharing through various mechanisms. Strong knowledge management approaches are used to and increase absorptive capacity and transfer of work practice improvement internally.	An Integrated organisational wide system is in place for sharing of practices/ knowledge that has been gained internally and externally. IB sources are continually being renewed. The organisation has positioned itself as an excellent IB resource. IB is also used to complement formal benchmarking projects

Table 6-25: Informal Benchmarking Maturity Assessment Grid

6.4.3 Alignment with QUANTUM Strategy

The assessment framework is closely aligned with the components of the implementation strategy. The self-assessment provides organisations a snapshot of their current level of maturity in informal benchmarking, which is necessary for developing a targeted implementation strategy for the future.

6.5 The QUANTUM Strategy

Cultivating informal benchmarking as an approach to organisational improvement vis-à-vis improving work practices, can prove to be rather counter-intuitive. On the one hand there is empirical evidence from the data to support the extensive use and popularity of informal benchmarking, but on the other hand, developing a strategy around the tools/activities could be seen as an effort to formalise what appears to be informal, causing it to lose the essence ("informally") of how it accomplishes its mission. Notwithstanding, informal benchmarking can be investigated with the same rigour as informal learning has been studied and applauded (Cross, 2007; Eraut, 2011; Schugurensky, 2000). It also bears some resemblance to a comparison between Newtonian and quantum thinking (Fris & Lazaridou, 2006), both possessing very different paradigmatic perspectives of philosophy.

Though most informants interviewed attest to the effectiveness of informal benchmarking, their overall strategy do not consider the plausibility of supporting informal benchmarking more intentionally in their organisations. Obstacles standing in the way of its extensive and effective use of the tools come in the form of bureaucracy, misplaced priorities, fear and mistrust. According to the findings, these could be overcome by fostering trust, realigning priorities, mitigating fear and taking calculated risks. The findings show some very tangible measurements of informal benchmarking effectiveness, amidst other less tangible results. Sustaining its impact on the organisation is another important element for quantum gains to be achieved.

The QUANTUM strategy represents ***a cultivation process of an eco-system*** (Cross, 2007) that support informal benchmarking. The extent to which these 7 components are developed and integrated together, will determine the degree of success of informal benchmarking as a strategic organisational improvement initiative.

The QUANTUM strategy possesses the same 7 components of the assessment framework. Its purpose, however, is to explain the process of how each component functions and integrates with each subsequent component to produce an overarching strategy for informal benchmarking to be cultivated and sustained for organisational improvement. It is primarily induced from main theme 5 on "development strategy" and main theme 6 on "measurement of effectiveness" discussed in chapter 5 – analysis of Interviews. Each of the 7 components is interpretatively mapped to a "focus area" (level 3 main category from the coding phase) and broken down to "opportunities" (sub-category level 2 from the coding). The 7 QUANTUM components are discussed in the seven tables below:

6.5.1 Qualify the Vision & Readiness

Qualifying the vision and readiness refers to the preparedness *to use informal benchmarking as a primary work practice improvement strategy with the support of management and sponsors at various levels in the organisation.*

Proactivity is key to an improvement culture where workers from all levels and cross-sections mentally assent to an improvement agenda using informal benchmarking as a dominant tool. The courage to experiment with novel ideas begins when people do not feel inhibited to clear doubts and inquire freely, thereby hastening the pathways to solution creation. The urge to formalise a process too early often stifles creativity. Hence, maintaining an informal, unthreatening environment is vital in promoting tacit knowledge flows amongst workers, enriching institutional knowledge and know-how, and creating a safe space for relationships to flourish. In such an atmosphere, the learning of success stories catalyses the adaptation of better and smarter practices in the organisation.

The transferability of these learnt practices could be simple or complex, depending on the cultural, operational and philosophical differences. The larger the vision for work practice improvement, the larger would be a demand for a correspondingly well stocked armoury of resourcing and management support. Support can come from management or sponsors, and in different forms such as the provision of resources, funding, engagement in informal benchmarking activities, and rewarding informal benchmarkers in a systemic way to promote organisational-wide informal benchmarking. The journey

becomes far more fulfilling when colleagues are on board and in the queue with you to see to its completion.

Focus Areas		Informal Benchmarking Initiatives
A1	**Readiness**	i) preparedness to use informal benchmarking as a dominant tool ii) use informal benchmarking techniques to complement other business improvement tools such as formal benchmarking iii) use a consultative approach to discuss work improvement strategies across the board iv) be able to gauge the state of work practice improvement at all times so that action can be taken to not lag the industry
A2a	**Management & Sponsors Support**	i) get top management support for the activities ii) get sponsors to support the activities iii) get top management engaged in activities iv) get sponsors engaged in activities v) get as many people as possible, involved in the activities, programs or events
A2b	**Rewards and Recognition**	i) reward and recognise sharing & codifying of success stories ii) reward and recognise ideas & innovation that lead to informal benchmarking iii) reward and recognise implementation, most importantly

Table 6-26: QUANTUM Strategy - Qualify the Vision & Readiness

6.5.2 Use & Commitment of Resources

Understanding and supporting the mission of informal benchmarking goes beyond knowing an organisation's infrastructure. It refers to knowing how to *exploit the fullest potential of the networks, the culture, the environment, the systems and the power structures*.

There is a much higher rate of informal benchmarking opportunities amongst organisations who extensively leverage off their superior's networks and via specific

interest groups or communities of practice. The informal appears to be the preferred mode for collegial contact at all levels. It. Many important decisions are also taken informally, with regard to improving a current practice, employing a new practice or discarding an old one. The leaders of organisation are pivotal in regulating a comfortable and collaborative work environment in the light of increasing virtual spaces and e-communications. Enrichment of work practices thus becomes somewhat personal, occurring in the minds of knowledge workers even when they are not in the office "working" (De Alvarenga Neto & Choo, 2010). Most organisations do not have a full-blown, deliberate performance management system surrounding informal benchmarking. They do, however, understand how a mindset tuned to informal benchmarking opportunities would immensely benefit the organisation.

From a systemic point of view, most organisations set aside a budget for best practice sharing activities/events at the strategic, generic (core process) functional and process levels. The nomenclature for these sessions are varied but the intent is clearly to compare and improve performance in the longer run. Self-initiated communities of practice/interest groups often use organisation e-platforms to increase the velocity of information flows. When organisations mindfully support these natural formations to advance work practices without too much interference, these become organic and part of the culture of improvement.

Focus Areas		Informal Benchmarking Initiatives
B1	**Networks**	i) build internal networks ii) cultivate and leverage external networks iii) leverage off superiors for bigger outcomes iv) join industry best practice networks
B2	**Environment**	i) regulate an informal workplace culture ii) create open space cubicles, coffee corners iii) use virtual or e-platforms iv) join interest groups and communities of practice v) make it safer to share ideas and knowledge
B3	**Systems**	i) incorporate informal benchmarking programs, events and activities into the organisational life ii) have multiple channels to sense ground sentiment iii) have a system to receive/implement suggestions

		iv) codify, store and provide access to success stories, SoPs, best practices v) ensure new knowledge are shared regularly

Table 6-27: QUANTUM Strategy - Use & Commitment of Resources

6.5.3 Assess Competitiveness & Culture

6.5.4 Nullify Risk & Threats

This section refers to the assessment of the current strengths and opportunities and *mitigating potential threats and risks to advancing the strategic use of informal benchmarking in organisations*.

Barriers to informal benchmarking include the threat of competitive advantage, turf-guarding, bureaucracy, excessive informality, confidentiality, and time scarcity. Benchmarking, formal or informal brings with it the consideration of competitive or commercial advantage. The collaborative camp thrives on reciprocity whereas the competitive camp adopts a protectionist mentality. The level of friendship and trust appears to be directly co-related to the level of sharing due to concerns of misuse or confidentiality breaches. It is therefore important to position oneself as a sharer of good practice, taking time to build camaraderie for mutual benefit rather than for a one-sided gain. Such benchmarking partnerships are a result of informal exchanges that work out.

Flattening the organisation culture (though some organisations could be highly structured and layered but still possess a strong internal culture of informal benchmarking), adds leeway for more accidental sharing of work practices and the bouncing of ideas amongst colleagues. Some colleagues could be very unware of how valuable their knowledge is to others. It is only through these interactions and incidental sharing that the value of such intrinsic knowledge is known and transferred to others, birthing a new practice caused by the cross-pollination of ideas.

The conversations that go on after a bureaucratic formal meeting are almost always more revealing of the bigger picture, more honest and robust, giving participants of that

meeting a clear rationale for improvement verses the carrying out an instruction from the boss without knowing why.

The misuse of benchmarking as a political tool to gain favour because of an "open-door policy" need be balanced out. If professional integrity is compromised via bypassing protocol, it would become very difficult to propagate learned practice in such an environment of distrust.

Sifting out information of value is an art, given the voluminous amounts of information pushed to the mail box, physical or electronically. If not careful or savvy, knowledge workers could become counter-productive by spending excessive amounts of time in their quest for new knowledge. The need to move from a time-scarce mentality to a time well-invested mentality in the informal spaces/activities that induce informal benchmarking require management support. It is possible for organisations to successfully "formalise the informal", that is, infuse informal benchmarking programs, events or activities as part of the way they do business. Employees enjoy tea-bonding sessions, visits, sharing events for process improvement and other self-directed communities of practices as part of work, and not at their own expense or time.

Focus Areas		Informal Benchmarking Initiatives
C1	**Competitive vs collaborative stance**	i) balance between guarding practices and sharing practices ii) use appropriate levels of MOUs, non-disclosures and agreements as these can be dominant routes for mutual benchmarking in certain industries iii) observe integrity, be ethical and reciprocal at all times
C2	**Opportunities to grow**	i) source, maintain and use internal resources ii) source, maintain and use external resources iii) recognise and reward new and innovative sources for improving work practices
D1	**Bureaucratic vs Transparent, flexible & creative**	i) use informal collegial contact to promote innovation where formal meetings lack creative pitch ii) combine formal and informal ways to improve work practices or processes iii) adopt a level-playing field or flattened organisation structure so that all levels of staff can participate in informal benchmarking and be recognised accordingly

D2	**Too informal vs balanced approach**	i) checks and balances to ensure informal channels are not detrimental or misleading ii) ensure tools are not allowed to undermine managers in the hierarchy iii) use an external professional to optimise tools
D3	**Time-scarce mentality vs Investment mentality**	i) ensure staff are not counter-productive by spending excessive amounts of time in the name of informal benchmarking ii) coffee time spent in building relationships with work colleagues is good, not time-wasting

Table 6-28: QUANTUM Strategy - Assess Competitiveness & Culture, Nullify Risks & Threats

6.5.5 Training & Facilitation

This section refers to the *selection and training of suitable workers as facilitators* and co-ordinators* for informal benchmarking*. It recognises the predisposition of certain staff to perform informal benchmarking better than others.

Positive deviant workers use short-cuts and ingenious ideas that seemingly break the rules and procedure codes, but still meet standards. These workers are akin to experts in their field of work, being able to deliver exceptional work outcomes with limited resources. The rulebook need to be changed to accommodate them and not the other way around. Intelligent risk-taking and trade secrets are held in the hands of such workers. Organisation would do well to foster a team of informal benchmarking facilitators who are gifted in work process improvements, The entire regime of facilitators or co-ordinators could be deployed across all units of the organisation. They should be further trained to understand how to create and sustain a conducive environment for informal benchmarking to flourish tactically in individual units and systemically in the organisation, and also perform the role of mitigating threats to the informal benchmarking eco-system.

*Facilitators are those who are well-versed with the tools and techniques of informal benchmarking, and are able to help others use informal benchmarking as a strategic tool for work practice improvement.

*Co-ordinators are those appointed in their respective units to organise and administrate informal benchmarking programs, events and activities.

Focus Areas		Informal Benchmarking Initiatives
E1a	**Search for good informal benchmarkers**	i) search for positive deviant (workers with exceptional ability for work practice improvement) ii) reward and recognise them (positive deviant workers) very generously
E1b	**Facilitation**	i) appoint them facilitators and co-ordinators across the various units of the organisation ii) engage them as facilitators to promote informal benchmarking techniques iii) engage them as facilitators or co-ordinators to create a conducive environment for informal benchmarking to flourish naturally
E2	**Certification**	i) send suitable workers for informal benchmarking courses

Table 6-29: QUANTUM Strategy – Training & Facilitation

6.5.6 Useful Measures of Effectiveness

Useful measures of the effectiveness of informal benchmarking refer to *the discovery and monitoring of indicators that link to performance either tangibly or intangibly*.

Organisations require the discovery and publication of better practices to increase productivity. A more informal environment directly correlate to increased numbers of process improvement suggestions, and to levels of creativity. If the suggestions contribute to key performance indicators, then these are likely to be implemented, resulting in efficiencies and cost-savings.

Feedback is to be taken seriously, regardless of its source or how it makes the people who have the power to change things feel. Organisations with well-thought out ground-sensing and customer feedback mechanisms continually improve their product, services and the well-being of their staff. Some of the most useful opinions come from extremely casual unplanned situations. Hence creating a setting for serendipitous feedback (activity of informal benchmarking) can be very rewarding. Informal benchmarking in many instances can thus become a prelude to formal improvement projects.

An initial face-to face assessment of stakeholders is very swift, very inexpensive, and very effective. Face-to-face conversations over coffee are also superior alternatives to elaborate emails and formal agendas to iron out issues. Short bursts of precise and incisive knowledge sharing are preferred over long formal training programs which are expensive opportunity-costs to workers. Spontaneous, simple and unsophisticated modes of face-to-face encounters (including online tools) are not just the best forms of communication, but correspondingly the most effective informal benchmarking tools.

These various measures become very useful if tracked intentionally. Feedback, increased improvement suggestions, increased innovation, institutional know-how, igniting paradigm-shift improvement projects, speed and cost-effectiveness, can be translated to some form of tangible benefits and savings.

Regular auditing and testing of products, services, and practices are “necessary evils” to eliminate sub-standard deliverable as a result of poorly defined processes.

Standards and procedures need updating to be responsive, especially in high velocity environments like manufacturing. It would be far more cost-effective to use and track the effects of several smaller informal benchmarking tools every few months, than to embark on a large formal benchmarking project every few years and not be able to accurately attribute cause of improvement to it. Opportunity costs advantage is real and there is also an opportunity to gauge which specific informal benchmarking tool works better for the organisation.

The fruits of informal benchmarking are the adaptations of practices after having learnt from others, the extensions of practices to others within your company, and on occasion, organisational expansion when strategic or generic benchmarking takes place. Anytime a betterment of practice occurs, it can be tracked to either a social or non-social activity that supported informal benchmarking. Incidental observations of critical incidences internally or externally could account for rather major improvements in standard operating procedures and processes.

Organisations find informal benchmarking easy to perform but not very easy to track. Some organisations though, have managed to institute several informal learning/benchmarking activities and programs which they have found to improve the performance of a unit/department in the organisation, compared over time or with other homogenous units which have not implemented them.

Focus Areas		Informal Benchmarking Initiatives
F1	**Time & Money**	i) get others to prioritise and speed up your work improvement efforts by building mutual trust (Covey & Merrill, 2006) ii) compare how much more communication, ideas and assistance one get from informal benchmarking than compared with formal methods iii) use informal network a secondary think tank and work process improvement force iv) trace how informal benchmarking activities positively co-relate with performance improvement or KPIs
F2	**Regular assessment of practices**	i) do regular audits and assessments to improve in known areas (pre-audit) and unknown areas (post-audit) ii) measure process improvements year on year at the least

		iii) obtain a steady stream of internal and external to improve practices
F3	**Reliable information & frequent use**	i) access into networks and organisation via informal channels to benchmark in the industry ii) be able to remove external obstacles and receive accurate inputs from partners or competitors (Francis & Holloway, 2007) iii) get access to proven "short-cuts" without the risks involved iv) position your organisation to know "trade secrets" v) position your organisation to be a sought-after benchmarking partner

Table 6-30: QUANTUM Strategy - Useful Measure of Effectiveness

6.5.7 Momentum & Sustainable Impact

Momentum and sustainable impact refer to the ability of the organisation *to maintain a strong culture of informal benchmarking for significant work practice improvement outcomes to be visible and measurable*.

When workers learn or discover a better practice, it does not automatically imply the organisation has learnt or discovered a better practice, and vice versa. The issue is whether or not the individual chooses to transfer his learning, and likewise, whether or not he absorbs the knowledge and implements new processes the organisation presents to him. Virtuous cycles of learning, transference, closing gaps and taking action depends on how well organisations inspire their most precious assets to act, or not.

Experimentations of ideas to produce a better product or practice could eventually lead to official mutually beneficial contracts. There is however, always the risk informal collaborations may not work due to the non-delivery of agreed upon outcomes.

Informal benchmarking will continue to proliferate because of the pace and pressure facing organisations who want to stay in the game. Knowledge workers need to collectively organise themselves onto informal platforms to improve work practices, and use the informal environment to provide themselves opportunities to clarify and understand the rationale behind management decisions, so that they can plug into the business of being productive. Similarly, managers need to constantly be on the look-out

for informal benchmarking opportunities. How they position the organisation as a viable, attractive and integrous source for benchmarking is vital to continued renewal.

Trust and mutual respect is built when workers discover their ideas are taken seriously and implemented even via a simple conversation, casual breakfast, or an online group chat with their bosses. Once the momentum of inter-dependence and reciprocity in the improvement agenda is going, it would be wise for organisations to keep their ears to the ground via a team of facilitators to continually cultivate growth and mitigate threats to the informal benchmarking eco-system. This will ensure learning of better, smarter or new work practices does not lag the opportunity to implement them. Organisations that are able to institute informal benchmarking activities and programs into organisational life will reap rewards consistently. Notwithstanding, It would be beneficial for them to remain open to using informal benchmarking as the main tool, or as a complement to other work improvement tools such as formal benchmarking. With such a mindset, paradigmatic change is possible.

Focus Areas		Informal Benchmarking Initiatives
G1	**Create virtuous cycles of value**	i) ensure that when individuals learn, the organisation learn as well, and vice versa (Lähteenmäki et al., 2001) ii) autonomy is important but line of sight to returns on investment must be transparent and rewarding iii) immediate follow-up on fresh knowledge gained
G2	**Experiment**	i) encourage and support experimentation with work improvement ideas across the board ii) once a huge improvement potential is seen, bounce ideas off people affected and customise since there is no one model (Kolb, 2015)
G3	**Renew sources**	i) have an ongoing process of discovering new avenues and opportunities to improve practices ii) be attractive as a benchmarking source by displaying integrity and reciprocity
G4	**Primary tool**	i) institute informal benchmarking programs and activities into organisational life ii) be open to adaptive or generative change (Senge, 2006) as informal benchmarking can lead or be part of major improvement programs

		iii) keep pace on what is learnt with what is implemented via informal benchmarking, that is, not lag in implementing what is learnt

Table 6-31: QUANTUM Strategy - Momentum & Sustainable Impact

6.6 Chapter Summary

This chapter outlined the development of the conceptual model of informal benchmarking, the toolset application model, the QUANTUM assessment framework, and the QUANTUM strategy to implement informal benchmarking. The integration of these 4 elements produces an informal benchmarking QUANTUM roadmap sustainable organisational improvement. This roadmap is detailed in Appendix H for practitioners to use. QUANTUM is an acronym represented by 7 components:

A. **Q**ualify the Vision & Readiness
B. **U**se & Commitment of Resources
C. **A**ssess Competitiveness & Culture
D. **N**ullify Risks & Threats
E. **T**raining and Facilitation
F. **U**seful Measures of Effectiveness
G. **M**omentum & Sustainable Impact

The next chapter would deliberate the wider interpretation of the QUANTUM roadmap in the context of organisational development. The 4 objectives of the research and how the various chapters align to them, would also be discussed.

Part 5 - DISCUSSION & CONCLUSION

PART 1 THE RESEARCH PROBLEM	**Chapter 1**	INTRODUCTION
	Chapter 2	LITERATURE REVIEW
PART 2 RESEARCH DESIGN & METHOD	**Chapter 3**	MIXED METHODS RESEARCH DESIGN, DATA SAMPLING, VALIDATION AND ETHICAL CONSIDERATIONS
PART 3 DATA COLLECTION & ANALYSIS	**Chapter 4**	ANALYSIS OF QUANTITATIVE SURVEY QUESTIONNAIRE
	Chapter 5	ANALYSIS OF QUALITATIVE INTERVIEWS
PART 4/ CHAPTER 6 DEVELOPMENT OF INFORMAL BENCHMARKING QUANTUM ROADMAP	CONCEPTUAL MODEL OF INFORMAL BENCHMARKING	
	TOOLSET APPLICATION MODEL	
	MATURITY ASSESSMENT FRAMEWORK	
	INFORMAL BENCHMARKING ECO-SYSTEM STRATEGY	
PART 5 DISCUSSION & CONCLUSION	**Chapter 7**	RESEARCH REVIEW BY OBJECTIVES & IN THE CONTEXT OF ORGANISATION IMPROVEMENT
	Chapter 8	IMPLICATIONS, LIMITATIONS & FUTURE RESEARCH

Chapter 7 Discussion

7.1 Chapter Overview

The previous chapter provides a description of how the four objectives of this research are developed, and how these are synthesised to produce an informal benchmarking QUANTUM roadmap for sustained organisational improvement.

This chapter presents the discussion of the research. Firstly, it reviews how the research process inter-relates and serve the objectives of the investigation. Secondly, it interprets informal benchmarking in the context of organisational improvement and discusses the unexpected finding from the survey analysis. Thirdly, it shares praxis - an inter-relationship between the objectives of the research, particularly how concept and practice can be integrated through reflexivity. Praxis denotes this very pragmatic manifestation of both theory and practice at once; the action of informal benchmarking in the real world of organisations.

7.2 Review of the Research Objectives

This section describes how the entire research process aligns with the aims and objectives of this investigation (figure 7-1). It shows how the various stages connect with each other, and how they contribute to one or more of the four objectives in the research. The stages include a literature review & conception of the preliminary model, research design & methodology, quantitative survey & analysis, qualitative semi-structured interview & analysis, and finally, the development of the four objectives of this study, namely:

1) Develop a conceptual model of informal benchmarking including its definitions, purposes, characteristics, taxonomy and toolset

2) Develop a model for applying the informal benchmarking toolset effectively

3) Develop an assessment framework to assess the maturity level of informal benchmarking in an organisation

4) Provide recommendations on how to organise, integrate and implement informal benchmarking to be an effective and sustainable platform for organisational improvement throughout the whole organisation

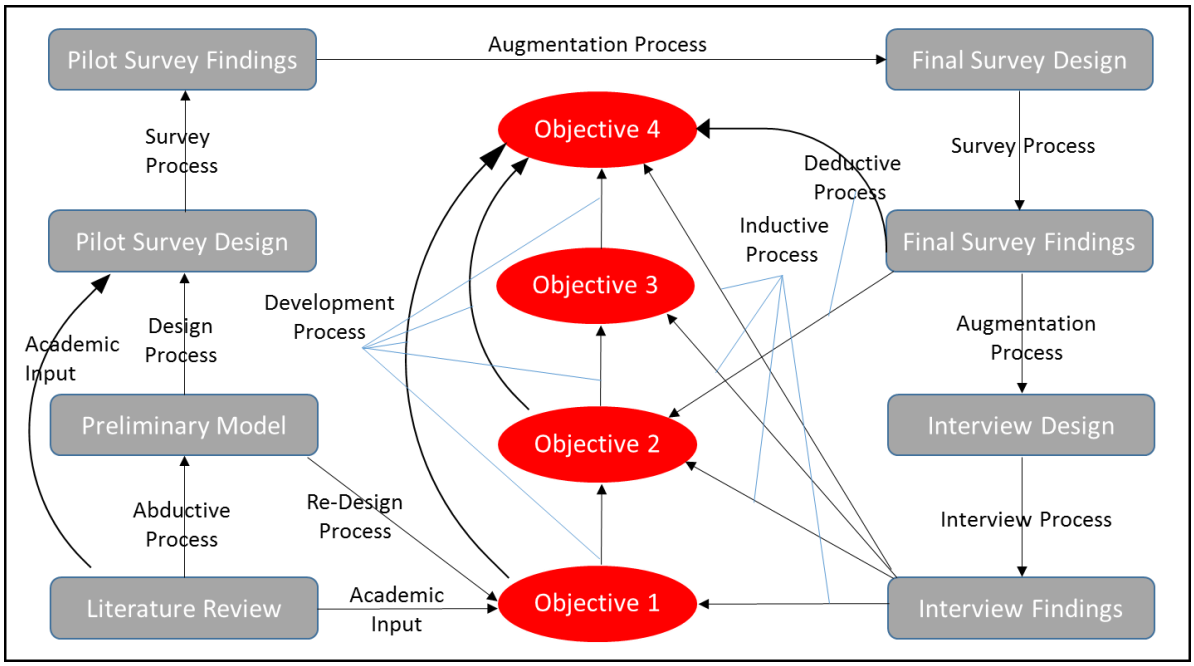


Figure 7-1: Research Summary

The **first objective** is to develop a conceptual model of informal benchmarking.

The first stage of the research focuses on providing a conceptual base to build the subsequent stages on. Through a process of abduction from academic review, a preliminary conceptual model is developed. It comprises the elements of definition, purpose, characteristics, taxonomy and a toolset which supports informal benchmarking. This model is used to develop a pilot survey for the world business excellence conference in Oct 2013 in Singapore. A fresh perspective is obtained on all 5 elements of the model after feedback from the Global Benchmarking Network (GBN) practitioners at their annual general meeting. The data from the pilot survey refines the survey questionnaire design, which after implementation, deduces the veracity of the 67 informal benchmarking tools/activities identified, maturity of informal benchmarking, and the relationship between performance benchmarking, best practice benchmarking and formal benchmarking. The survey results then informs the qualitative interview samples, and assists to crystallise the content of inquiry required for that next stage of data collection.

The top 25% of survey respondents are shortlisted for the qualitative interviews with the exception of two organisation being business excellence award winner, and the other with exceptionally high scores for a few tools and activities. In this segment, conceptual driven data (Ritchie & Lewis, 2003) is gathered on what tools are used, their ratings, how they are used, their characteristics, how they differ from formal benchmarking, how the support informal benchmarking strategically, the barriers and ways to overcome them, and how to measure their effectiveness thereof. From there, the conceptual model is re-designed to explicate the knowledge and wisdom gained from the data analysis phases.

The **second objective** is to develop an informal benchmarking toolset application model.

The toolset application model represents a practical output from the conceptual model of informal benchmarking. It incorporates the classification of benchmarking and a mapping of tools and activities to types (content) of informal benchmarking. Its development, however, is not just based on the conceptual model but involves abduction, deduction and induction throughout the stages of the research process. It suggests a pragmatic application of the elements within the conceptual model so that practitioners can decide how they may apply specific tools and activities of informal benchmarking on a daily basis. Abduction occurs when the taxonomy and descriptive categories from the conceptual model (objective 1) is used to create a template for the connection between taxonomy, the 8 descriptive categories and the tools/activities of informal benchmarking. Deduction is where the findings from the quantitative surveys clearly labels the most effective and most popular tools/activities. Finally, induction follows when the type and content of benchmarking supported by the various tools/activities are interpreted from the qualitative interviewees' experience. These contribute to the practitioners' choice of tools accordingly, to complement the strategy they wish to adopt for informal benchmarking to be optimised.

The **third objective** is to develop a maturity assessment framework to assess the maturity level of informal benchmarking in an organisation.

An initial maturity grid (table 4-37) with 4 characteristics with 4 levels of maturity, converted to 4 questions, is used in the questionnaire survey to gauge the levels of importance, culture, management support, and impact of informal benchmarking in the organisation. This represents a quick but reliable quantitative assessment (Chen, 2011) of an organisation's state of engagement with informal benchmarking tools/activities to improve work practices. The assessment framework is similar to a maturity grid, except that it is a far more developed

set of criteria for evaluating the level of informal benchmarking in an organisation. This framework consists of 2 parts. The first is a maturity self-assessment series of 7 QUANTUM components with 19 sub-components and 62 statements for organisations to deconstruct their environment and assess themselves in terms of informal benchmarking maturity. The second part is a maturity assessment grid showing 4 different levels of maturity for each of the 7 components so that organisations understand where they stand in maturity for each component, and may then perform gap analysis. The assessment framework is derived from the main and sub-themes from the qualitative coding phase, adaptation from both the maturity grid used in the preliminary conceptual model, a business performance improvement resource www.BPIR.com (BPIR, 2002), and reflective notes of informal benchmarking (discussed in section 7.3.4 under Praxis & Reflexivity)

The **fourth objective** is to provide recommendations on how to organise, integrate and implement informal benchmarking to be an effective and sustainable platform for organisational improvement throughout the whole organisation.

The informal benchmarking QUANTUM roadmap is a synthesis of objectives one to three, representing a practical application of informal benchmarking for practitioners. The seven components of QUANTUM are represented in both the strategy and the assessment framework (table 7-1). However, they are tailored differently. The assessment framework evaluates the state of an organisation whereas the roadmap directs the future development of that organisation to cultivate a long-term sustainable eco-system for informal benchmarking, based on the results of the assessment in order to know where to focus energies on.

7 QUANTUM Components of Strategy & Assessment Framework			
	Category	**Primary Source**	**Secondary Source**
1	Qualify the Vision & Readiness	Main Theme 5 on Development Strategy; Maturity Grid “Support” Characteristics	Sub-theme on Approach to Align Tools
2	Use and Commitment of Resources	Main Theme 5 on Development Strategy	Sub-theme on Supporting Enablers
3	Assess Competitiveness & Culture	Main theme 6 Measurement of Effectiveness	Category on Benchmarking Partners; literature review disciplines of knowledge management & quantum thinking
4	Nullify Risks & Threats	Main Theme 5 on Development Strategy	Sub-theme on Overcome barriers
5	Training and Facilitation	Adaptation from formal benchmarking maturity grid (BPIR, 2002)	Category on Training; literature review concept of positive deviance
6	Useful Measures of Effectiveness	Main theme 6 Measurement of Effectiveness	Sub-theme on Approach to realise effectiveness; Sub-theme of Resource savings
7	Momentum & Sustainable Impact	Main Theme 5 on Development Strategy	Sub-theme on Execution; Sub-theme on Ongoing Impact; reflective notes

Table 7-1: QUANTUM Components Linked to Sources

7.3 Informal Benchmarking in the Context of Organisational Improvement

This section elucidates the interpretation of informal benchmarking in the context of organisational and business improvement. It reflects the effects of the transdisciplinary areas and secondary concepts in the academic review, and uses key informant commentaries and findings (including one unexpected finding), to illuminate the thinking behind the concept and practice of informal benchmarking. Praxis is introduced as an inter-sectional prerogative between concept and practice as committed action to improve the organisational world via informal benchmarking.

7.3.1 Conceptual Model & Toolset Application Model

One of the profundities of the concept of informal benchmarking lies in whether or not it's intrinsic nature, that is, the lack or absence of formality, would permit the setting of targets and milestone in the same manner formal benchmarking does (Adebanjo et al., 2010; Camp, 1989; Dattakumar & Jagadeesh, 2003). Would the very essence of its spontaneity and quantum knowledge flows (Bitbol, 2011; Fris & Lazaridou, 2006; Mentzas et al., 2001) be mitigated when it takes the form of a formal project? The notion of a flux between a process-centred verses a product-centric approach is described in the interview informants' experiences. It demonstrates both the "soft", informal nature of sharing, yet possessing elements of "hard", formal program-like features. Informant 27 and 60 both commented on the formality of some of their efforts to promote benchmarking. Informant 27 mentioned:

> *"Maybe I give you an example and then you tell if this is formal or informal. We have this share-champ (ion). So we have it once in a while. Let's say we have a new thing and we want to disseminate to the whole group or maybe for only those are interested. So maybe they roll out Microsoft 2013 and they have new features. So we have the expert in Microsoft 2013 who says I am going to conduct this share champ next week over two sessions. Whoever is interested please sign up? Then whoever is interested can go and listen to 1 or 2 hour of sharing. OK. So we promote this. It's not a full fledge certified course, it's not a paid course, it's just an experienced (expert) staff sharing his knowledge to the other colleagues.*

Her uncertainty as to the formality of the activity tailored to improving practice amongst information services staff is probably founded on the fact that it is both informal and formal at the same time. Informant 60 described a similar paradoxical "formal-informal" benchmarking activity that was already embedded into her organisational system:

> *"And the focus group have been going for (many) years now! And it's really informal. I don't know what day they do it now but I know they are still doing it because we still get the data when it comes through. It's probably the closest thing I know to doing what you mentioned…*
>
> *For a long time they didn't realise that they were part of a focus group. Now they are quite used it. Very informal. The key to it is to make it very informal. It's "formally informal!" (Informant 60).*

This concept of informal benchmarking integrated into organisational life as part of the system is seen in several of the interview informants' dialogue. The toolset application model embodies, and insists on the pragmatic transfer of concept into practice (Stuhr, 2003, p. 1) by detailing the advanced tactical use of day-to-day tools, activities and applied techniques (Adebanjo et al., 2010), empirically evidenced by the informants' insights (Appendix G). It suggests informal benchmarking may be used as a stand-alone, a prelude to formal benchmarking, a process in the midst of formal benchmarking, or a post-intervention to a formal benchmarking project.

If informal benchmarking is the practitioner's choice as the main organisational improvement initiative, the implements to its longevity may require an approach that is naturalistic, organic and closely embodying organisational life in reality. The next section discusses the role of the QUANTUM strategy in developing an eco-system for the informal benchmarking prerogative to be organisationally sustainable.

7.3.2 QUANTUM Assessment Framework & Strategy

The assessment framework and the QUANTUM strategy represents major portions of the QUANTUM roadmap of informal benchmarking. The assessment framework gauges the maturity level of informal benchmarking in organisations while the strategy characterises the cultivation of an eco-system to sustain informal benchmarking as a cost-effective approach to organisational improvement.

Many strategies and management practices exist and continue to promulgate in the name of organisational improvement. The purpose here is to show the multiplicity of orientation of the informal benchmarking eco-system with respect to strategy, and not to compare and compete with the myriad of strategic approaches available (Hotho, Lyles, & Easterby-Smith, 2015).

There are five fundamentally different modes in a strategy-making process as proposed by (Hart, 1992) (table 7-2). The first is the command mode where the commander or top management sets the strategy for subordinates to follow. The second is the symbolic mode where top management focuses on the vision and mission of the organisation. It is not clear, however, if the vision and mission is a product of top management, or a co-creation by leaders and members (Senge, 2006). The third is the rational mode where focus is primarily on the competitive strategy and a highly structured system is put in place. The fourth is the emphasis on a flexible design in systems and processes to facilitate organisational

effectiveness. The fifth and final is the generative mode where internal innovations and entrepreneurship of the members decide the strategy of the organisation

TABLE 2
An Integrative Framework for Strategy-Making Processes

Descriptors	Command	Symbolic	Rational	Transactive	Generative
Style	(*Imperial*) Strategy driven by leader or small top team	(*Cultural*) Strategy driven by mission and a vision of the future	(*Analytical*) Strategy driven by formal structure and planning systems	(*Procedural*) Strategy driven by internal process and mutual adjustment	(*Organic*) Strategy driven by organizational actors' initiative
Role of Top Management	(*Commander*) Provide direction	(*Coach*) Motivate and inspire	(*Boss*) Evaluate and control	(*Facilitator*) Empower and enable	(*Sponsor*) Endorse and support
Role of Organizational Members	(*Soldier*) Obey orders	(*Player*) Respond to challenge	(*Subordinate*) Follow the system	(*Participant*) Learn and improve	(*Entrepreneur*) Experiment and take risks

Table 7-2: An Integrative Framework for Strategy-making Processes

(Hart, 1992, p. 334)

In this research, the blended QUANTUM strategy is primarily the 2nd) symbolic, 4th) transactive and 5th) generative, for a dominant use of informal benchmarking as a primary business improvement approach. The 7 elements in QUANTUM are an integration of these 3 modes of strategy, representing a non-command and unstructured pursuit of organisational excellence, regardless of their industry-type, size, and demographics. It is interesting to note that formal benchmarking strategies would generally embrace the 3rd) rational (competitive and highly structured strategy), which informal benchmarking does not. In a study of organisations using benchmarking to complement their learning and development strategy, the company found that a people-centric approach that capitalised on workplace learning opportunities was effective (Coleman & Ingram, 2004). This is congruent with the QUANTUM strategy of being mission-focused, "driven" by internal processes, collegial interactivity, and employee initiative.

In systems theory, the natural and social sciences are brought together to understand the complexity of society and the human eco-system. The system should not be closed but instead remain open to the flux of data, information, knowledge, the interactions between entities, and due process as a result of these interactions (Roy, 2002). Similarly, informal benchmarking thrives in an eco-system which best supports it with the right mix of enablers

and environmental factors. Workers have a natural tendency to learn and improve, regardless of the environment they are placed in (Senge, 2006, p. 367). Their progress in the improvement agenda correspond with their propensity to learn, learning styles, and absorptive capacity. The organisation's informal benchmarking capacity is to a large degree, an aggregation of their workers' capacity. Hence the provision of elements conducive for accommodating and maximising every individual and teams' unique informal benchmarking learn-scape (Cross, 2007, p. 40) would be the prelude to successful work practice augmentation, organisation-wide. A viable association between the 3 modes of the strategy-making process (symbolic, transactive and generative) and the QUANTUM elements is shown in table 7-3:

Strategy-making Process for Informal Benchmarking Eco-system		
	QUANTUM Elements	**Blended Strategy**
1	Qualify the Vision & Readiness	Symbolic & Generative
2	Use and Commitment of Resources	Generative & Transactive
3	Assess Competitiveness & Culture	Transactive & Generative
4	Nullify Risks & Threats	Symbolic & Transactive
5	Training and Facilitation	Transactive & Generative
6	Useful Measures of Effectiveness	Symbolic, Transactive & Generative
7	Momentum & Sustainable Impact	Symbolic, Transactive & Generative

Table 7-3: Strategy-Making Process for Informal Benchmarking Eco-System

In a situation where informal benchmarking is merely used as a preliminary tool or as a complementary instrument to a formal benchmarking project, the strategy of the organisation is could possibly take on a rational process. The rational process is highly dependent on structure, systems and planning and well-suited to methodological-type projects such as formal benchmarking (Hart, 1992).

7.3.2.1 Qualify the Vision & Readiness, and Use & Commitment of Resources

All the interview informants attest to the effectiveness of informal benchmarking, albeit in the use of different tools. However, their strategy do not consider the plausibility of supporting informal benchmarking more intentionally in their organisations. Informant 62 articulated this sentiment:

> *"I think as an organisation and your questions are sort of sparking the whole thought whether we need to be being more strategic about using what already exist more effectively" (Informant 62).*

One of the threads in the interview analysis suggests that organisations with strong informal benchmarking practices already possess a favorable environment for informal benchmarking to prosper. In a setting where people feel unthreatened, comfortable and free to speak their mind, such as the ones proposed by informant 10 and 75 and 77, tacit knowledge flows to create a trusting conduit for knowledge workers to assess the viability of engaging in business which directly contribute to best practice transfer. A casual, comfortable and relaxed environment creates *"a shared space for emerging relationship, which could be physical, virtual and mental."*(Nomura, 2002; Nonaka & Konno, 1998) according to Nonaka's adaptive concept of "Ba" in the SECI model.

> *"If you have a very good bonding done at a very informal level, you kind of recommend them at a higher level. You say: Hey look, this guy is awesome he has done some very good work, some very good data. Why don't we have some formal collaboration, let's have a contract"* (Informant 75).

Informant 75 is in the research industry hence contracts with other parties directly affect practice and innovation. In this instance, informal benchmarking paves the way for formal benchmarking projects opportunities; it is a prelude to formal benchmarking.

One significant source of competitive advantage lies in an organisation's ability to tap into the tacit knowledge of its workers. It can be in the form of insights, intuitions, educated guesses and know-how (Chowdhury, 2005). Organisations can afford to be more intentionally strategic in transforming tacit into explicit knowledge yet in many of these instances it is not always fully controllable:

> *"… it is really the experienced systems administrator's choice to share the short-cut or not" (Informant 27).*

While Pagano (Pagano & Paucar-Caceres, 2008) suggests it is important to create a more formal and systematic approach for the transformation process, it is also realistic to consider the merits of an informal approach where positively affective relationships catalyses motive for sharing tacit knowledge. The formal environment tends to heighten the sense of procedural breaches and obligation, discouraging individuals from taking the risk to share "trade secrets" which might not comply with rules, or they may just be unwilling to make common what is uncommon knowledge in order to remain unique.

Comparison between organisations can bring about confidentiality and political issues, causing more harm than good, especially in competitive environments (Stauffer, 2003). Informant 60 spoke of how she convinced her chosen benchmarking partner the mutual benefits of sharing their best practices not to compete with each other, but seek to meet industry standards:

> *"What we are doing now we are benchmarking against those criteria, because the other thing too is that we were really specific. These 3 criteria out of the standards we didn't need. And we want to be able to see why. And they said they were way past that. We did pass that one and we are looking at this one too. We never passed this one, and you did" (Informant 60).*

Improved products, services, procedures, processes, functions and long-term strategies are a result of clear vision backed up by committed resourcing. Notwithstanding, a good proportion of work practice innovation is conceived and performed real-time in the office space spontaneously, behind the cubicles. Adults learn a lot quicker when they are self-directed and empowered to harness resources to achieve what they set out to do (Knowles, 1978). Informant 62 shared this sentiment about an open door policy:

> *"Certainly I do have an open door policy with my staff and they do just wander in. …I prefer you just came and ask me if you were sitting there not able to proceed with your work because you didn't have an answer" (Informant 62).*

Therefore, creating an inquiring open-mindedness in the workplace removes the inhibition to ask questions and be given what one needs to hasten pathways to solution creation. Most of the time bosses do not have line of sight to these work practice improvement cycles so there needs to be motivation to commensurate with the impact of each worker or a team's work improvement rate. Line of sight to returns on investment must be transparent and rewarding to perpetuate a virtuous cycle of work practice improvement. Peter Senge states; "*There are no alternatives to learning through experimentation"* (Senge, 2006, p. 256). Informal benchmarking gives ones permission to learn without inhibition or a need for management approval. There may not be an official accountability to superiors or to anyone for what one experimented on, in an attempt to improve practices within one's own power, other than an accountability to oneself to improve the workplace. New knowledge of potential benchmarking opportunity rests with the organisation's most valued assets – people. Hence,

the readiness of an eco-system to accommodate and promote informal benchmarking is critical.

In Kolb's famous experiential learning theory first published in 1984 (Kolb, 2015) , the 4 stages of a learning cycle include experiencing, reflecting, thinking and taking action. Without the fourth stage of acting on what is learnt, there really is no manifestation of learning. While learning to improve work practices may involve a more complex process of assimilating information into practicable knowledge, honest feedback remains one of the most explicit and specific forms of communicating gaps and areas for improvement, and is therefore an excellent tool for informal benchmarking purposes both at the adaptive or generative (Senge, 2006) levels of learning, according to Peter Senge, proponent of the learning organisation. Organisations may use informal benchmarking as an adaptive, continuous improvement (Kohlbacher, 2013) tool, or as a generative paradigmatic change agent. Insofar as the opinions of informants are concerned, there is certainly room for upgrading informal benchmarking to a more strategic long-term approach.

The concept of knowledge creation associated with the informal benchmarking process between colleagues is similar to that of "Ba" and the SECI model frequently used in association with each other. "Ba" is a shared physical, virtual or mental space for knowledge creation while the SECI model shares a similar notion but speaks of the explication of knowledge more in terms of four processual stages of *socialisation, externalisation, combination and internalisation* of the conversion of tacit knowledge to explicit knowledge (Nonaka & Konno, 1998). Informant 31 aptly demonstrates portions of the first three processes of the model in action at his workplace, with the fourth stage of internalisation occurring as a result of informal collegial contact:

> *"But when I meet them I am able to see or to decipher the situation where they make these decisions (socialisation), or I may be able to get a very clear answer about certain things that may not have been very clear in the formal platforms (externalisation). It helps me on an emotional quotient level and also it helps me to understand the bigger picture because when you are isolated in your own scope of your work you don't really see the big picture all the time and it may not be communicated to you cause the part that is giving you the work (combination) is not giving the big picture in the first place" (Informant 31).*

The final stage of “internalisation” is embodied in one using the new knowledge to create or innovate a work practice, thereby practically adding value to his organisation.

Knowledge could be either product centric or process centric. In the former, knowledge is centred on documentary assets such as facts and figures, which could be stored and re-used. In the latter, knowledge is centred on the nebulous communicative aspect of person-to-person contact (Mentzas et al., 2001, p. 94).

> *“So we learn facts and figures but we don't necessarily learn tools and techniques and things that we could use in our jobs and in our roles. Its only after that meeting we might discuss an agenda item over tea” (Informant 77).*

While the informal process-centred post-meeting conversations were more robust and revealing than the formal product-centred meeting, as suggested by the informant, both are necessary for knowledge creation from a holistic point of view. The formal sets a structure and basis for future knowledge to be added and synthesised with it from the informal free-flowing explicit and implicit knowledge set-up. According to the know-net project, one approach embellishes the other with the likelihood of organisations taking on a dominant approach in either. Attempting to balance both approaches is likely to cost the organisations excessively in terms of its resources (Mentzas et al., 2001, p. 104). Hence it might be more cost-effective for organisations to take an active stance in determining the kind of culture they wish to create. The organisation that is determined to realise the vision of a strong informal benchmarking culture would do well by performing the detailed assessment and follow-up with the strategy available in the QUANTUM roadmap for a possible paradigm shift in work practice improvement.

7.3.2.2 Assess Competitiveness & Culture, and Nullify Risks & Threats

Benchmarking, formal or informal, brings with it the consideration of commercial advantage, which increasingly applies to the public sector as well (Francis & Holloway, 2007, p. 178). Informant 63, whose organisations is a business excellence award winner, highlights the turf-guarding and bureaucracy surrounding benchmarking in a public sector industry:

> *“It is a fact they see us as a direct competitor. “You guys already the number 1 (organisation) … and you want to steal whatever we have!” That might be one of the mind-sets. Another mindset is where it becomes less easy to get that connection when it goes through official channel. Sometimes they will comment “Hey why are you guys always coming here to learn from us?”… Because you have different*

people from different areas to cater to their own areas. But to this (organisation) why you are always coming one? So I sense the difference in the level of hospitality" (Informant 63).

The other issue would be the loss of sensitive data on the part of the sharer (Elnathan et al., 1996); thereby questioning the loss or benefit due to one's generosity to others in direct competition, albeit between homogeneous units in the same organisation, or between different organisations.

Informal benchmarking need to be ethical. A survey by the American Society for Quality states that during a recession or economic down-turn, benchmarking is the most common tool used for short-term cost cutting goals (ASQ, 2010). Benchmarking, formal or informal, reverberates with the intent of mutual benefit because organisations that desire to receive knowledge of a better practice need to be reciprocal, albeit in different domains of knowledge. This issue of reciprocity in benchmarking calls into question whether this should be contractual or legalised to protect confidentiality in the light of partnership risks and information flows (G. G. Bell & Zaheer, 2005; Borgatti & Foster, 2003). Informant 63 elaborates on the recurring theme of trust as the litmus test for the level of sharing and concerns on information misuse:

"I think that will be one of the key issues, whether the info will be abused or used against them. So it ultimately boils down to trust" (Informant 63).

Leveraging off networks to find suitable organisations for informal benchmarking is both an art and a science. Inherent risks associated with differences in organisational contexts, culture and objectives (Francis & Holloway, 2007, p. 184) are exacerbated by the reception of incomplete information, and possibly even misleading ones by reluctant information givers, leading to possible detrimental benchmarking efforts.

It is therefore important to quickly glean better practices off those who are willing to cross-pollinate ideas openly vis-à-vis those who feel inhibited from a competitive viewpoint (Francis & Holloway, 2007, p. 178). Informant 5 shares about such openness and guardedness:

"…I've talked to them about their products, strategy, marketing and even the costs and they have been very good about sharing. Sometimes you come across people

who are more guarded but for the most times I have been introduced to people who are very open" (Informant 5).

Informant 60 attributes her success of locating and persuading a benchmarking partnership to the approach she took. She stated it was important to benchmark from a position of *"my need to improve"* rather than *"what have you got to give me"* approach:

> *"We don't want to compare ourselves with you. What we do want to know is " Why we are not doing this well?" We made it about us, nor about them" (Informant 60)*

In her approach, there was an initial three to four months of investment in rapport building and performance-type (comparison with standards but no implementation) informal benchmarking done with the potential partner. Once the rapport was built, mutual organisational site visits were done, followed by on-going emails, calls and document flow between the two organisations.

Attempts to formalise a technique may backfire on creativity. This is consistent with Nonaka's 'Ba' and SECI model where interference with the model, in this case, formalising the socialisation process can adversely affect *"creative tension and generation of new knowledge"* (Nomura, 2002). Informant 3 supports this notion:

> *"…it was time for us to come up with this capability. But you got to be careful because if you can't go too far if you add too much structure it becomes the formal is no longer informal. Very delicate balance not to have too much structure in place and decide what things you want to be included in this. If you put too many walls, too much in the way people are not going to respond as well as they did before… That would be not the very same thing to do or else u would kill all creativity and all innovation" (Informant 3).*

A more transparent and open culture creates cognizance of such serendipitous benchmarking and the proliferation of better practices sharing caused primarily by the implicit free-flowing knowledge in the conversations and the bouncing of ideas amongst colleagues (Pagano & Paucar-Caceres, 2008).

Francis and Holloway highlights the misuse of benchmarking as a political tool within organisations (Francis & Holloway, 2007, p. 173). Informal platforms opens up the opportunity for political play and manipulation of knowledge amongst workers because of an

"open door policy" (informant 16). The flattened organisation structure which promotes the free-flow of information across the organisation can cut both ways:

> "…*you have to make sure you carefully consider what is being said before you take action. Sometimes, something informal that came through could take someone up the wrong path" (informant 16).*

She highlights the importance of not undermining managers in the hierarchy by using or giving knowledge to the boss which should have come through them in the first instance.

7.3.2.3 Training & Facilitation

Informants speak on the use of various types of facilitators. Some are black-belts in Lean Six Sigma (informant 73), innovation team leaders (informant 18, 73), quality professionals (Informant 60), cross-functional leaders (informant 16) or simply co-ordinators whose purpose is to monitor progress and results of informal benchmarking.

Over time it is highly recommended that organisations develop their own cadre of trained facilitators who are not only progress trackers, but also skilled dialogue and discussion facilitators at the forefront of engaging workers in generative conversations (Senge, 2006, p. 356), and promoting informal benchmarking throughout the organisation.

Peter Senge, the proponent of learning organisations suggests the use of an outside facilitator who is trained in reflective and dialoguing skills to harness the potential of a group via dialogue or discussion. There are many reasons why people do not talk, or become defensive during group discussions in daily organisational life: *"team member often unknowingly collude to misrepresent reality to each other, and cover up the ways in which they do"* (Senge, 2006, p. 356). The trained facilitator will be able to identify these learning disabilities to guide the team through the issues so that they stand a far better chance of eventually generating a productive dialogue. Cross suggested the idea of "unconferencing" where people gather and participate in self-directed agendas which were very successful particularly with experienced workers. These unconferences have peculiar characteristics as follows:

- no keynote speakers or designated expert
- high learning – breakthrough thinking born of diversity
- high play – having fun dealing with serious subjects
- appropriate structure and control – emergent self-organisation

- genuine community – intimacy and respect

(Cross, 2007, p. 206)

Informant 27 on high-tea sessions, informant 73 on self-directed learning circles, and “learn and share always” meetings, informant 20 on coffee-shop conversations, informant 31 on random cubicle-to-cubicle discussions all share some of the characteristics of such “unconferences” in their autonomy and self-directedness, spontaneity and the feeling of being part of an inner circle. These are ideal circumstances for creative work practice augmentation. The idea is to replicate such a space and environment throughout the organisation, and to do it regularly for the successful proliferation of informal benchmarking.

Positive deviance (described as the propensity to accomplish much more than others, given an equal amount of resource) in informal benchmarking is strongly related to the notion of productivity. Productive organisations have a stronger mastery in the effective use of day-to-day tools similar to those of informal benchmarking tools. Its constituents or workers are either more efficient, more effective or both. The difference between a productive and unproductive knowledge worker could be in the order of a staggering few hundred times (Cross, 2007, p. 9).

Informants 20, 60, 73 and 75 whose work directly involves the improving of work practices in the research, training or quality outfits, have all demonstrated positive deviant behaviours in raising benchmarking standards in the organisation as a professional goal. In other words those who are highly motivated to perform and produce more with less, can multiply their efforts via extensive networks, and speed them up because of very favourable relationships (Covey & Merrill, 2006) or a unique ability to always innovate and create.

7.3.2.4 Useful Measures of Effectiveness

Stephen Covey, best-selling author of “The Speed of Trust”, and a self-professed practitioner, demonstrates how relationship-trust and stakeholder trust can significantly improve speed and reduce costs in one’s business (Covey & Merrill, 2006). This notion of the various facets of trust, facing self, colleagues, partners and stakeholders, is reflected in most of the interview conversations.

Although working in a very small unit in a big outfit, informant 20 speaks on his work scope being large and all-encompassing, requiring the discovery and publication of better practices all the time. He is thus heavily dependent on other units and external networks to get the job done. The informal network is so important to him he calls them his *“secondary workforce”:*

"So in order to get things done I need to maintain very good informal relationships so when I need something done I can get someone to do it. So if I need a specimen of something i can just make a phone call. If I don't have the relationship i have to go through the formal process… Because I don't have that i need to tap my network. So they are my informal secondary work force" (Informant 20).

When asked how much time is saved, he estimates it to be about 3 times faster*:*

"Yes can be one week vs 3 weeks. Something like that" (Informant 20).

One of the primary strategies of his (informant 20) organisation to improve processes is via both formal and informal benchmarking in an iterative fashion. Hence his organisation's ability to remove external obstacles and receive accurate inputs from partners or competitors is critical to not lag the industry (Francis & Holloway, 2007, p. 176; Williams et al., 2012).

The measurability of informal benchmarking outcomes depends on whether it is used as a short term stand-alone, long-term stand-alone, as a preliminary, or as part of the formal benchmarking cycle. The short-term stand-alone and preliminary application is easier to measure because of the immediacy of results. Examples are as follows:

a) the deployment of a software tool (Informant 3)
b) use of a HR matrix (Informant 62)
c) deciding on the type and suitable board member (informant 62)
d) drastic approval short-cuts (Informant 20, 31)
e) changing one procedure which saved critical loss of data (Informant 27)
f) critically assessing suitable benchmarking partners (Informant 10, 60, 75)
g) changing processes with immediate service improvement (informant 5, 77)
h) work improvement mini-projects from cross-operational teams (Informant 16),
i) more transparent, accurate and reliable benchmarks and solutions (Informant 5,10, 75)
j) reduced numbers joining union because of a sense of fulfilment (Informant 16)
k) renewed openness to sources of informal benchmarking leading to creativity and innovation (informant 3, 5, 10,18, 49, 63, 73)
l) instituting activities, programs and events which use informal benchmarking as a direct source for improving practices (informant 3,5,27, 60, 63, 73)

One of the difficulties in assessing the benefits of formal benchmarking projects is to sift out *"outcomes, variables attributable to benchmarking from those that might have happened anyway"* (Francis & Holloway, 2007, p. 181). This may be associated with long drawn projects over a year or more when many other factors could have accounted for the results.

This is why one of the 7 components of the QUANTUM strategy is dedicated to the "measurement of effectiveness" by way of regular audits, keeping tab of adaptions, extensions and expansions, and documenting the results of workers' sharing of practices.

7.3.2.5 Momentum & Sustainable Impact

This pragmatic mixed method approach aims at the utility of the research. It adopts a quantitative-qualitative sequential design using an abductive-deductive-inductive process in the development of the four research objectives. The research holds an antirepresentational view of knowledge (Rorty, 1999) in that the accuracy of depicting reality is not the focus, but in providing answers to the questions of *"what is it for?", "who is it for" and "how the researcher influences the research?"* (Feilzer, 2010, p. 8). The three research questions are exactly that - they revolve around the usefulness of informal benchmarking to practitioners and academics in the context of organisational or business improvement. Although a utilitarian slant may bring with it a charge of conservatism, it can be mitigated by praxis, that is, being reflexive and providing a practical connectedness between the theoretical (conceptual model) and the practical (toolset application model, QUANTUM assessment framework & QUANTUM strategy) aspects of this study (Feilzer, 2010; Onwuegbuzie & Johnson, 2004).

Three reflexive ideas arise from the reflective notes taken throughout the research proceedings, in support of sustained momentum required for the informal benchmarking initiative to be effective.

Firstly, it relates to how ***informal benchmarking creates virtuous cycles leading towards the positive saturation of an idea*****, solution or practice.** In the initial findings report submitted to informants, it read "virtuous cycles leading **to** the positive saturation of an idea". Informant 20 queried: *"Is there a need for saturation to be reached?*" Upon reflection, this appears a valid point as ideas are constantly evolving and workers will tend to take action when ideas are sufficiently developed and not necessarily only they have are fully developed.

Notwithstanding, the genesis of such a work practice improvement cycle often proves to be nebulous. It may first become noticeable formally within a project, or get discovered by accident during informal collegial exchanges. The transformative process within the work practice improvement cycle could happen with an individual, a team or at the organisational level, toggling between formal and informal interactivity and evolving thoughts, ideas and issues. Upon reaching a critical juncture or saturation point, a strong motivation arises within the individual or team to improve a task, procedure, plan, product, standard, service, practice, process, function or strategy. This cycle appears congruent with that of continuous improvement (Kaizen, or continual process) which is defined as *"a systematic effort to seek out and apply new ways of doing work, by actively and repeatedly making process improvements"* (Anand, Ward, Tatikonda, & Schilling, 2009, p. 444). However, the epistemology and conception of continuous improvement stems from a process-centric, waste reduction and efficiency-driven effort, taking different forms such as lean management, six sigma, or business process management (Imai, 2012). While it tends to share a similar outcome with that of informal benchmarking, the approach to which the outcomes are achieved are slightly different. In short, continuous improvement is a systematic deliberate intervention generally fixated on process improvement whereas informal benchmarking may be deliberate or incidental, supported by an eco-system to promote the improvement of work practices in a spontaneous, flexible manner within and outside the organisation.

The integral Holon, as reviewed in literature, is useful in typifying the multi-dimensional learning and how this learning is transformed into action during informal benchmarking (figure 7-2). Across the organisation, several developmental lines can occur within each quadrant for individuals, teams and at the organisational level. Information and knowledge can traverse these lines as an on-linear *"wildly individual or idiosyncratic affair"* until it is ready for action (Edwards, 2005).

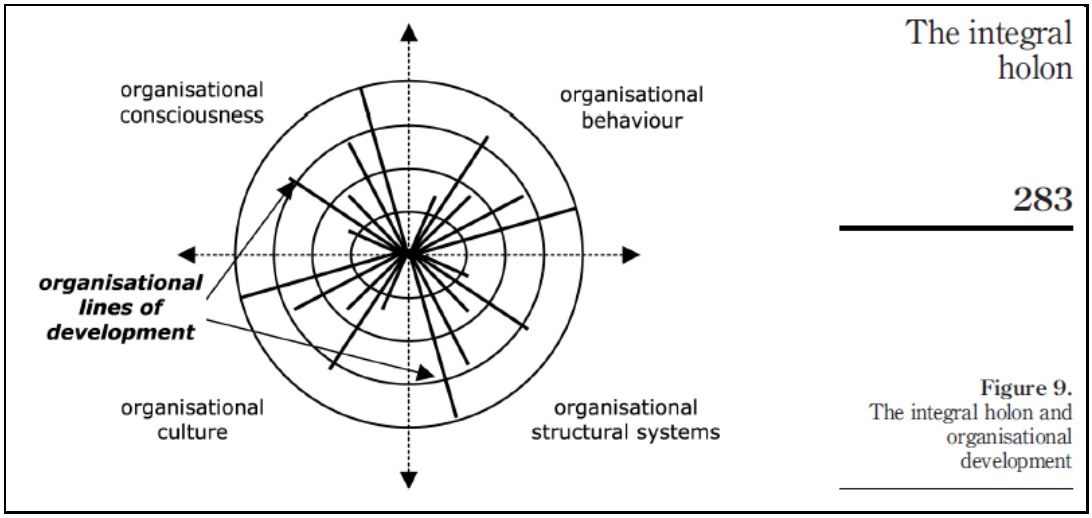


Figure 7-2: The integral Holon and Organisational Development

(Edwards, 2005, p. 283)

Quantum thinking in the corporate world (Zohar, 1997), a secondary concept in the literature review, helps to explain the interactional qualities of how informal benchmarking works within organisation life. In the Newtonian paradigm, individuals are part of the whole organisation and their interaction give rise to a system of operation. The goal of a system is usually to move towards a state of equilibrium where it is self-sustaining. In the quantum paradigm, individuals are seen to be separate and connected, exhibiting both particle and wave-like properties at the same time. In other words each individual has his own energy level which can be measured but they also are totally interconnected with each other in a giant dynamic energy force which is constantly changing. When an individual informally learns from the practices of another, not only does he change, but the person he interacts with changes, and the organisation changes, because of new knowledge acquired and adapted to current practices to improve them. This adaptation entails numerous influences and inputs both consciously and sub-consciously from and in the context of organisation life. Hence there is a co-determination of the outcome of that informal benchmarking effort which most often cannot be linearly pre-determined as in the Newtonian way of thinking. In short, the predictability of an outcome of informal benchmarking can be estimated but not objectified, since the intertwining of phenomena characterised by informality and contexts remains uncertain, albeit optimistic (Bitbol, 2011)

Secondly***, informal benchmarking appeals to the positively deviant thinker***. Positive deviance, another secondary concept in literature review, refers to achievers who seemingly

utilise the same rate of resourcing as others, but attain outstanding results (Pascale et al., 2010). Their abilities naturally gravitate, knowingly or unknowingly, towards the creative use of day-to-day informal tools and activities for the betterment of work processes and improved solutions to organisational issues. Informant 3 is a good example of positive deviant behaviour where he performs credible research on his own healing process and shares the information with his doctor. His doctor is so impressed that he begins to empower his other patients with such a mind-set of learning and contributing to their own healing.

Positive organisational change, however microscopic, such as the example of the doctor above, is a function of individuals taking some form of action towards improvement. In the informal benchmarking arena, any work practice improvement is directly related to the absorptive capacity (final secondary concept in literature review) of the organisation and its constituents in terms of acquiring and assimilating knowledge, wisdom and the experiences of others in both the social and non-social dimension, subsequently being able to transform and exploit the knowledge gained into operational capability (Vicente-Oliva, Martínez-Sánchez, & Berges-Muro, 2015; Zahra & George, 2002) (table 7-4).

TABLE 3
Dimensions of ACAP: A Reconceptualization of Components and Corresponding Roles

Dimensions/Capabilities	Components	Role and Importance	Citations
Acquisition	• Prior investments • Prior knowledge • Intensity • Speed • Direction	• Scope of search • Perceptual schema • New connections • Speed of learning • Quality of learning	Boynton, Zmud, & Jacobs (1994); Cohen & Levinthal (1990); Keller (1996); Kim (1998); Lyles & Schwenk (1992); Mowery, Oxley, & Silverman (1996); Van Wijk, Van den Bosch, & Volberda (2001); Veugelers (1997)
Assimilation	Understanding	• Interpretation • Comprehension • Learning	Dodgson (1993); Fichman & Kemerer (1999); Kim (1998); Lane & Lubatkin (1998); Szulanski (1996)
Transformation	• Internalization • Conversion	• Synergy • Recodification • Bisociation	Fichman & Kemerer (1999); Koestler (1966); Kim (1997b, 1998); Smith & DeGregorio (in press)
Exploitation	• Use • Implementation	• Core competencies • Harvesting resources	Cohen & Levinthal (1990); Dodgson (1993); Kim (1998); Lane & Lubatkin (1998); Szulanski (1996); Van den Bosch, Volberda, & de Boer (1999); Van Wijk, Van den Bosch, & Volberda (2001)

Table 7-4: Dimensions of Absorptive Capacity

(Zahra & George, 2002, p. 189)

This four-step process of absorptive capacity though robust and thorough, appears to be silent about the propensity and motivation of knowledge workers within the organisation. If the attitude is one of complacency, then opportunities would slip by. If it is one motivated by

a need to make a positive difference, then the organisation would learn and improve its work practices on a continual basis.

Thirdly, ***informal benchmarking advocates a transparent organisation and vice versa;*** thriving on professional and personal well-being. The impetus to assist each other, teams, and the organisation to augment work practices stem from a collegially safe environment where failure is acceptable, calculated risks are applauded, and courageous conversations to uncover impediments are permissible and even encouraged. Such environments encourage the "formally-informal", or "informally-formal" activities that improve work practices. Many of these activities are co-created by empowered knowledge workers and supported & funded by the organisation. This idea is supported by informant 20:

> *"Different kinds of people will interact differently. You just got to find different ways to keep it on a very personal basis. A lot of things are time critical, so you need to find somebody who will respond to you. You can use the formal hierarchy but people will do things reluctantly...*
>
> *The better one knows your client, the better and deeper should be the outcomes - new or improved practices. Getting to know clients is a progression. Many informal conversations take place during breaks, lunches and discussions, each time building on the previous. A lot of work gets done relationally in the sense that the good relationship augments the speed, efficiency and effectiveness of work done" (Informant 20).*

It is possible for informal benchmarking to be successfully regulated into the organisation as an activity or program. The notion of these self-empowered work practice improvement groups:

> *"We provide them funds to facilitate such sessions…we are giving them the leeway to come together on their own, and we arrange the resource with maybe a place or we engage an expert to help them be better in what they are interested in" (Informant 18).*

One of the most valuable forms of knowledge is tacit knowledge (disciplinary area in the literature review) resident in certain workers. Many of them possess experience intertwined with personal networks that help them achieve extraordinary results in relatively far shorter time frames than others. Unfortunately it is difficult to institutionalise such capabilities unless a robust knowledge management system for identification and codification exists, or a

culture of informal knowledge-sharing permeates the organisation in a way that such valued-added knowledge is easily accessible when required.

Pagano suggests that a systemic approach to knowledge management is clearly superior to an informal environment where there is low process controllability (Pagano & Paucar-Caceres, 2008). It is arguable that both a systemic approach and an informal collegial environment can and should co-exist. Besides a healthy rewards system to promote knowledge-sharing of better work practices, organisations should consider how to nurture positive, affective environments whereby teams experience symbiotic relationships by building on commonalities rather differences (J. Lee & Kim, 2011). It is in those relationships that implicit know-hows, trade secrets, and short-cuts are shared without the fear of reprisal (Davenport et al., 1998). Once these new or better practices are made known or discovered, the findings support a strong inclination ($r=0.72$, $p=0.01$) to have them implemented (section 4.6.1).

7.3.3 Interpretation of Unexpected Finding

Sometimes, colleagues may not be aware of what each other have learnt (Schugurensky, 2000). Unintentional and unconscious learning can manifest itself through a more efficient way of accomplishing a task, a more effective process, or a new way of looking at product development, which then gets noticed by others. This is when one becomes self-aware of the benefits of informal benchmarking.

This is consistent with the quantitative findings with regards to incidental informal benchmarking in both the social and non-social dimension, which registered the most effective categories compared to the other categories of informal benchmarking (Section 4.5.3.4 Unexpected Findings for Effectiveness of tools).

For the social-internal-incidental category which scored the highest mean of all categories, there were only 2 tools given a rating by informants in that category compared to an average of 11 tools given ratings per category in the social dimension. Though the differences were not statistically significant, it does concur the two tools, namely “ad-hoc conversations with colleagues” and “attended informal functions or social activities internally”, were relatively effective. For the non-social-internal-incidental category which scored the highest mean in the non-social dimension, the difference was also not statistically significant. The higher score is attributed to the relatively much higher mean for one particular tool, “observed a

critical incident". Both interview informants 20 & 27 gave examples of internal negative incidences relating to a gas leak and a physical accident respectively. Both instances sparked an immediate change of procedures and reflected very high mean scores on the questionnaire. This might suggest that the term "observed a critical incident" brought with it a connotation of negativity and extremity, which would have probably required an equally forceful mitigation, and hence a high mean score. "Observed a critical incident" externally also registered the highest mean score in its own category. This is concurred by Informant 20 and 63 who gave examples of external accidents or disasters which triggered a correspondingly strong review of current procedures and practices.

7.3.4 Praxis & Reflexivity

Praxis: Praxis in this research is used as "action that is *morally-committed, and oriented and informed by traditions in a field*" (Kemmis, 2010) It refers to the connection, reflection and action between theory and practice. It is therefore more than practice; praxis represents the manifestation of theory and thinking taken together (Mattsson & Kemmis, 2007). Practice by itself refers to action by practitioners in a particular field, for example, in education. Their practice is usually informed by experience and observation of what goes on in reality, and not necessarily from a theoretical viewpoint of what is ideal. Theory, on the other hand, is scientific knowledge existing in the sphere of academy, waiting upon the practitioner to test it, prove it and manifest it in real life. Praxis seeks to bring about a fusing between theory and practice in a reflexive manner in order for the best of both concept and the best of practice to eventually result in contemporary theory and sound practice (Smith, Edwards-Groves, & Brennan Kemmis, 2010). Praxis in this research represents the perpetual dialogue between the conceptual model and practice of informal benchmarking for mutual improvement each time informal benchmarking is implemented. It demonstrates the integration between concept and practice, and how concept refines practice, and how practice refines concept, over time:

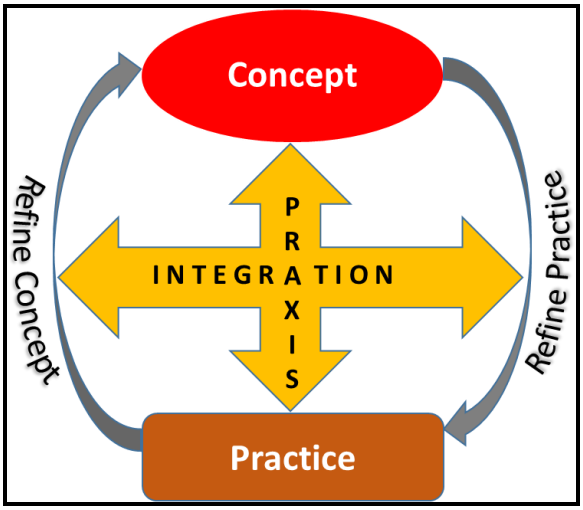


Figure 7-3: Praxis

Reflexivity: Reflexivity, in today's context is *"a defining feature of qualitative research … it enhances the trustworthiness, transparency and accountability"* of research (Banister, 2011, p. 291). Finlay identifies 5 variances of reflexivity in research – introspection, intersubjective reflection, mutual collaboration, social critique, and discursive deconstruction. How one combines or uses reflexivity to explicate meaning, the impact of self and intersubjective elements depends on the goals of the research (Finlay, 2002). In this research, the primary consideration is given to introspection and inter-subjectivity because of the need to interpret concept and practice, and to integrate them at the point of their intersection (figure 7-4).

Introspective reflexivity or inner reflection is about being aware of one's own experience, intuition and thinking, and realising insights can emerge from these personal interpretations from which a more general understanding and interpretation can form (Finlay, 2002). As practitioners apply the techniques of informal benchmarking both tactically and strategically in their organisational context, they will interpret the roadmap introspectively against the backdrop of their own experiences and world-views, thereby generating changes to the way they implement the imperatives to suit the environment.

Inter-subjective reflexivity or outer reflection refers to being cognizant of how other relationships affect the outcome because of others' experiences and worldviews (Finlay, 2002). In this case, work practice improvement would be a co-creation between co-labourers to produce the best practice possible, assuming the relationships are positive and mutually edifying. The applied techniques of the tools singularly or as a suite of tools is dependent on constant and critical reflection from inside and outside the system (Bradbury, 2010). The

tactics are deployed based on strategy to create more opportunities for serendipitous learning of work practices in the incidental domain, and organisationally-directed plans to directly influence informal benchmarking activities in the deliberate domain. Feedback and reflexivity can come from observers, facilitators, management, practitioners, stakeholders' interest and other practitioners involved in operationalising the new or better work practices that have been learnt informally.

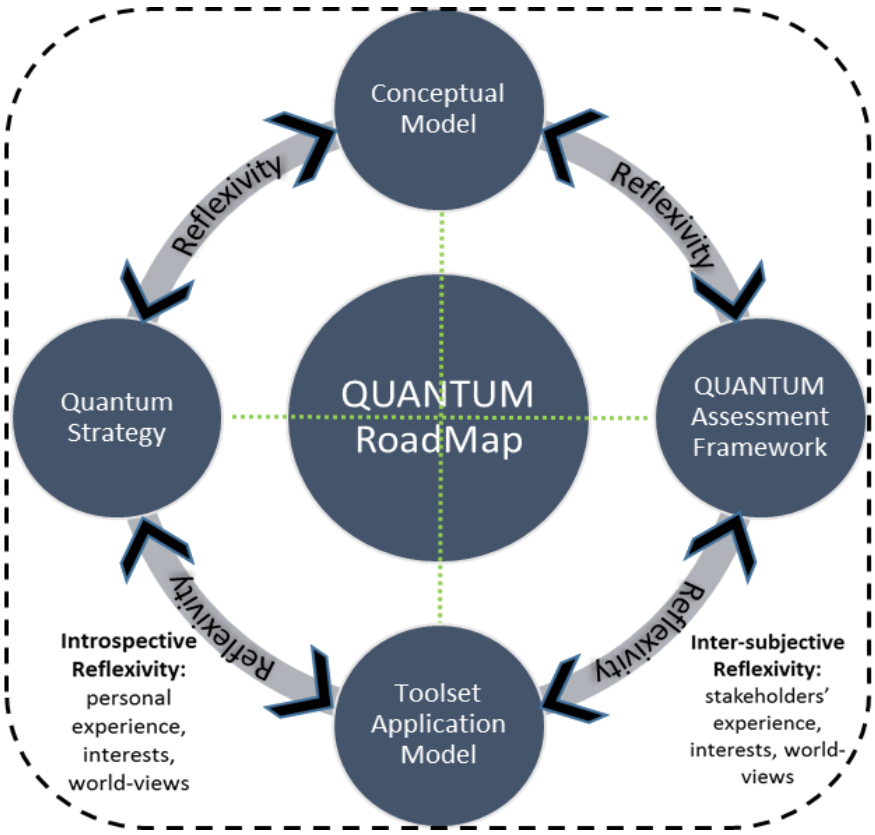


Figure 7-4: Reflexivity

Praxis and reflexivity ensures a consistent refinement of the concept and practice of informal benchmarking akin to lifelong learning and critical reflection required to improve organisational life via informal benchmarking as shown in figure 7-5:

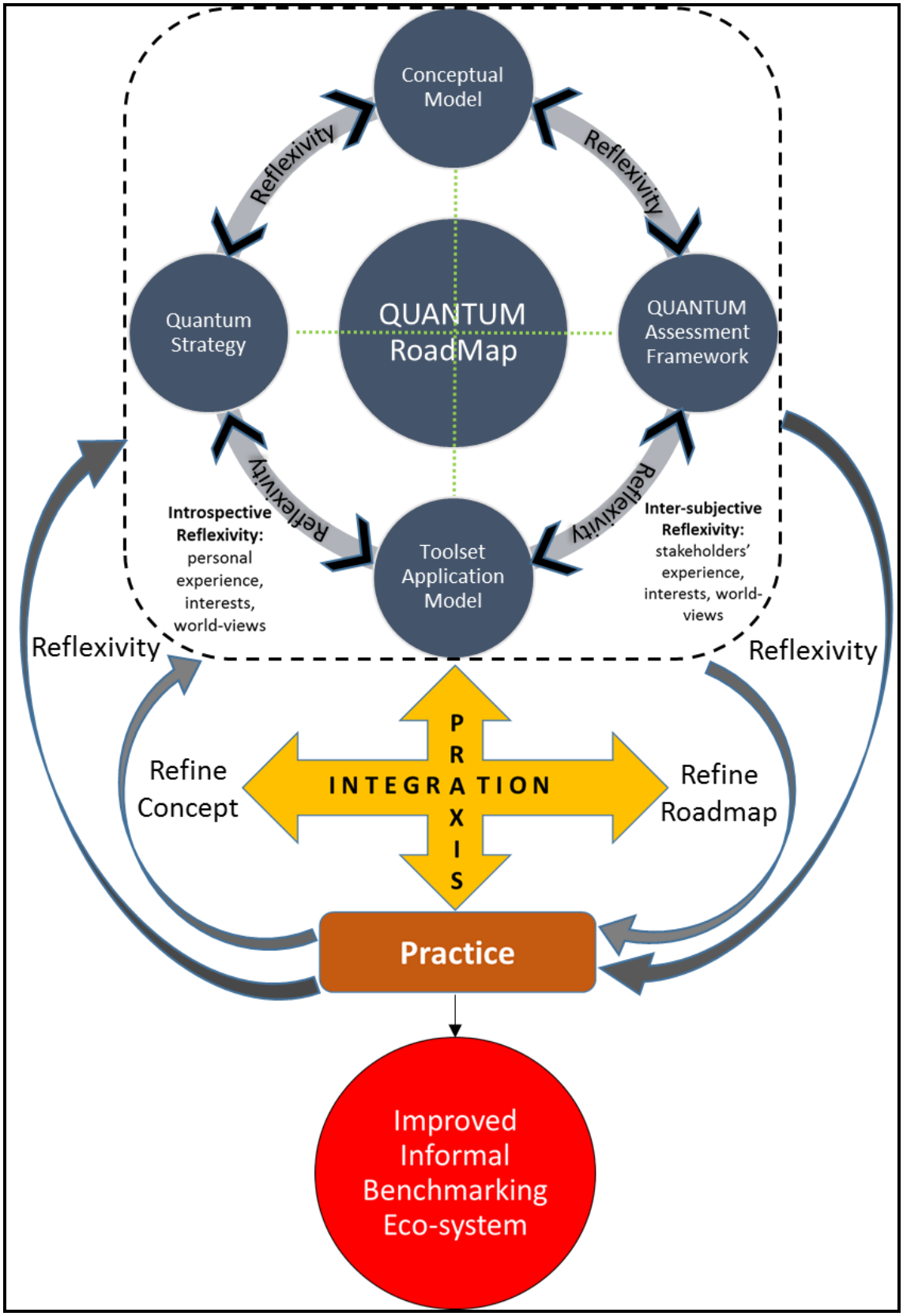


Figure 7-5: Praxis, Reflexivity & Sustainability of Informal Benchmarking

7.4 Chapter Summary

The chapter reviewed the research problem, objectives and the research process. It provided an interpretation of informal benchmarking in the wider context of organisational improvement, addressed an unexpected finding, and illustrated the usefulness of praxis and reflexivity in advancing informal benchmarking both conceptually and practically. The next chapter will conclude the research.

Part 5 - DISCUSSION & CONCLUSION

PART 1 THE RESEARCH PROBLEM	**Chapter 1**	INTRODUCTION
	Chapter 2	LITERATURE REVIEW
PART 2 RESEARCH DESIGN & METHOD	**Chapter 3**	MIXED METHODS RESEARCH DESIGN, DATA SAMPLING, VALIDATION AND ETHICAL CONSIDERATIONS
PART 3 DATA COLLECTION & ANALYSIS	**Chapter 4**	ANALYSIS OF QUANTITATIVE SURVEY QUESTIONNAIRE
	Chapter 5	ANALYSIS OF QUALITATIVE INTERVIEWS
PART 4/ CHAPTER 6 DEVELOPMENT OF INFORMAL BENCHMARKING QUANTUM ROADMAP	CONCEPTUAL MODEL OF INFORMAL BENCHMARKING	
	TOOLSET APPLICATION MODEL	
	MATURITY ASSESSMENT FRAMEWORK	
	INFORMAL BENCHMARKING ECO-SYSTEM STRATEGY	
PART 5 DISCUSSION & CONCLUSION	**Chapter 7**	RESEARCH REVIEW BY OBJECTIVES & IN THE CONTEXT OF ORGANISATION IMPROVEMENT
	Chapter 8	IMPLICATIONS, LIMITATIONS & FUTURE RESEARCH

Chapter 8 Conclusion

8.1 Chapter Overview

This chapter concludes the research. It underscores the scholarly contributions, practical implication, limitations and potential areas for future research. The theoretical contributions include the conception of a model of informal benchmarking, a fresh epistemological stance on benchmarking, and its pragmatic orientation augmented by praxis and reflexivity. Implication to practitioners consist of the usefulness of informal benchmarking as a stand-alone initiative, or as a complement to formal benchmarking. This is followed by a discussion of the limitations due to literature review, limitations associated with method, limitations due to outcomes and findings, and researcher reflexivity. The chapter also suggests future directions for the research. Finally, the study is summed up in a concluding statement.

8.2. Theoretical Contributions

The research is a pioneering study of a very popular organisational improvement initiative and development tool (Adebanjo et al., 2010), in view of the scarcity of academic literature available on the subject of informal benchmarking. Its uniqueness lies, firstly, in the proposition of a new epistemic view on benchmarking, a highly recognised and respected management and organisational improvement tool (Rigby & Bilodeau, 2007). Secondly, though preconceived notions of informal benchmarking exist (Adebanjo et al., 2010), this research presents the first ever empirically evidenced conceptual model of informal benchmarking. Thirdly, it features an approach integrating the role of pragmatism, post-modernism and praxis.

8.2.1 Theorising a Conceptual Model of Informal Benchmarking

The ontology of informal benchmarking is represented by a conceptual model, through the process of abduction-deduction and induction in this pragmatic mixed methods design. "*An ontology is an explicit specification of a conceptualisation and a systematic account of existence"* (Gruber, 1993, p. 1). The preliminary conceptual model (section 2.9) represents the first existential concept of informal benchmarking abducted from a heuristically derived trans-disciplinary approach to academic review. It was substantially re-designed after deductive and inductive analysis of the quantitative and qualitative datasets to theorise a

final conceptual model of informal benchmarking. The research postulates definitions, purposes, characteristics, taxonomy, a toolset descriptive model, and a list of tools & activities of informal benchmarking. Its thoroughness and depth of study provides scholars an axiomatic and comprehensive understanding from which informal benchmarking can be explored further.

8.2.2 New Epistemic View on Benchmarking

Benchmarking has generally been defined as being a formal, structured process of comparing and implementing best practice. It is systematic, procedural and methodological, regardless of the plethora of typologies, forms and models of benchmarking (Anand & Rambabu, 2008; Francis & Holloway, 2007; Spendolini, 1992b). This research provides a fresh perspective on benchmarking, fortified by empirical research. Though informal and formal benchmarking possess a fundamental purpose of comparing and implementing better work practices, their processes are essentially quite different. **The prime difference being the use of methodology in formal benchmarking verses the cultivation of an eco-system for informal benchmarking** vis-à-vis the QUANTUM strategy.

The findings show informal benchmarking occurs in organisations all the time. There is a perpetual dialogue in organisational life that seeks the minutest of work process improvement, be it deliberate or serendipitous. The question is whether or not organisations *"should be more intentional about it"* (Informant 62). Along these lines, informant 20 summarised an important train of thought revolving around the gaining of tremendous insights that seemed unenforceable, causing frustration:

> *"Hahaha that is the minus thing. A lot of the coffee sessions are incidental. You can't make decisions that can be enforced. So it can be fact finding, you can discuss, you can share things, through the exchange both sides can get tremendous insights from this but it's not enforceable, it's not documented. Some of these things you know need to be carried through may have to go to a formal platform to do. The kind of insights can be tremendous but it is incidental. The other downside is that this is incidental. So you don't know what you will get out of it. Suddenly the whole session may be taken up just talking about football you know!"* (Informant 20)

One of the propositions of an ecology to initiate and sustain informal benchmarking lies in the introspective and inter-subjective reflexivity of knowledge workers in the workplace. In other words, each of them have their own learn-scape and how they learn and improve work

practices depends on their own thinking and experience, and how that changes when they interact dynamically with others. While the toolset application model represents an optimum use of day-to-day informal benchmarking tools & activities, it is the QUANTUM strategy that elevates the use of informal benchmarking as an organisational imperative. Such proactivity, as detailed in the 7 QUANTUM components, would negate frustrations expressed by informant 20 above. The blended strategy (section 7.3.2) of informal benchmarking is remarkably different from a rational top-down process associated with the formal benchmarking approach. In its entirety, the informal benchmarking QUANTUM roadmap possess qualities of fluidity, spontaneity, and a holistic integration of work and work practice improvement (Edwards, 2005) exactly where the “rubber meets the road”, that is, at the heart of the workplace environment (Cross, 2007).

8.2.3 Pragmatism, Complemented by Praxis & Reflexivity

The research suggests “a” concept of informal benchmarking, not “the” concept of informal benchmarking. The notion of objective knowledge, a single reality and fundamentalism is not the objective of this pragmatic study, Additionally, it embraces a hint of post-modern pragmatism via quantum flows of knowledge and thinking (Rosenau, 2001) which has been interspersed throughout this discussion chapter.

Despite the strong emphasis of benchmarking (formal) in the transdisciplinary approach to informal benchmarking conceptualisation, its epistemology originated from all 4 disciplines and 3 secondary concepts in the initial academic review via abduction, and reached full conceptualisation after deduction and induction from quantitative and qualitative datasets respectively. Here is how the disciplines and secondary concepts from the literature review interact with the development of the roadmap:

> **Informal learning** and **absorptive capacity** speaks of the learning propensity of organisations and their constituents, while **knowledge management** and **quantum thinking** focuses on illuminating the flow of explicit and tacit knowledge, wisdom, know-how and information that potentially reside within the organisation and their networks. **Positive deviance** describes the knowledge worker who is remarkably resource-wise, and therefore highly productive. The discipline of **organisational learning** focuses on holistic learning models which are useful to explicate the culture and environment for informal benchmarking to flourish in.

The leaning of the entire study is towards pragmatism. All the objectives contribute to the utility (Feilzer, 2010) of informal benchmarking, having first received precipitation from the conceptual model and concluding with a practical application. Praxis then complements pragmatism, by signifying the dynamic fusion between concept and practice, that is, the conceptual model and the QUANTUM roadmap, providing opportunity for progressive improvement to both the theoretical and practical aspects of informal benchmarking in their interactivity with each other via introspective (inner reflection) and inter-subjective reflexivity (reflection with others).

8.3 Practical Implications

Two major practical implications stand out in this study. Firstly, it provides practitioners a cost-effective approach to organisational and business improvement by using informal benchmarking as a strategic imperative. Secondly, it serves as a complement to formal benchmarking.

8.3.1 Informal Benchmarking as a Strategic Initiative

In this research, informal benchmarking presents itself as a remedy for cost-effectiveness and competitive advantage.

8.3.1.1 Cost-effectiveness

Conventional benchmarking in its simplest form consists of at least 5 to 6 major steps which typically causes a project to last between a few months and a few years, varying according to complexity of the project (Anand & Rambabu, 2008; Dattakumar & Jagadeesh, 2003). Notwithstanding, formal benchmarking is considered by many executives as one of the more economic approaches for a range of business goals such as short-term cost reduction, strategic planning and outsourcing (ASQ, 2010). Informal benchmarking is capable of not only retaining the primary benefits of formal benchmarking, it has the ability to add substantial value to it and negate many of the shortcomings associated with its approaches such as strategic risks, hidden costs, strict adherence to instructions (Spendolini, 1992b), inaccessibility to small firms, missing small processes, and a lengthy time to implement (Francis & Holloway, 2007).

Studies have shown that in high velocity environments, the ability to accelerate punctuated learning directly contributes to competitive advantage (Weber, 2003). The informal

benchmarking toolset represents a micro and rapid use of day-to-day tools to learn from any source (person or knowledge asset) on how to improve practices without the need for a complex methodology. As a longer term investment, informal benchmarking is expected to be considerably more cost-effective and cost efficient because the suite of tools used, and the corporate factors supporting it, in other words, the seven QUANTUM components, are mostly internal to the organisation and in many instances are not inter-dependent on each other for implementation to be successful (Weber, 2003). This means organisations need not follow a prescribed methodology for the development of the eco-system to sustain informal benchmarking. Practitioners get to decide how much and how far they wish to upgrade the QUANTUM eco-system components according to their maturity assessment and gap analysis. Informal benchmarking also does not envisage the requirement for any significant technological investment to coincide with its implementation.

8.3.1.2 The scarcity and acceleration of time

Ray Kurzweil, chief engineer at Google, postulated that knowledge workers in the 21st century experience about 20,000 years in a lifetime as compared to those in the previous century (Kurzweil, 2005) because of the unprecedented growth rate in technology and the pace of life. Knowledge workers are therefore always looking for productive solutions in terms of effectiveness, efficiencies and, innovation in a time-scarce executive world.

Josh Bersin, the principle consultant at Deloitte shared on the imbalance of learning opportunities in the workplace. He stated that *95% of real learning takes places during work itself* but this is hardly capitalised or deliberated upon. Instead most organisations focus on the 5% of formal training received outside of the work environment (Bersin, 2004, 2009). One of the distinct advantages of informal benchmarking is that workers can implement the tools in the hustle and bustle of the workplace without being removed from his environment, at the heart of where corporate work is being performed. It requires opportunity and awareness for its purposes to thrive without the need to remove knowledge workers from their work into a classroom environment to be trained in elaborate management tools and methodologies. The caveat here is one of the 7 components of QUANTUM relates to training and facilitation. However, the facilitation element is envisaged to be a much bigger and more important role than that of training for informal benchmarking. At the moment there is no “training” available for informal benchmarking apart from the materialising of the learning from this thesis into a training resource.

8.3.1.3 Usefulness of the Informal Benchmarking QUANTUM Roadmap

The informal benchmarking QUANTUM roadmap is catered to organisations who wish to use informal benchmarking as a strategic imperative to improve organisational practices across the board or in a particular segment of the business/organisation. It suggests steps to cultivating an entire eco-system for informal benchmarking to be a sustainable platform for organisational improvement.

The QUANTUM roadmap uses an eco-system analogous to an organic "purpose-process-people" type of framework (Bartlett & Ghoshal, 2002) which empowers the workers to facilitate and sustain change. Nevertheless, management support remains vital (supported by quantitative findings in section 4.6.1) for strategic congruence and impetus to use resources to build a conducive environment for informal benchmarking to "naturally" occur as a by-product of this eco-system. The blended strategy-making process of QUANTUM is far from a formal, top-down driven system. It combines the symbolic, transactive and generative processes to promote open-mindedness, innovation and tacit knowledge flows amongst its constituents.

What it does require is an investment in an in-house facilitator to cultivate the culture of sharing and learning better, smarter or new practices in the daily routines of corporate life. The qualities of such a facilitator would include positive deviance, corporate experience within the organisation to catalyse the progression of culture and the building of an eco-system that supports informal benchmarking.

8.3.2 Complement to Formal Benchmarking

Informal Benchmarking tools and activities augment formal benchmarking projects in one or more of the following ways:

a. a preliminary tool to formal benchmarking efforts
b. an in-process tool within the stages of a formal benchmarking project
c. a post-implementation tool to formal benchmarking efforts

One of the biggest challenges in training is not nearly the transferability of the learning into the work context, but deciding on the plethora of management tools available on the market. In a global survey of over 8000 executives, Bain and Company grouped the top 25 tools used by businesses with benchmarking consistently featured within the top 10 tools for usage and satisfaction for 10 years since 2005 (Bain & Company, 2015) (figure 8-1). Based

on the international survey of 450 organisations commissioned by the Global Benchmarking Network, informal benchmarking ranked higher than formal (performance and best practice) benchmarking for usage, and is also highly regarded to grow in popularity (R.S. Mann & Kohl., 2008). The high usage of informal benchmarking tools independent of, or as part of a formal benchmarking project, is strongly supported by the quantitative findings (section 4.6.1).

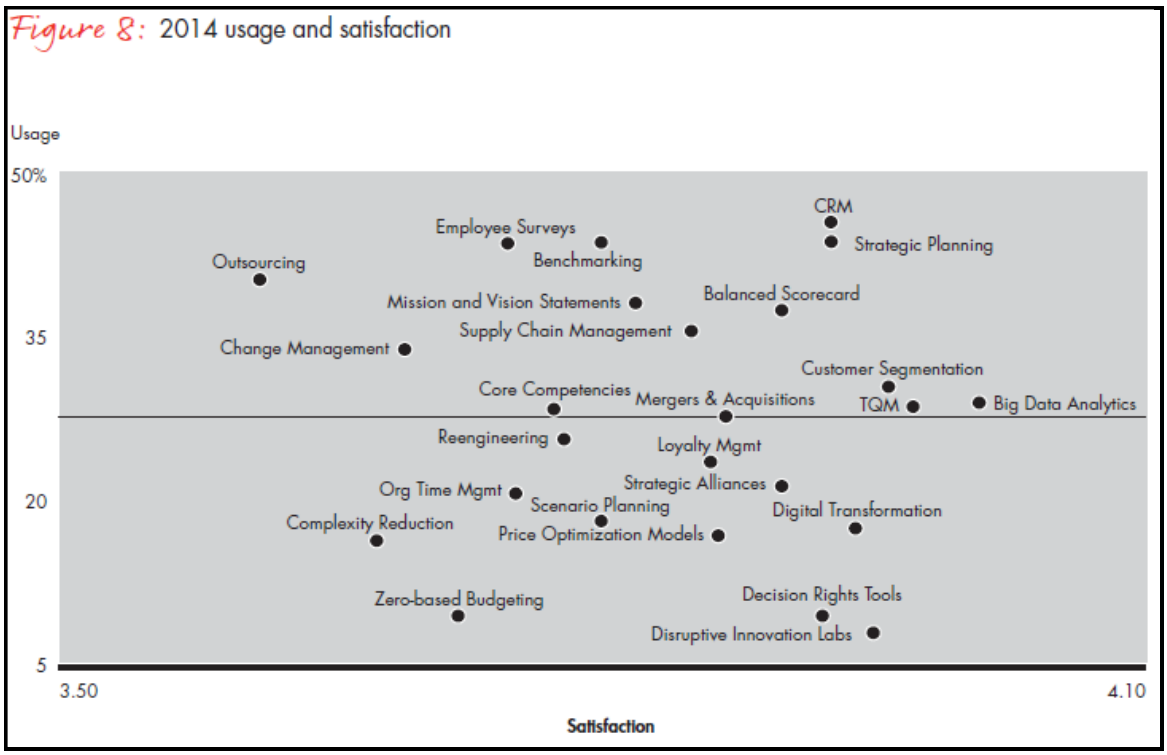


Figure 8-1: Top Business Tools in 2014

(Bain & Company, 2015, p. 16)

To directly complement formal benchmarking efforts, the toolset application model provides a tactical day-to-day application of the tools and activities of informal benchmarking. It lists the most effective and most popular tools and activities, mapped to various benchmarking needs so that organisations can optimise the pre- benchmarking, in-process benchmarking, or post-benchmarking efforts (section 4.2). There is also provision of exemplars or techniques of how the most effective tools have been applied in organisations (section 5.8).

8.4 Limitations

The limitations are categorised as limitations due to literature review, research methodology, research outcomes and the researcher's own reflexivity.

8.4.1 Limitations due to Literature

The paucity of studies on the subject of informal (casual, spontaneous, unplanned) benchmarking meant its quick exhaustion at the outset. Therefore, I heuristically chose amongst a plethora of business and organisational improvement disciplines using an abductive approach to conceptualise informal benchmarking. Though the relevance of the academic review to the research is well- presented summarily (section 7.4.3), the epistemology of informal benchmarking could have varied, if a different set of disciplines was chosen.

8.4.2 Limitations associated with Method

Sample: The survey participants were randomly sampled from a diverse source of entities with members interested in management, business improvement or organisational development. As a result, 81 responses were received from 14 countries of which the majority were senior managers from various industries. The survey sample informed the interview sample of 16 informants. While the sample size and rigour was sufficient for the research and in attaining its objectives, increased sample sizes particularly for the quantitative datasets, would have allowed for more sophisticated quantitative tests to be conducted. A more targeted demography in terms of industry-types could also allow for more specific application of results. A minimum sample size of at least 200 and 10 cases per parameter for powerful multivariate techniques such as structural equation modelling (Kline, 2011) is recommended for the future. A most useful analysis would be the ability to predict the effect of individual tools on each other for greater collective effectiveness.

Likert Scales as Interval Data: The quantitative survey assumed the Likert Scale items to be interval rather than ordinal, after conducting parametric tests. The exception was Q13 and Q14 data which used a Spearman rho non-parametric test for correlation because the data was slightly skewed. The debate on whether Likert Scale items are interval or ordinal is an on-going one (Carifio & Perla, 2008; Harpe, 2015; Jamieson, 2004). A larger sample size would better support the use of interval assumption, (Jamieson, 2004) where the distance between a rating of 1 and 2, is equi-distant between the rating of 2 and 3, or 4 and

5. In this research, effect size on the use of informal benchmarking tools, which directly relates to objective two of the research, was pertinent. Perhaps a non-parametric analysis approach could be taken in the future.

Personal Coding: This is a one-man coding scenario. Being a PhD student, mandatory when the requirement is for self-directed research and analysis, it is very difficult to get another person to commit to such a project. The meaning coding phase is complicated and could have been different if other coders were involved. Notwithstanding the concept-driven dataset, creativity could have been added to how the data was coded and categorised, and thereby arriving at varying analysis and interpretation of results.

8.4.3 Limitations due to Outcomes & Findings

Generalisability & Validity: In view of the diversity of practitioners obtained in the first sample of 81 which was deemed sufficient (see section 3.5 on validation and quality) and that conceptual saturation was attained in the second sample of 16 informants (Guest et al., 2006), the findings are generalisable to organisations in general. However the strength of such a generalisation could be improved with a larger sample size with more varied industries and countries in both the quantitative and qualitative datasets. In addition, its validity could be improved if a reasonably large sample size were taken from a selected setting and the findings only required to apply to that setting (Creswell, 2006, p. 74).

Representativeness: The crisis of representation is not uncommon in most research. It pertains to either to samples being too small or insufficiently random in nature. In this research, the primary objectives were to obtain rich information about informal benchmarking. The quantitative samples of 81 from 14 countries were indeed randomly sampled from a target population of knowledge workers who were already in a community of business excellence practice. These were assumed to be highly cognizant of business excellence tools, their application in the organisation, and were able to articulate and differentiate informal from formal benchmarking practices and tools. If the target were common organisational employees, it might have been more difficult for them to articulate informal benchmarking practices against the wider context of business excellence. For example, they might miss how informal benchmarking complements formal benchmarking projects. Additionally, organisations in general do not necessarily pay attention to organisational development issues and processes all the time. This is evidenced by the fact that two-thirds of the 5000 fastest growing companies fail because they fail to create new

processes to re-invent their products or services (Fortune.com, 2016). The creation or betterment of work processes and practices is the crux of informal benchmarking hence those most au-fait with recognizing and articulating these practices would come from business excellence practitioners. Notwithstanding, it is still possible to survey organisations in general for their views on informal benchmarking in the future.

In this case, the objectives of the research, particularly the QUANTUM roadmap, is a general application for all organisations to use. Case studies or other research approaches could be used to cater for increased precision and specificity in the roadmap for different organisation demographics and industry-types.

Conceptual Model: The conceptual model of informal benchmarking is a first step towards the development of a theory of informal benchmarking. Though the conceptual model is empirically supported by the quantitative datasets, it might still be limited to the constraints of the selected constructs (disciplines and secondary concepts). Other methodological approaches such as grounded theory can be explored in the future for the further development of theory.

The QUANTUM Roadmap: Although the roadmap provides focus areas in the 7 QUANTUM components and 19 sub-components, it is not too highly prescriptive but requires organisations to think about each statement in order to customise its way forward. A very specific and prescriptive roadmap would likely be more suitable for a structured methodological approach, for which the QUANTUM eco-system is not. Additionally, the roadmap merely suggests a rough timeline for its implementation, without evidence of how long it would take to transit from one state of maturity to another. This could probably be incorporated once case studies are performed in the future. The roadmap also suggest both tactical and strategic ways for the successful implementation of informal benchmarking. However, it does not pursue the inclusion a fool-proof marketing plan to garner organisational acceptance of the informal benchmarking approach. This may be included as an area for future research.

8.4.4 Researcher Reflexivity

My own assumptions and world view, having held positions of various kinds in a public organisation of 10,000 employees for 15 years, bears on the interpretation of the findings, and the outcome of the objectives of the research. Rather than negate personal experience

and knowledge in the field of organisation development, my role and interest impacted the selection of constructs (disciplines & secondary concepts) and the entire research process from the initial preliminary model of informal benchmarking to the integrated roadmap. The very limited availability of literature on the subject of the research necessitated a heuristic approach (Moustakas, 1990) where openness to change and discovery is welcomed. Hence, inputs from conferences, benchmarking experts, supervisors, informant feedback, and the strength of the mixed methods design, all assisted to mitigate possible bias in the study.

8.5 Future Research Directions

In view of the limitations of the research (section 7.6), the direction for future research are recommended as follows:

8.5.1 Based On Limitations of the Research

The final outcome of an organisation-wide implementation roadmap is expected to meet with an imminent question of organisational acceptance and sustainability. Future transdisciplinary areas could thus include the social and cultural aspects of organisation, along with the resource costs involved in effecting the informal benchmarking suite of toolset to meet the need of organisational and business improvement in an economy where time is scarce. In short, why should an organisation use informal benchmarking when there are so many other tools at the organisation's disposal?

On the qualitative side, inquiry can revolve around how organisations use informal benchmarking as an aid to formal benchmarking, to improve the formal benchmarking effort, and to improve overall organisational performance. Specifically, how do informal benchmarking techniques deployed before, during and after formal benchmarking efforts affect the effectiveness of the formal benchmarking effort, and the overall effort to improve organisational performance?

8.5.2 Based on Limitations of the Conceptual Model

The research delivers a conceptual model of informal benchmarking which can be built upon, further tested, or re-examined. A first model brings with it the constraints of the constructs (disciplines and concepts) with which it is supported by, assembled, and validated

by the mixed method research process. There is scope for the future to focus on elucidating a purist theory or theoretical model of informal benchmarking using a grounded theory approach. In addition, the conceptual model can be further tested using data modelling techniques to allow for regression and causation to be included by including a much larger sample size (N=>200 and at least 10 samples per parameter).

8.5.3 Based on Limitations of Toolset Application Model & QUANTUM Roadmap

In the toolset application model, there is scope to investigate how the tools are used in relation to the 8 types/content of benchmarking (4 performance & 4 best practices).

In his feedback on the roadmap (which I think is suitable for the future), one informant recommended a phase of substantiating the efficacy of the informal benchmarking roadmap in the following ways:

- *Provide examples of organisations which knows how to get the best value from informal benchmarking amongst staff*
- *Give examples of how these organisations set-up the systems, network, processes or infrastructure for informal benchmarking to happen (incidentally or deliberately)*
- *Show how tapping on this actually improves organisational performance (directly or indirectly)*

(Informant 18).

Along similar lines, these are proposed areas of further study in relation to the roadmap, which would prove to be of high pragmatic value:

a) Finding organisations which do recognise informal benchmarking and them having <u>established processes/systems</u> to support informal benchmarking that can be learnt from
b) Finding organisations that <u>measure the success</u> of their informal benchmarking activities as this will give greater confidence that any tools/activities that are recommended will be beneficial for organisational improvement
c) Case studies on the <u>incisive use/implementation</u> of the most effective and popular tools in any category

d) Case studies on specific functions of an organisations. For example, strategy, services and operations scored the highest means for being the most benchmarked area in the survey findings (section 4.4.7.1)

8.5.4 Based on Unexpected Finding

The findings imply serendipitous learning of work practices appears more effective than intentional efforts. These are attributed to firstly, the relatively much fewer tools (2 vs average of 11 in the social dimension) in the social-internal-incidental category, and secondly, the phraseology of the tool in the non-social-internal-incidental category, “observed a critical incident”, which brought with it strong negative connotations that required an equally strong mitigation, resulting in high scores. Future studies should therefore attempt to include relatively equal number of parameters (tools) for this category and provide a more neutral tool description so that inequality and bias are reduced.

8.6 Concluding Statement

Researching informal benchmarking has been a thrilling experience because of the process of discovery. Paucity of empirical study on informal benchmarking, and the lack of empirical evidence of the surprising fact – that informal benchmarking is not nearly as effective as it is popular, beckons the need for an initial process of abduction. The product of abduction is essentially a preliminary model of informal benchmarking, which has set the stage for the mixed method pragmatic quantitative-qualitative explanatory sequential design. The quantitative dataset from the survey questionnaire informs the semi-structured interviews, whose dataset is coded into 5 layers of conceptually-driven data in the form of dendrograms. Both the analysed datasets are used to further develop the conceptual model of informal benchmarking, a toolset application model (a pragmatic outcome of the conceptual model), the QUANTUM maturity assessment framework and the QUANTUM strategy. From there, the informal benchmarking QUANTUM roadmap is synthesised.

The informal benchmarking QUANTUM roadmap represents a practical implementation plan for organisational and business improvement practitioners. It is my wish it will prove to be a most compelling tool amongst the myriad of other business tools due to its newly founded cost-effectiveness via the roadmap, and already proven popularity.

I also hope the establishment of the first conceptual model of informal benchmarking, and a fresh epistemic perspective on benchmarking makes a significant contribution in the field of benchmarking, and paves the way for the further investigation of informal benchmarking.

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Appendices

Appendix A: Summary of pilot Organisational Tools Survey Results

Demographics of Respondents

- About 70% of the respondents were from the services industry
- 100% were from organisations with 100 or more employees
- 58% of the respondents were at the managerial level in their organisations
- 50% were from organisation development or quality management

Top 3 Organisational Tools

i. These are the top 3 most important organisational tools (social setting) used to share/acquire new knowledge, skills or experiences:

1st) Focused group i.e. goal-oriented group discussion to share/acquire new knowledge or experiences

2nd) Formal organisation event to share/acquire new knowledge or experiences e.g. planning retreats, official launches or inaugural openings

3rd) Dialogue i.e. open-ended group conversation to share/acquire new knowledge or experiences

ii. These are the top 3 most important organisational tools (non-social setting) used to share/acquire new knowledge, skills or experiences:

1st) objectively enabling others to learn new knowledge, skills or experiences i.e. knowledge worker inputs new content obtained from a competitor into a knowledge repository

Joint-2nd) Developing a skill/expertise consciously (excludes formal training) e.g. learning a work process from a colleague and practicing it over time

Joint-2nd) Listening to planned presentations to acquire new knowledge or experiences e.g. conferences, seminars

3rd) Seeking new knowledge/information intentionally i.e. physical or online search

iii. These are the top 3 most important organisational tools (social setting) used to discover/adapt new or better practices/processes:

1st) Consulting with specialists to discover/adapt new or better practices/processes

2nd) Business meetings with other organisations and chanced upon a new or better practice or process

3rd) participating in formal organisation events to discover/adapt new or better practices/processes e.g. planning retreats, official launches or inaugural openings

iv. These are the top 3 most important organisational tools (without much socializing) used to discover/adapt new or better practices/processes:

1st) Participating in business excellence assessments e.g. certifications, ISO standards, that lead you to discover/adapt new or better practices/processes

2nd) Repetition of task/process to deliberately become proficient by innovating/adapting new or better practices/processes

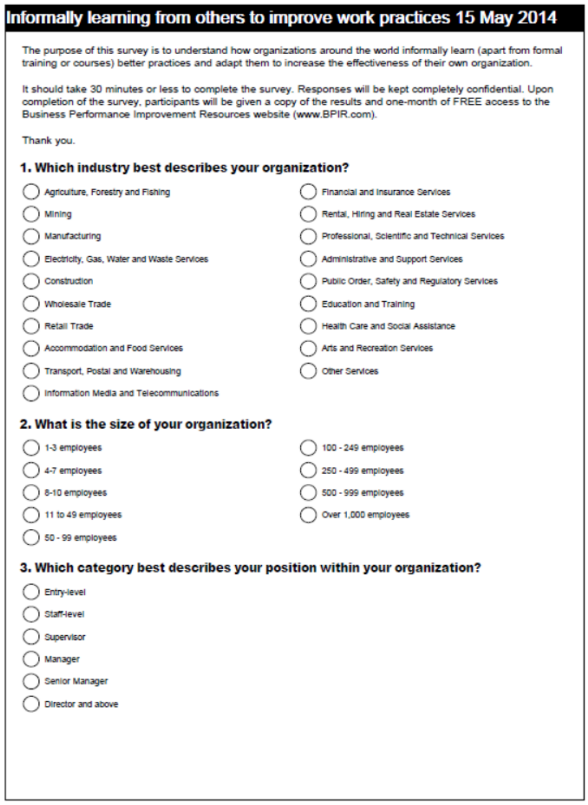
3rd) Taking mental breaks as and when to recharge and open your mind to discover/adapt new or better practices/processes

- 82% of respondents use the organisation tools specified as a means to obtain information and knowledge to complement formal organised benchmarking projects

Extent to which a study on "how to improve the effectiveness of informally learning from others to improve work practices" would be useful to your organisation

- 8% think that the study would be useful to a Very Great Extent
- 33% think that the study would be useful to a Considerable Extent
- 42% think that the study would be useful to a Some Extent
- 17% think that the study would be useful to a Little Extent

Appendix B: Final Survey Questionnaire



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The purpose of this survey is to understand how organizations around the world informally learn (apart from formal training or courses) better practices and adapt them to increase the effectiveness of their own organization.

It should take 30 minutes or less to complete the survey. Responses will be kept completely confidential. Upon completion of the survey, participants will be given a copy of the results and one-month of FREE access to the Business Performance Improvement Resources website (www.BPIR.com).

Thank you.

1. Which industry best describes your organization?

- ◯ Agriculture, Forestry and Fishing
- ◯ Mining
- ◯ Manufacturing
- ◯ Electricity, Gas, Water and Waste Services
- ◯ Construction
- ◯ Wholesale Trade
- ◯ Retail Trade
- ◯ Accommodation and Food Services
- ◯ Transport, Postal and Warehousing
- ◯ Information Media and Telecommunications
- ◯ Financial and Insurance Services
- ◯ Rental, Hiring and Real Estate Services
- ◯ Professional, Scientific and Technical Services
- ◯ Administrative and Support Services
- ◯ Public Order, Safety and Regulatory Services
- ◯ Education and Training
- ◯ Health Care and Social Assistance
- ◯ Arts and Recreation Services
- ◯ Other Services

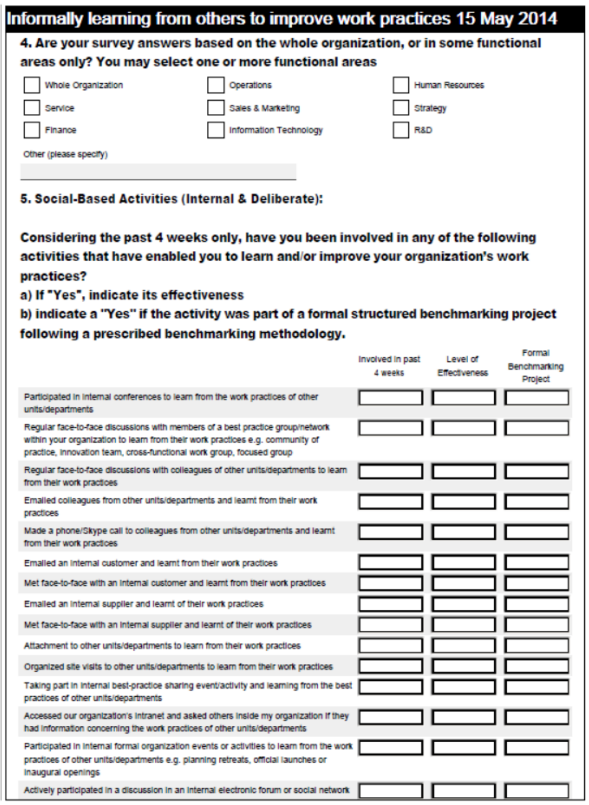
2. What is the size of your organization?

- ◯ 1-3 employees
- ◯ 4-7 employees
- ◯ 8-10 employees
- ◯ 11 to 49 employees
- ◯ 50 - 99 employees
- ◯ 100 - 249 employees
- ◯ 250 - 499 employees
- ◯ 500 - 999 employees
- ◯ Over 1,000 employees

3. Which category best describes your position within your organization?

- ◯ Entry-level
- ◯ Staff-level
- ◯ Supervisor
- ◯ Manager
- ◯ Senior Manager
- ◯ Director and above

Page 1



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4. Are your survey answers based on the whole organization, or in some functional areas only? You may select one or more functional areas

- ☐ Whole Organization
- ☐ Service
- ☐ Finance
- ☐ Operations
- ☐ Sales & Marketing
- ☐ Information Technology
- ☐ Human Resources
- ☐ Strategy
- ☐ R&D

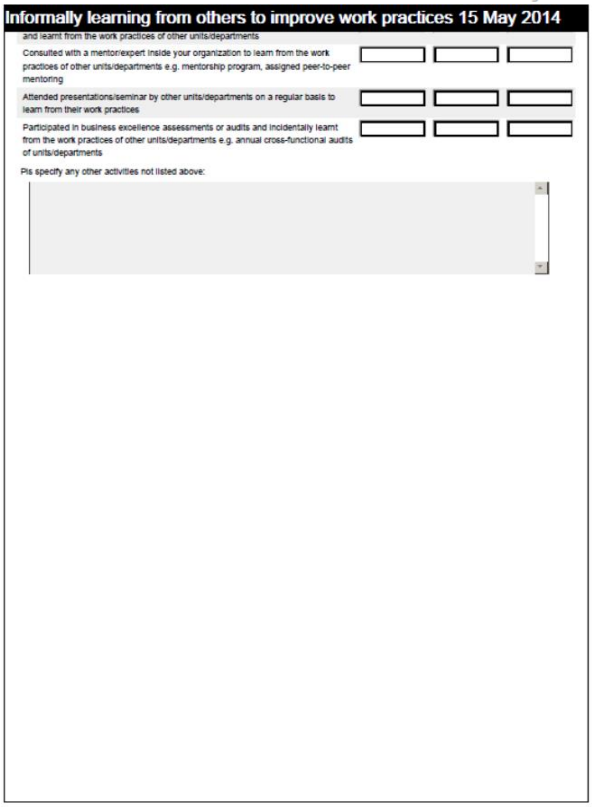
Other (please specify)

5. Social-Based Activities (Internal & Deliberate):

Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organization's work practices?
a) If "Yes", indicate its effectiveness
b) indicate a "Yes" if the activity was part of a formal structured benchmarking project following a prescribed benchmarking methodology.

	Involved in past 4 weeks	Level of Effectiveness	Formal Benchmarking Project
Participated in internal conferences to learn from the work practices of other units/departments			
Regular face-to-face discussions with members of a best practice group/network within your organization to learn from their work practices e.g. community of practice, innovation team, cross-functional work group, focused group			
Regular face-to-face discussions with colleagues of other units/departments to learn from their work practices			
Emailed colleagues from other units/departments and learnt from their work practices			
Made a phone/Skype call to colleagues from other units/departments and learnt from their work practices			
Emailed an internal customer and learnt from their work practices			
Met face-to-face with an internal customer and learnt from their work practices			
Emailed an internal supplier and learnt of their work practices			
Met face-to-face with an internal supplier and learnt of their work practices			
Attachment to other units/departments to learn from their work practices			
Organized site visits to other units/departments to learn from their work practices			
Taking part in internal best-practice sharing event/activity and learning from the best practices of other units/departments			
Accessed our organization's intranet and asked others inside my organization if they had information concerning the work practices of other units/departments			
Participated in internal formal organization events or activities to learn from the work practices of other units/departments e.g. planning retreats, official launches or inaugural openings			
Actively participated in a discussion in an internal electronic forum or social network			

Page 2



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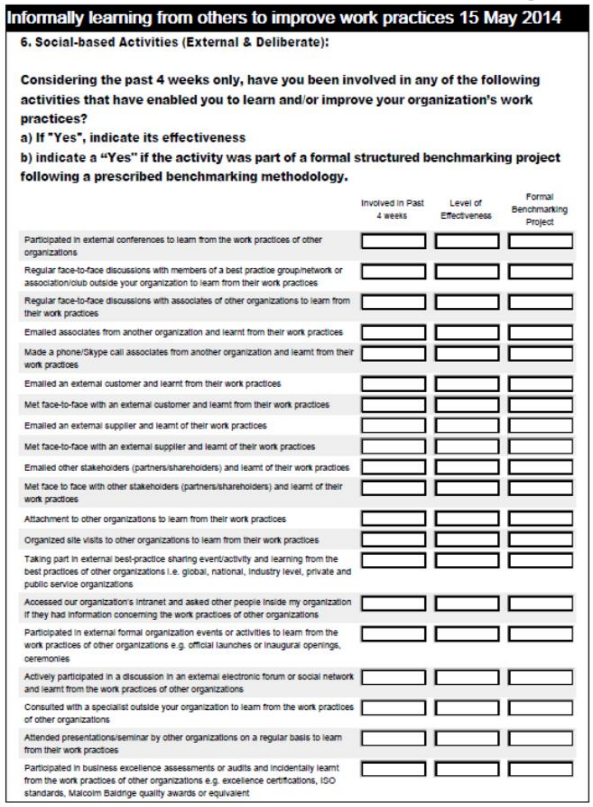
and learnt from the work practices of other units/departments			
Consulted with a mentor/expert inside your organization to learn from the work practices of other units/departments e.g. mentorship program, assigned peer-to-peer mentoring			
Attended presentations/seminar by other units/departments on a regular basis to learn from their work practices			
Participated in business excellence assessments or audits and incidentally learnt from the work practices of other units/departments e.g. annual cross-functional audits of units/departments			

Pls specify any other activities not listed above:

Page 3



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6. Social-based Activities (External & Deliberate):

Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organization's work practices?
a) If "Yes", indicate its effectiveness
b) indicate a "Yes" if the activity was part of a formal structured benchmarking project following a prescribed benchmarking methodology.

	Involved in Past 4 weeks	Level of Effectiveness	Formal Benchmarking Project
Participated in external conferences to learn from the work practices of other organizations			
Regular face-to-face discussions with members of a best practice group/network or association/club outside your organization to learn from their work practices			
Regular face-to-face discussions with associates of other organizations to learn from their work practices			
Emailed associates from another organization and learnt from their work practices			
Made a phone/Skype call associates from another organization and learnt from their work practices			
Emailed an external customer and learnt from their work practices			
Met face-to-face with an external customer and learnt from their work practices			
Emailed an external supplier and learnt of their work practices			
Met face-to-face with an external supplier and learnt of their work practices			
Emailed other stakeholders (partners/shareholders) and learnt of their work practices			
Met face to face with other stakeholders (partners/shareholders) and learnt of their work practices			
Attachment to other organizations to learn from their work practices			
Organized site visits to other organizations to learn from their work practices			
Taking part in external best-practice sharing event/activity and learning from the best practices of other organizations i.e. global, national, industry level, private and public service organizations			
Accessed our organization's intranet and asked other people inside my organization if they had information concerning the work practices of other organizations			
Participated in external formal organization events or activities to learn from the work practices of other organizations e.g. official launches or inaugural openings, ceremonies			
Actively participated in a discussion in an external electronic forum or social network and learnt from the work practices of other organizations			
Consulted with a specialist outside your organization to learn from the work practices of other organizations			
Attended presentations/seminar by other organizations on a regular basis to learn from their work practices			
Participated in business excellence assessments or audits and incidentally learnt from the work practices of other organizations e.g. excellence certifications, ISO standards, Malcolm Baldrige quality awards or equivalent			

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Pls specify any other activities not listed above:

7. Social-based Activities (Internal & Incidental):

Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organization's work practices?
a) If "Yes", indicate its effectiveness
b) indicate a "Yes" if the activity was part of a formal structured benchmarking project following a prescribed benchmarking methodology.

	Involved in past 4 weeks	Level of Effectiveness	Formal Benchmarking Project
Ad-hoc face-to-face conversation with colleagues from other units/departments that incidentally helped you to learn from their work practices e.g. coffee corner, lunches, tea-breaks at or post meetings			
Attended informal functions or social activities of other units/departments and incidentally learnt of their work practices e.g. festivity, celebrations, golf game, walk/run			

Pls specify any other activities not listed above:

8. Social-based Activities (External & Incidental):

Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organization's work practices?
a) If "Yes", indicate its effectiveness
b) indicate a "Yes" if the activity was part of a formal structured benchmarking project following a prescribed benchmarking methodology.

	Involved in past 4 weeks	Level of Effectiveness	Formal Benchmarking Project
Ad-hoc face-to-face conversation with associates from other organizations that incidentally helped you to learn from their work practices e.g. coffee, lunches			
Attended external informal functions or social activities with customers and incidentally learnt of their work practices e.g. festivity, celebrations, golf game			
Attended informal functions or social activities with suppliers and incidentally learnt of their work practices			
Attended informal functions or social activities with other stakeholders (partners/shareholders) and incidentally learnt of their work practices			

Pls specify any other activities not listed above:

9. Non-Social Activities (Internal & Deliberate):

Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organization's work practices?
a) If "Yes", indicate its effectiveness
b) indicate a "Yes" if the activity was part of a formal structured benchmarking project following a prescribed benchmarking methodology.

	Involved in past 4 weeks	Level of Effectiveness	Formal Benchmarking Project
Read regular newsletters of other units/departments to learn from their work practices			
Read internal books/magazines/circulars regularly to deliberately learn from the work practices of other organizations e.g. annual report, standard operating procedure			
Accessed SharePoint or similar collaborative/learning applications to learn from the work practices of other units/departments			
Participated in a benchmarking comparison survey inside your organization to deliberately learn from their work practices e.g. sales performance, studying good or smart practices			
Reviewed our organization's database/knowledge bank of best practices of other units/departments			
Reviewed previous benchmarking projects our organization has undertaken to learn from the work practices of other units/departments			

Pls specify any other activities not listed above:

10. Non-Social Activities (External & Deliberate):

Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organization's work practices?
a) If "Yes", indicate its effectiveness
b) indicate a "Yes" if the activity was part of a formal structured benchmarking project following a prescribed benchmarking methodology.

	Involved in past 4 weeks	Level of Effectiveness	Formal Benchmarking Project
Read regular newsletters of other organizations to learn from their work practices			
Read external books/magazine to deliberately learn from the work practices of other organizations			
Deliberately researched a topic on the Internet to learn from the work practices of other organizations			
Accessed extranet or external websites of other organizations to learn from the work practices of other organizations			
Participated in a benchmarking comparison survey to deliberately learn from the work practices of other organizations e.g. competitors' performance, studying good or smart practices			
Reviewed a database/knowledge bank of best practices of other organizations			
Reviewed previous benchmarking projects our organization has undertaken to learn from the work practices of other organizations			

Pls specify any other activities not listed above:

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11. Non-Social Activities (Internal & Incidental):

Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organization's work practices?
a) If "Yes", indicate its effectiveness
b) indicate a "Yes" if the activity was part of a formal structured benchmarking project following a prescribed benchmarking methodology.

	Involved in past 4 weeks	Level of Effectiveness	Formal Benchmarking Project
Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organizations			
Observed a critical incident of other units/departments that enabled you to learn from their work practices i.e. a situation or condition which made you question your own work practices			
Found information on SharePoint or other intranet applications which incidentally helped you to learn from the work practices of other units/departments			
Read internal books/magazines which incidentally helped you to learn from the work practices of other units/departments			
Read a random internal newsletter which incidentally helped you to learn from the work practices of other units/departments			

Pls specify any other activities not listed above:

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12. Non-Social Activities (External & Incidental):

Considering the past 4 weeks only, have you been involved in any of the following activities that have enabled you to learn and/or improve your organization's work practices?
a) If "Yes", indicate its effectiveness
b) indicate a "Yes" if the activity was part of a formal structured benchmarking project following a prescribed benchmarking methodology.

	Involved in past 4 weeks	Level of Effectiveness	Formal Benchmarking Project
Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organizations			
Observed a critical incident of other organizations that enabled you to learn from their work practices i.e. a situation or condition which made you question your own work practices			
Found information on extranet or external websites of other organizations which incidentally helped you to learn from their work practices			
Read external books/magazines which incidentally helped you to learn from the work practices of other organizations			
Read a random external newsletter which incidentally helped you to learn from the work practices of other organizations			

Pls specify any other activities not listed above:

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13. How important is it for your organization to compare the performance levels of a process/activity with other organizations ? Indicate the level of importance for the functional areas you are familiar with.

	Not Important	Slightly Important	Moderately Important	Important	Very Important
Whole Organization	◯	◯	◯	◯	◯
Service	◯	◯	◯	◯	◯
Finance	◯	◯	◯	◯	◯
Operations	◯	◯	◯	◯	◯
Sales & Marketing	◯	◯	◯	◯	◯
Information Technology	◯	◯	◯	◯	◯
Human Resources	◯	◯	◯	◯	◯
Strategy	◯	◯	◯	◯	◯
R&D	◯	◯	◯	◯	◯

Other (please specify)

14. How important is it for your organization to follow a structured process for comparing performance levels with other organizations and adapt/implement those better practices? Indicate the level of importance for the functional areas you are familiar with.

	Not Important	Slightly Important	Moderately Important	Important	Very Important
Whole Organization	◯	◯	◯	◯	◯
Service	◯	◯	◯	◯	◯
Finance	◯	◯	◯	◯	◯
Operations	◯	◯	◯	◯	◯
Sales & Marketing	◯	◯	◯	◯	◯
Information Technology	◯	◯	◯	◯	◯
Human Resources	◯	◯	◯	◯	◯
Strategy	◯	◯	◯	◯	◯
R&D	◯	◯	◯	◯	◯

Other (please specify)

15. To what extent are better practices or processes readily learnt in your organization?

- ◯ Not at all
- ◯ To a little extent
- ◯ To some extent
- ◯ To a considerable extent
- ◯ To a great extent

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16. To what extent are better practices or processes readily implemented in your organization?

- ◯ Not at all
- ◯ To a little extent
- ◯ To some extent
- ◯ To a considerable extent
- ◯ To a great extent

17. To what extent does your organization use the activities specified in Q5 and Q12 to obtain information and knowledge to aid in formally organized benchmarking projects?

- ◯ Not at all
- ◯ To a little extent
- ◯ To some extent
- ◯ To a considerable extent
- ◯ To a great extent

18. What is the level of importance for informally learning work practices from other organizations in order to improve work practices in your organization? Choose one of the following:

Informally learning from others to improve work practices is defined as:
A familiar and flexible way of comparing and learning from better or best practices of other organizations for the purpose of improving work practices in your organization. It is content focused without following a structured methodology. The learning is either intentional or incidental and is sometimes spontaneous, speedier and unconventional. It will ultimately bring about improved practices upon the implementation of its learning.

- ◯ Not Important – Informally learning from others to improve our work practices is not important nor relevant
- ◯ Slightly Important – Informally learning from others to improve our work practices is limited to knowing what are the best practices out there in the industry. However, nothing is done with the information.
- ◯ Moderately Important – Informally learning from others to improve our work practices is performed only when problems or challenges arise in order to improve one's practices.
- ◯ Important– Informally learning from others to improve our work practices actively in key functional areas. Importance is given to remain competitive by adapting new practices to improve our practices in key areas of the organization.
- ◯ Very Important – Informally learning from others to improve our work practices is very important and takes place at every level of the organization. The management uses such learning to gain a competitive edge and achieve best in class performance.

19. What is the culture of informally learning from others to improve work practices in your organization? Choose one of the following:

- ◯ Little or No Culture - Informally learning from others to improve our work practices is hardly seen nor practiced
- ◯ Awareness Culture - random informal learning from others but the information is not used to improve work practices beyond the individual level of learning
- ◯ Reactive Culture - random and ad-hoc informal learning from others to improve our work practices but limited to areas deemed critical only
- ◯ Active Culture - deliberate informal learning from others to improve our work practices. Staff actively take up learning opportunities such as conferences, seminars and learning visits, etc. The new practices learnt are readily shared for adaptation and adoption in these key areas of the organization.
- ◯ Pervasive Culture - An integrated system is in place for informally learning from others to improve our work practices and the sharing of these practices for organizational wide implementation. There is very strong buy-in by staff. Incentives/ awards for sharing, adopting and adapting these practices at all levels of the organization. It includes the review and refinement of approaches taken to informally learning from others, measuring its results and sharing them.

20. What is the level of support from management for informally learning from others to improve work practices in your organization? Choose one of the following:

- ◯ Not Supported - Informally learning from others to improve our work practices is not supported at all
- ◯ Little Support – little support from management. Staff are left on their own to informally learning from others to improve work practices
- ◯ Supported - limited provision of resources such as conferences, seminars or learning visits, etc. from management to support informal learning from others to improve work practices. Only a very limited number of best practices learnt are adapted to the whole organization
- ◯ Strongly Supported - active participation and belief by management that informally learning from others to improve our work practices is cost-effective. There is ample resources and prioritization for implementing best or better practices
- ◯ Very Strongly Supported - full support and participation of management. Informally learning from others to improve our work practices is part of the management strategy to improve performance and gain a competitive edge

21. What is the impact of informally learning from others to improve work practices in your organization? Choose one of the following:

- ◯ No Impact - no benefits of informally learning from others to improve our work practices whatsoever
- ◯ Little Impact - benefits of informally learning from others to improve our work practices is not known or measured but there is some evidence that learning has taken place
- ◯ Some Impact - informally learning from others to improve our work practices is known to benefit and is shared qualitatively i.e. stories or narratives but not articulated in quantifiable terms
- ◯ Considerable Impact - The impact of informally learning from others to improve our work practices is assessed at timely intervals. Efforts to quantify its benefits are made to ensure its continued support and promotion
- ◯ Great Impact - Value and cost of informally learning from others to improve our work practices can be clearly demonstrated in both qualitative and quantitative terms. Incentives/rewards are given for its continued use

22. To what extent would a study on "how to improve the effectiveness of informally learning from other organizations to improve work practices" be useful to your organization?

- ◯ Not at all
- ◯ To a little extent
- ◯ To some extent
- ◯ To a considerable extent
- ◯ To a great extent

23. Thank you for completing the survey. Please choose from the following boxes:

	Yes	No
Would you like a copy of the survey results?	◯	◯
Would you like free access to www.BPIR.com (Business Performance Improvement Resource) for one month?	◯	◯
Would you like to have a chance to participate in further surveys?	◯	◯

24. Please provide the following details to receive the survey results and free access to www.BPIR.com

Name:

Company(optional):

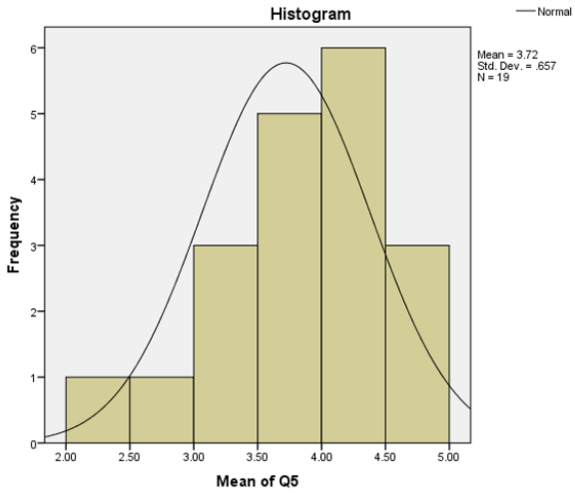
Country of work:

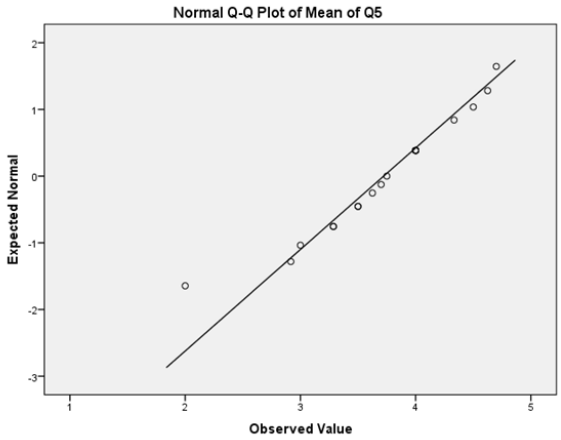
Email Address:

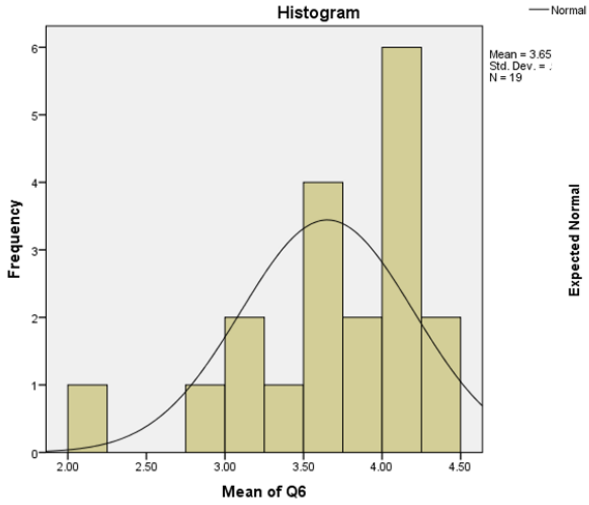
Phone(optional):

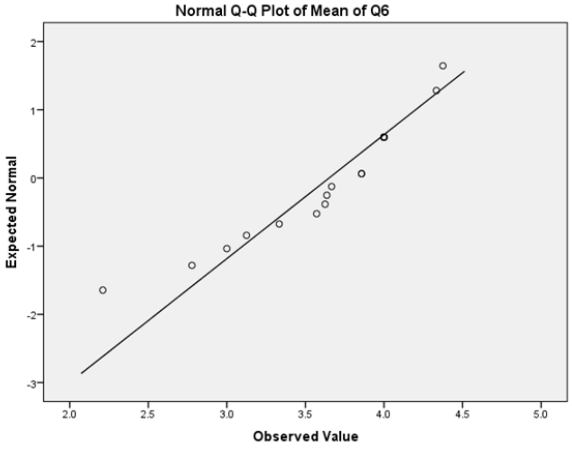
Appendix C: Normal Distribution Charts, Graphs & Tables

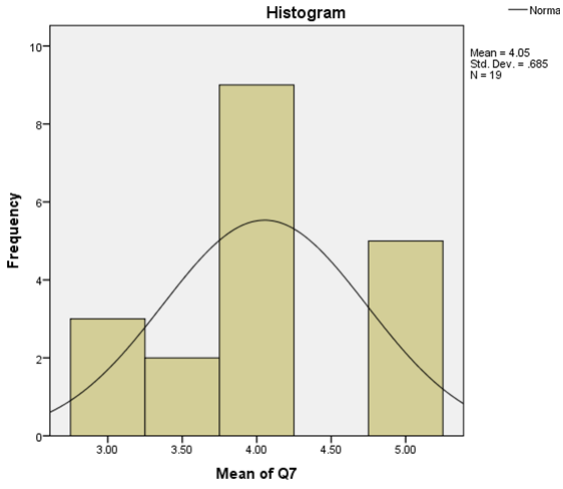
Means of Q5-Q12 Approximately Normally Distributed

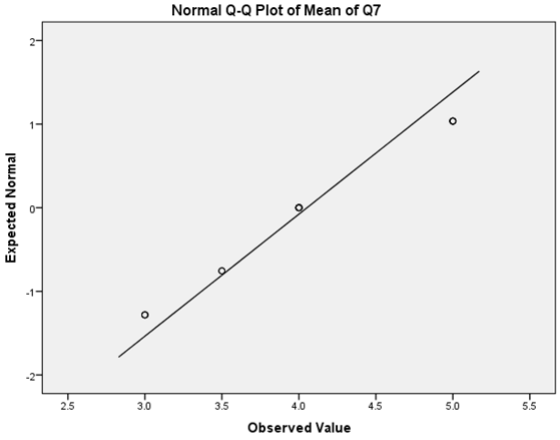


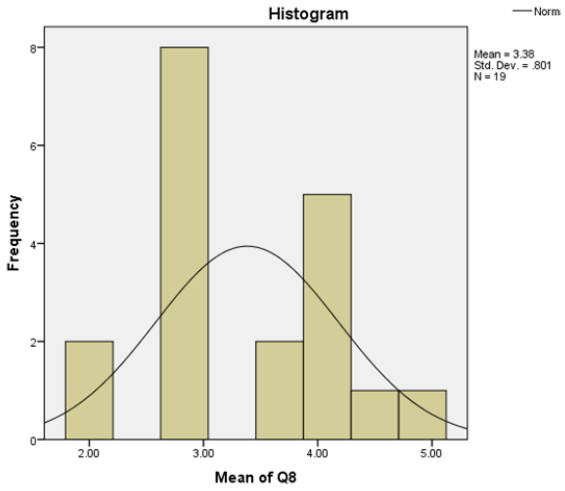


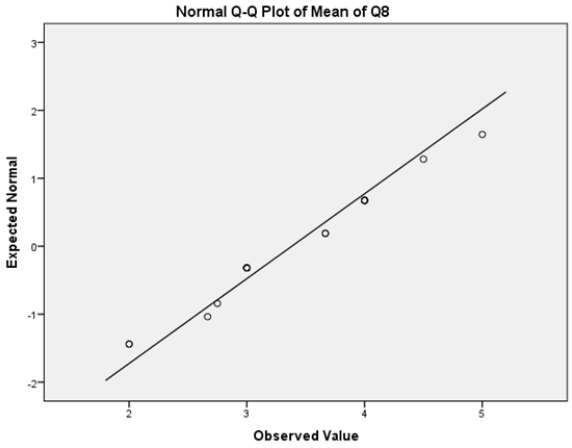


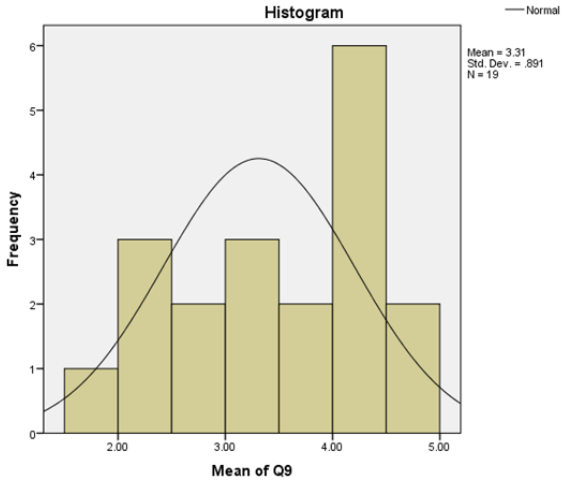


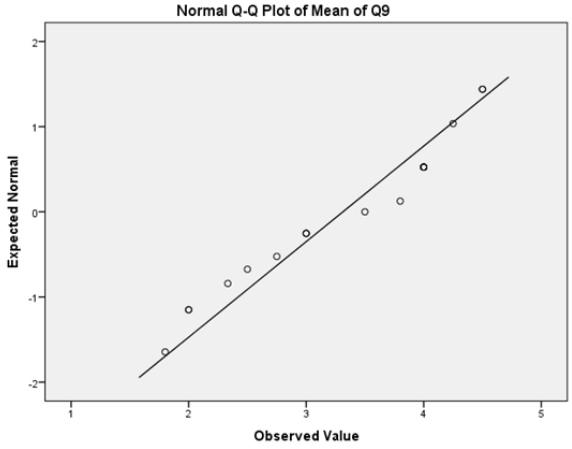


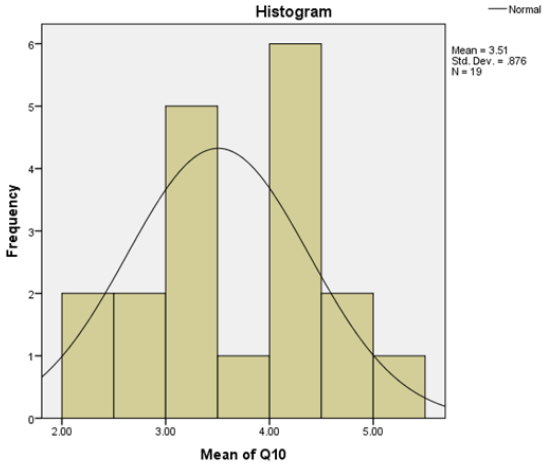


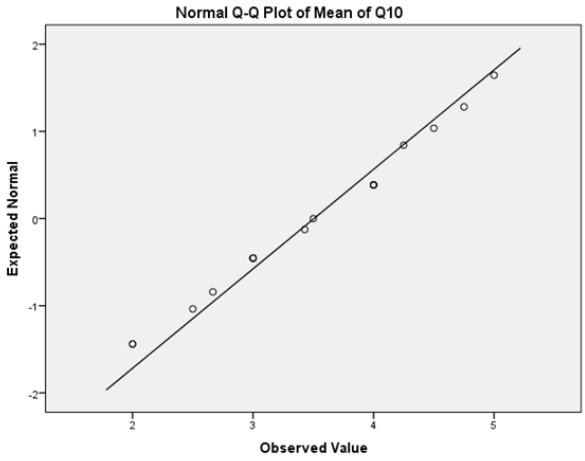

Histogram
Norm
Mean = 3.38
Std. Dev. = .801
N = 19
Frequency
Mean of Q8

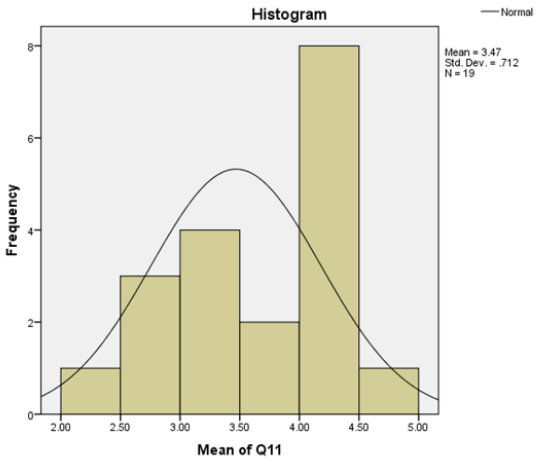

Normal Q-Q Plot of Mean of Q8
Expected Normal
Observed Value

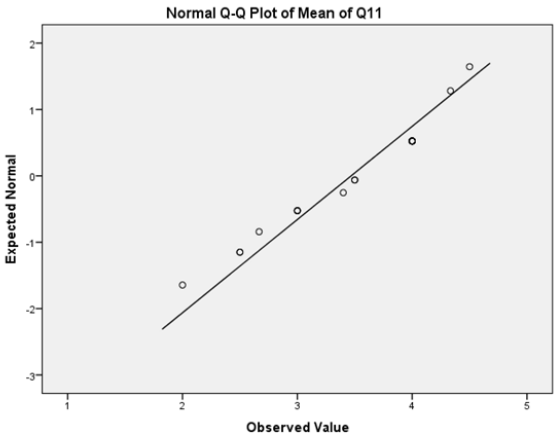

Histogram
Normal
Mean = 3.31
Std. Dev. = .891
N = 19
Frequency
Mean of Q9

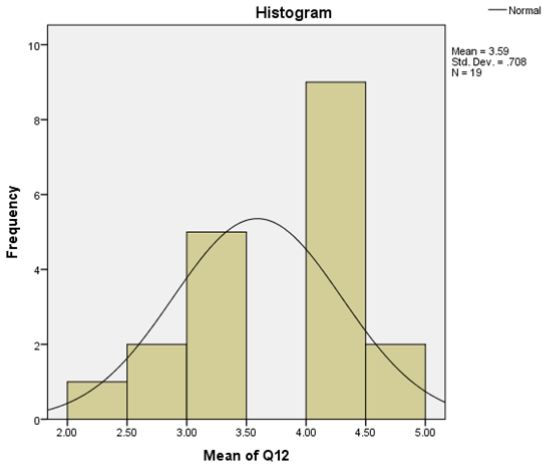

Normal Q-Q Plot of Mean of Q9
Expected Normal
Observed Value

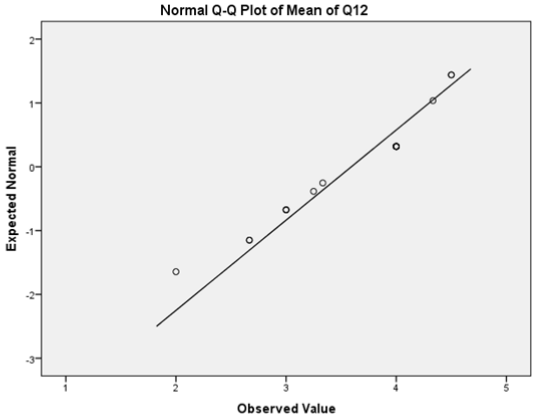

Histogram
Normal
Mean = 3.51
Std. Dev. = .876
N = 19
Frequency
Mean of Q10


Normal Q-Q Plot of Mean of Q10
Expected Normal
Observed Value


Histogram
Normal
Mean = 3.47
Std. Dev. = .712
N = 19
Frequency
Mean of Q11


Normal Q-Q Plot of Mean of Q11
Expected Normal
Observed Value


Histogram
Normal
Mean = 3.59
Std. Dev. = .708
N = 19
Frequency
Mean of Q12


Normal Q-Q Plot of Mean of Q12
Expected Normal
Observed Value

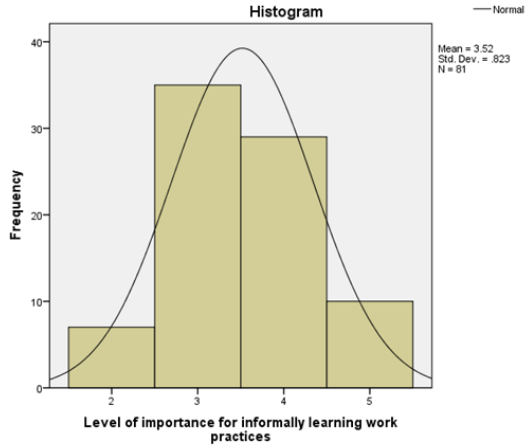
Maturity Grid – Characteristics (variables) are normally distributed

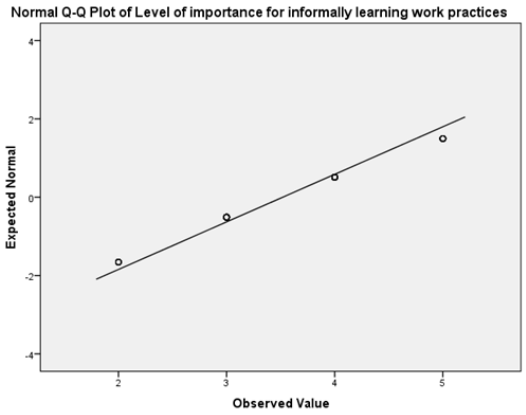
Descriptives

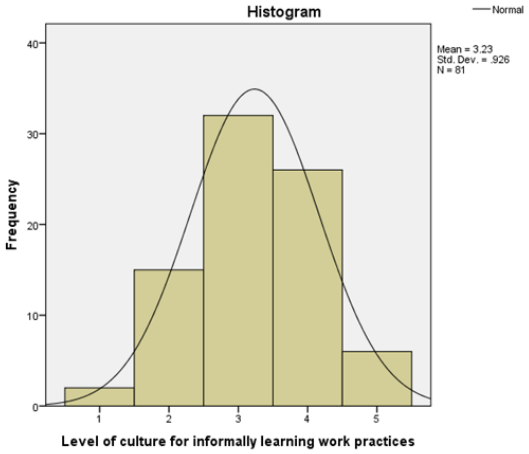
			Statistic	Std. Error
Level of importance for informally learning work practices	Mean		3.52	.091
	95% Confidence Interval for Mean	Lower Bound	3.34	
		Upper Bound	3.70	
	5% Trimmed Mean		3.52	
	Median		3.00	
	Variance		.678	
	Std. Deviation		.823	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		.146	.267
	Kurtosis		-.491	.529
Level of culture for informally learning work practices	Mean		3.23	.103
	95% Confidence Interval for Mean	Lower Bound	3.03	
		Upper Bound	3.44	
	5% Trimmed Mean		3.23	
	Median		3.00	
	Variance		.857	
	Std. Deviation		.926	
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		1	
	Skewness		-.101	.267
	Kurtosis		-.326	.529
Level of support for informally learning work practices	Mean		3.21	.108
	95% Confidence Interval for Mean	Lower Bound	3.00	
		Upper Bound	3.42	
	5% Trimmed Mean		3.19	
	Median		3.00	
	Variance		.943	
	Std. Deviation		.971	
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		2	
	Skewness		.151	.267
	Kurtosis		-.723	.529
Level of impact for informally learning work practices	Mean		3.21	.091
	95% Confidence Interval for Mean	Lower Bound	3.03	
		Upper Bound	3.39	

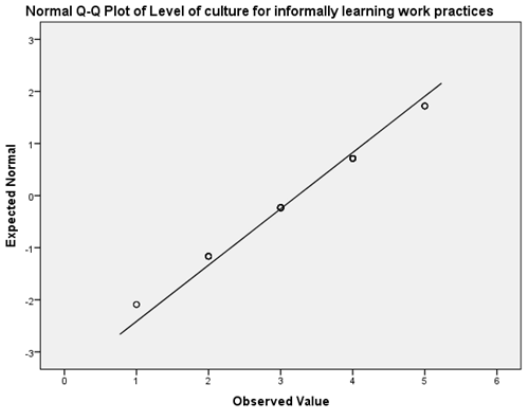
	5% Trimmed Mean	3.18	
	Median	3.00	
	Variance	.668	
	Std. Deviation	.817	
	Minimum	2	
	Maximum	5	
	Range	3	
	Interquartile Range	1	
	Skewness	.437	.267
	Kurtosis	-.123	.529

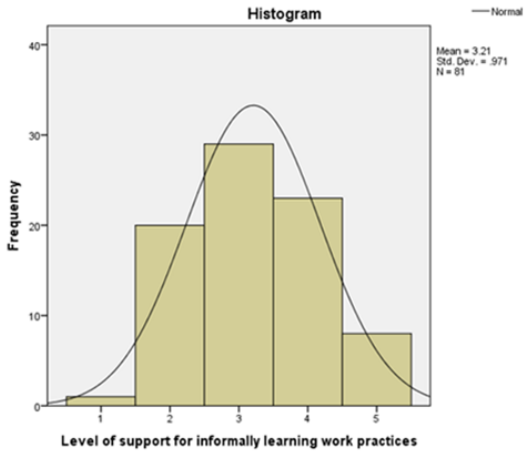
Means of Q18-Q21 Approximately Normally Distributed

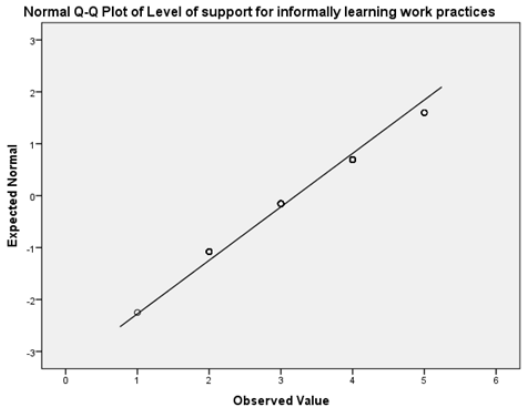


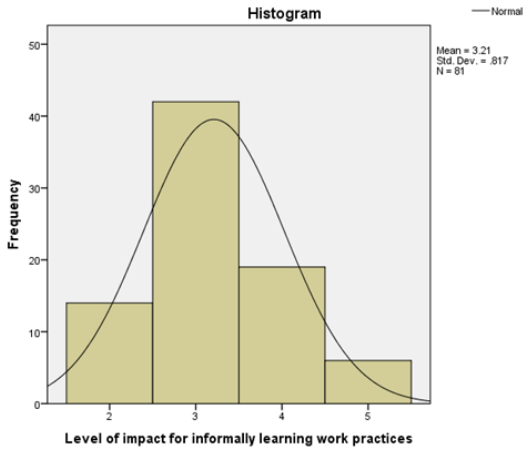


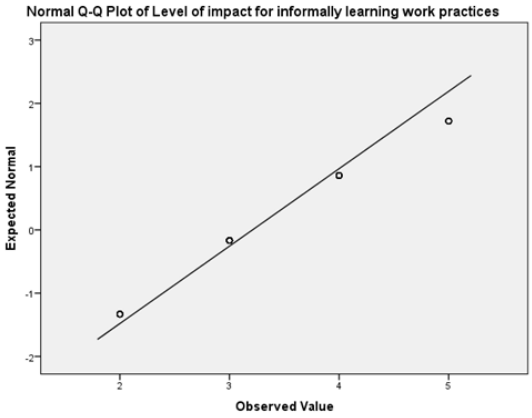




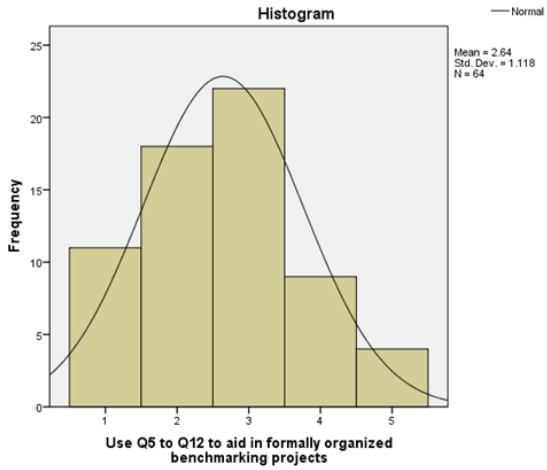


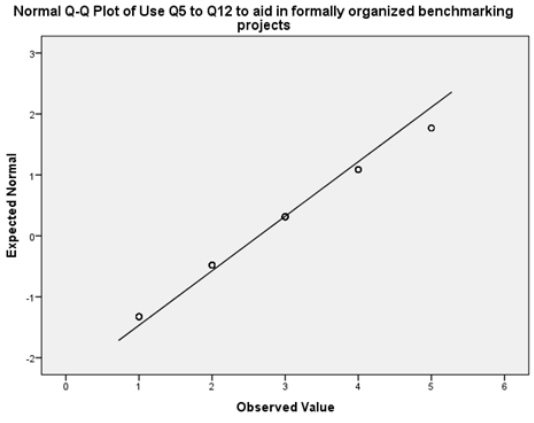






Mean of Q17 approximately normally distributed





Appendix D: Survey Informants Scoring List

No.	Points	Informant		No.	Points	Informant	
1	**189**	**3**	**Interviewed**	42	69	70	below average
2	**179**	**18**	**Interviewed**	43	66	36	below average
3	175	2	Not available	44	65	39	below average
4	161	72	Not available	45	63	80	below average
5	**160**	**49**	**Interviewed**	46	62	66	below average
6	**151**	**5**	**Interviewed**	47	58	8	below average
7	151	21	responded but no skype	48	57	51	below average
8	**151**	**60**	**Interviewed**	**49**	**56**	**31**	**Interviewed, BE winner**
9	**148**	**1**	**Interviewed**	50	56	48	below average
10	142	4	Not available	51	52	81	below average
11	**136**	**16**	**Interviewed**	**52**	**51**	**77**	***Interviewed, few "very effective" ratings***
12	135	28	Not available	53	51	55	below average
13	**132**	**20**	**Interviewed**	54	51	37	below average
14	130	71	Not available	55	47	29	below average
15	**127**	**27**	**Interviewed**	56	46	65	below average
16	122	23	Not available	57	44	7	below average
17	115	64	not sending	58	43	22	below average
18	111	6	Not available	59	43	44	below average
19	**107**	**62**	**Interviewed**	60	41	13	below average
20	105	78	not sending	61	40	56	below average
21	104	14	not sending	62	38	46	below average
22	102	58	Not available	63	38	76	below average
23	98	67	Not available	64	37	24	below average
24	97	9	not sending	65	35	11	below average
25	95	35	not sending	66	34	42	below average
26	95	43	Not available	67	30	15	below average
27	94	74	Not available	68	29	79	below average
28	**93**	**10**	**Interviewed**	69	26	41	below average
29	91	75	Not available	70	25	61	below average
30	**90**	**73**	**Interviewed**	71	23	17	below average
31	89	25	not sending, no very effective scores	72	23	38	below average
32	88	33	not sending	73	23	69	below average
33	83	68	not sending	74	22	40	below average
34	80	50	not sending	75	18	57	below average
35	80	52	not sending	76	17	19	below average
36	**79**	**63**	***Interviewed, BE inner***	77	17	59	below average

37	78	47	not sending	78	14	30	below average
38	77	53	not sending	79	12	45	below average
39	76	54	not sending	80	10	26	below average
40	74	34	not sending	81	8	12	below average
41	69	32	not sending	-	-	-	-

Appendix E: Meaning Condensation example from an interview Session

	Interview Transcript Unit	Condensed Meaning
1	Yup. If I was looking from a HR perspective, an example was like improving the management of information across the organisation. So one example was when implemented a HR system, it was necessary to talk to all the departments and then plan what it was we needed to implement. So the HR system was, I suppose you could say when you are looking at how you could improve things. When you are talking you are talking about how you could improve. It could just in general chat, and not in a set meeting. You might be there going to see someone for some other reason. In the end you just could end up talking about something you could improve. I suppose that is informal. When you are working on a project that moves into more the structured. That's when you do the planning and finalise things.	From a HR perspective, there is a general chat that takes place across several departments rather than a set meeting amongst people at the first instance. It then moves to a structured form when a project has been determined
2	The operations team, that's on the smaller organisation I am working with. That's where we have the managerial, myself, team leaders, coach, and C Staff (people on the floor). So you have people on every level of the organisation. You got one or two representatives for each of those roles. What you're doing at the start of each year, what you doing as you're going through everything you do within the organisation. It's like doing a bit of an audit in some way and looking at how are things going, what you need to improve and you determine what are the plans for the year and what you want to start implementing. All the processes within the organisation, that's what you're looking at. The focus at the end of the day is how can we do better for the clients that we are servicing? But you are looking across the organisation. So, on an ongoing basis, there are suggestions coming in from anyone within the organisation, and that that team are actually looking at and reviewing and seeing what can be implemented or what needs to be implemented.	The team's formalised approach to brainstorm and agreeing to project mandates often led to more informal chats and discussions at coffee corners or otherwise to bounce ideas and refine them

	They meet fortnightly. What happens as a result of that meeting those particular people are part of that group get a far better knowledge of everything across the org. one of the reasons I was putting it in the first instance was to help them develop more skills and help them to be able to think at a higher level. Some will be get to able to think strategically but it's just helping them grow. When various things for improvements are identified. These people are then involved in a project to actually implemented that. Sections of it are informal and sections of it formal, you know a project, when someone is working on, it becomes quite formal because it has actions as to what he is doing, there is a measure to ensure there is an improvement put in place. So there are measures put in place to tell what the differences are.	In this instance the formal precedes the informal as way of refining ideas. Many a note-worthy project are implemented to improve processes and functions in the company as a result of the both the formal and informal exchanges.

Appendix F: Invitational Template to Informants

PROJECT TITLE: INFORMALLY LEARNING FROM OTHERS TO IMPROVE WORK PRACTICES

INFORMATION SHEET FOR PARTICIPANTS OF INTERVIEW

Researcher: Alan Samuel
PhD Researcher, Centre for Organisational Excellence
School of Engineering and Advanced Technology
Massey University, New Zealand

Purpose of Project

The aim of this project is to understand how organisations around the world informally learn (apart from formal training or courses) better work practices and implement or adapt them to increase the effectiveness of their own organisation.

Project Summary

Results of two global surveys show that informal benchmarking rank in the top 20% of the most popular organisation improvement tools. The results also indicate that informal benchmarking is not as effective as it is popular, therefore there is room to enhance its performance. The focus of this project is twofold. Firstly, it illustrates the conception of a preliminary model of informal benchmarking by the review of benchmarking, informal learning, organisation learning and knowledge management, augmented by ideas on quantum thinking, innovation and positive deviance. Discussions with benchmarking practitioners were also held to strengthen the model. Secondly, it outlines a mixed methods approach to obtain data (not yet completed) on informal benchmarking practices in organisations via quantitative surveys and qualitative semi-structured interviews. The data will then be used to refine the conceptual model, prepare an assessment framework, and design a road-map for implementing an effective organisation-wide approach of informal benchmarking.

Invitation to participate

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether to participate. If you do decide to participate, I sincerely thank you. If you decide not to take part, there will be no disadvantage to you and I thank you for considering my request.

You have been selected based on the score obtained on the survey “Learning informally from others to improve work practices”. The top 25% of scorers who indicate they are willing to participate in further surveys are automatically selected for interview.

A total of 16 to 25 interviews have been targeted to achieve enough data for some generalisation, if possible. It also allows for the uniqueness of organisations to be captured with this number of interviews.

Interview procedure
Each of you will be interviewed separately at a mutually agreed time and location (skype is also possible). The personal interviews will last for no more than one hour each. With your permission the interview session will be audio recorded to comprehensively gather all relevant views and comments related to the project.

This project involves a semi-structured questioning technique. You will be asked a total of 5 pre-determined questions about your experience in learning informally from others to improve work practices. As the interview proceeds, other lines of inquiry is expected to relate to these 5 main questions. The 5 main questions are:

1. **Based on the list of tools, technique or activities (show list of activities or survey if he responded), how effective has the tool(s) been?**

2. **What is the purpose of the _____ (name of informal benchmarking tool, technique or activity)?**

3. **How does the tool, technique or activity support Informal Benchmarking?**

4. **How do you get people to share work practices and experiences within the organisation?**

5. **How can the tool, technique or activity be measured for effectiveness?**

There is no disadvantage to not answering any question.

A copy of a taxonomy/classification of informal benchmarking and a list of its tools is provided in Annex A and B respectively. These will be referenced during the interview.

Data Management
The data collected will be securely stored in such a way that only those mentioned below will be able to gain access to it. At the end of the project, all personal information will be immediately destroyed except that, as required by the university's research policy. Any raw data on which the results of the project depend will be retained in secured storage for five years, after which it will be destroyed.

The research may be presented in various forms such as reports, conferences and seminar presentations and proceedings. The results of the project may be published and will be made available in Massey University Library, New Zealand.

This proposal has been reviewed and approved by the Centre for Organisational Excellence Research, Massey University. If you have other questions about this project, either now or in the future, feel free to contact either:-

Participant's Rights
Your name or organisation will not be used unless expressed permission is given by you. You are free to request the audio recording to be turned off at any time, and you may ask any questions about the project at any time during participation. Audio records will only be used for the research project.

In the event that interview develops in such a way that you feel hesitant or uncomfortable, you are reminded of the right to decline to answer any particular question(s) and may withdraw from the project at any stage without any disadvantage to yourself.

Upon completion of the project, you will be provided with a summary of the findings.

Project Contact
If you have any questions on the project, please contact any of the following:

Alan Samuel
Centre for Organisational Excellence Research
School of Engineering and Advanced Technology
Massey University, New Zealand
Email: alansamuelnow@gmail.com, Telephone No. +64220704436

Dr Robin Mann
Centre for Organisational Excellence Research
School of Engineering and Advanced Technology
Massey University, New Zealand
Email: R.S.Mann@massey.ac.nz, Telephone No. +64 63 569 099 Ext 5445

Associate Professor Nigel Grigg
School of Engineering and Advanced Technology
Massey University, New Zealand
Email: N.Grigg@massey.ac.nz, Telephone No. +64 63 569 099 Ext 81732

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director, Research Ethics, telephone 06 350 5249, email humanethics@massey.ac.nz.

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

SCHOOL OF ENGINEERING AND ADVANCED TECHNOLOGY

PROJECT TITLE: INFORMALLY LEARNING FROM OTHERS TO IMPROVE WORK PRACTICES (INFORMAL BENCHMARKING)

PARTICIPANT CONSENT FORM FOR INTERVIEW - INDIVIDUAL

I have read the Information Sheet and have had the details of the project explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the interview being sound recorded.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: ..... **Date:** .....

Full Name - printed .....

Appendix G: Business Practice Sharing Meta Tools

Business Practice Sharing Meta-tools & Techniques		
1	exemplars sharing (stand-alone, pre)	audit results (stand-alone, post)
2	audit results (stand-alone, post)	inspectorate findings (stand-alone, post)
3	article help work improve (stand-alone, pre)	acceptable practice in writing (all)
4	specific best practice (all)	success stories (all)
5	action plans (stand-alone, during, post0	procedures and policy (all)
6	documented best practice (all)	Rulebook (all)
7	Others share material (all)	other industry best practices (all)
8	learnt a new practice (all)	auditors findings (stand-alone, pre)
9	Case laws influence policy (all)	processes review (all)
10	multi-view teams (all)	cross interrogation of practices (all)
11	specialists discussion (all)	common function sharing (all)
12	discovering redundant process (stand-alone, pre)	case studies best practice (all)
13	cross function/discipline sharing (all)	personal or work related best practice sharing (all)
14	show and tell best practice event (all)	similar functions visits (all)
15	compulsory visits to other units (all)	best in class learning (all)
16	direct best practice event (all)	combination of tools for strategic benchmarking (all)
17	spontaneous conversations (all)	consult to set up program (stand-alone, pre)
18	expert project demonstration (stand-alone, pre)	discover from commonality in groups (stand-alone, pre)
19	inquiring from groups practices (all)	visit similar function group (all)
20	induction programmes (stand-alone, pre)	-

Appendix H: Informal Benchmarking QUANTUM Roadmap

Centre for Organizational Excellence Research
School of Engineering and Advanced Technology,
Massey University
Palmerston North, New Zealand
www.coer.co.nz

THE INFORMAL BENCHMARKING QUANTUM ROADMAP - AN ORGANISATIONAL IMPROVEMENT INITIATIVE

Developed by:

Alan Samuel
PhD Researcher
alansamuelnow@gmail.com

Acknowledgement:

I would like to acknowledge the wisdom and guidance of my supervisors Dr Robin Mann & Prof Nigel Grigg in the development of the Informal Benchmarking QUANTUM Roadmap. My deepest appreciation goes to my interview and survey informants for their invaluable insights, without which this project would not have been possible.

Introduction

The QUANTUM roadmap is a guide for organisations to implement informal benchmarking as an effective platform for sustained business improvement.

Most organisations undertake large scale formal projects to achieve a turnaround in their business in terms of profitability, operational efficiency, productivity or innovation. There is, however a massive untapped area that concerns how people and organisations learn and improve work practices through less structured means. These ideas or new practices may be generated in the midst of work, while we wait, while we take a break, drink coffee, or when we have conversations with colleagues and business associates. Informal benchmarking offers the potential of harnessing all the knowledge and wisdom required to improve work practices in a very cost-effective manner, possibly at a fraction of the cost of a full blown project.

Definition of Informal Benchmarking

"Informally learning from others to improve work practices in your own organisation."

Informal benchmarking complements organisational improvement projects by lubricating the process and promoting innovation at the various stages of project development.

The Informal Benchmarking QUANTUM Roadmap

The roadmap has been developed from a review of several organisational development and management disciplines (especially formal benchmarking), a global survey with responses from 14 countries, and in-depth management-level interviews with organisations from 7 countries, some of whom are internationally acclaimed business excellence award winners.

The roadmap guides organisations to build an eco-system conducive for the cultivation of informal benchmarking, and also provides a map of the tools to the type/content of benchmarking organisations wish to implement. It is thus both a strategic and tactical imperative for organisations to achieve a sustainable platform for informal benchmarking to be effective.

Getting started

For the roadmap to be effective, it is recommended that organisations follow through all 6 steps detailed below:

Step 1. Understand Informal Benchmarking

Obtain a reasonable understanding of informal benchmarking by reading the following:

1.1 A comprehensive definition of informal benchmarking

1.2 Taxonomy of informal benchmarking

1.3 An informal benchmarking toolset descriptive model

Step 2. Assess the Maturity of Informal Benchmarking in your Organisation

The QUANTUM Maturity Self-assessment has 7 components for organisations to gauge their **current maturity level** in informal benchmarking. Upon completion of the self-assessment, a QUANTUM Maturity Assessment Grid is provided to assist organisations choose their **desired maturity level** for each of the 7 areas of maturity:

2.1 Complete the QUANTUM Maturity Self-assessment

2.2 Complete the QUANTUM Maturity Assessment Grid

Upon completing the above, organisations will be able to see the gap between their current maturity levels and desired maturity levels in all 7 areas of maturity in informal benchmarking. The next step will guide you to fill the gap between your current and desired future.

Step 3. Develop your Strategy

The QUANTUM Strategy consists of the same 7 components as the self-assessment you just completed. It shows the various initiatives that can be taken to improve the eco-system of informal benchmarking in your organisation:

3.1 Complete the QUANTUM Strategy by choosing the initiatives you wish to undertake

Step 4. Apply the Informal Benchmarking Toolset

Upon completing the strategy, use the toolset application model to choose the various informal tools/activities to complement your overall strategy for your desired future. Each unit in your organisation should use tools/activities according to the type/content of benchmarking they wish to be achieved:

4.1 Use the Informal Benchmarking Toolset Application Model to choose suitable tools and activities

Step 5. Implement the Quantum Strategy and Toolset Application

Implement the initiatives you have identified in your strategy along with the tools/activities you have selected to complement your strategy:

5.1 Implement the initiatives you have chosen in the QUANTUM Strategy

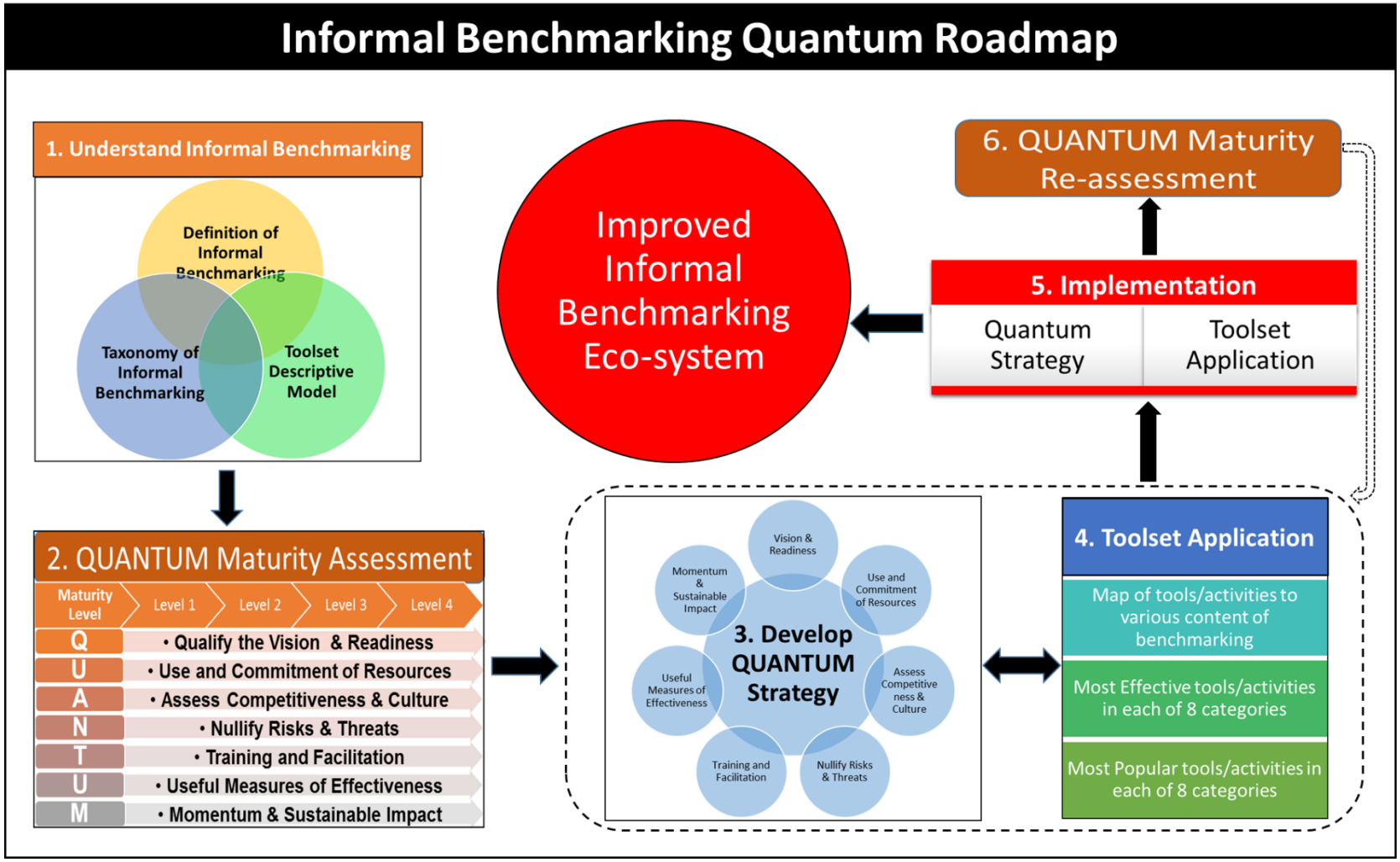
5.2 implement the tools/activities you have chosen to complement your strategy

Step 6. Re-assess your Maturity Level

Re-evaluate the success of your organisation's implementation strategy **after** 3 to 6 months of completion:

6.1 Repeat Step 2

Overview of the 6-Step Informal Benchmarking QUANTUM Roadmap



Step 1. Understand Informal Benchmarking

A comprehensive definition, taxonomy or classification, and a toolset descriptive model of informal benchmarking have been provided for organisations to obtain an acceptable level of understanding of informal benchmarking.

1.1 Comprehensive Definition of Informal Benchmarking

- The learning of better, smarter or new practices from other sources, including the experience and work practices of others, for the purpose of improving work practices in your organisation.
- It leans towards intuition, flexibility, spontaneity and speed, rather than structure, methodology, or a formal project-oriented approach.
- It endeavours to bring about improved practices upon the implementation of its learning, and may be a prelude or an aid to formal benchmarking.

1.2 Taxonomy of Informal Benchmarking

The taxonomy classifies informal benchmarking into type, content, focus, boundary and its outcome. Its purpose is to assist organisations to distinguish and decide the type and content of benchmarking they wish to achieve. An important distinction between best practice and performance benchmarking is that the former *compares and implements* better practices, whereas the latter *merely compares but does not take action*, at least not immediately.

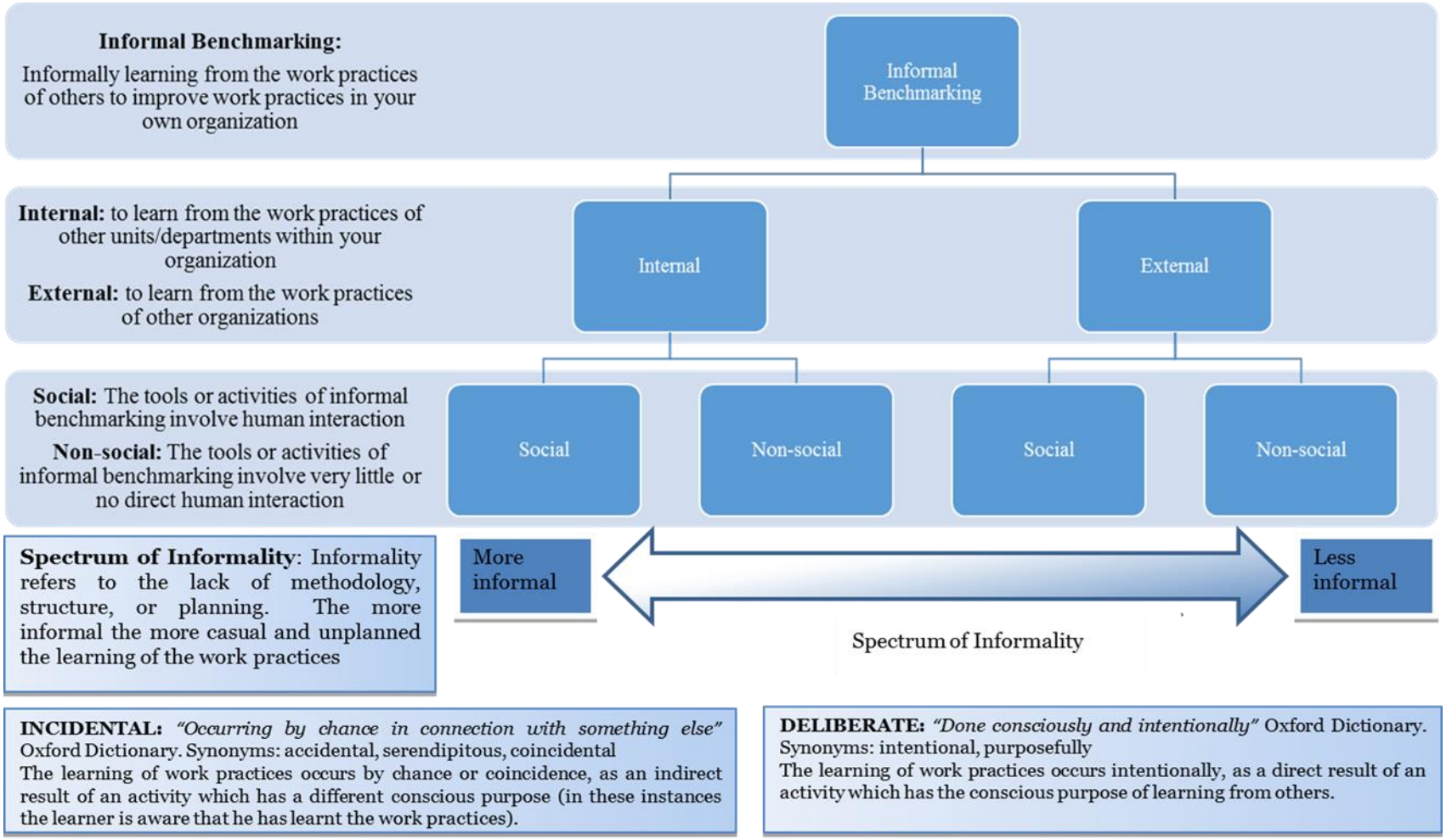
Taxonomy of Informal Benchmarking

Type	Content	Focus	Boundary*	Outcome
Best Practice	Process	Improve a process/procedure	Internal	Adapted better or new practice (learn ***and*** implement)
	Functional	Improve specific function	Related Industry	
	Generic	Improve core process	Unrelated industry	
	Strategic	Improve long-term approach	Consortium/global	
	Products	Improve product	Compare/learn within any boundary	
	Services	Improve service		
	Targets	Improve internal target		
	Standards	Improve industry standard		
Performance	Process	Compare a process/procedure	Internal	Identified improvement opportunity (***not*** implemented)
	Functional	Compare specific function	Related Industry	
	Generic	Compare core process	Unrelated industry	
	Strategic	Compare long-term approach	Consortium/global	
	Products	Compare products	Compare/learn within any boundary	
	Services	Compare service levels		
	Targets	Compare internal targets		
	Standards	Compare industry standards		

*Boundary – usually but not always

1.3 Toolset Descriptive Model

The toolset descriptive model shows how informal benchmarking tools and activities are organised into social & non-social dimensions, deliberate & incidental learning orientations, and the internal & external environments. It also suggests that the tools and activities possess varying levels of informality.



1.3.1 List of Informal Benchmarking Tools/Activities (Toolset)

There is currently a list of 82 informal benchmarking tools/activities in 8 different categories, provided in the following 2 tables:

SOCIAL DIMENSION		
Deliberate Learning of Work Practices from These Tools/Activities		
INTERNAL (own units/departments)		**EXTERNAL (other organisations)**
1	Participated in internal conferences	Participated in external conferences
2	Regular face-to-face discussions with members of a best practice group/network within your organisation e.g. community of practice, innovation team, cross-functional work group, focused group	Regular face-to-face discussions with members of a best practice group/network or association/club outside your organisation
3	Regular face-to-face discussions with colleagues	Regular face-to-face discussions with associates of other organisations
4	Emailed colleagues from other units/departments	Emailed associates from another organisation
5	Made a phone/Skype call to colleagues from other units/departments	Made a phone/Skype call associates from another organisation
6	Emailed an internal customer	Emailed an external customer
7	Met face-to-face with an internal customer	Met face-to-face with an external customer
8	Emailed an internal supplier	Emailed an external supplier
9	Met face-to-face with an internal supplier	Met face-to-face with an external supplier
10	-	Emailed other stakeholders
11	-	Met face to face with other stakeholders (partners/shareholders)
12	Attachment to other units/departments	Attachment to other organisations
13	Organised site visits to other units/departments	Organised site visits to other organisations
14	Taking part in internal best-practice sharing event/activity	Taking part in external best-practice sharing event/activity i.e. global, national, industry level, private and public service organisations
15	Accessed our organisation's intranet and asked others inside my organisation if they had information concerning the work practices of other units/departments	Accessed other organisation's internet and asked them if they had information concerning the work practices of their organisation
16	Participated in internal formal organisation events or activities e.g. planning retreats, official launches or inaugural openings	Participated in external formal organisation events or activities e.g. official launches or inaugural openings, ceremonies
17	Actively participated in a discussion in an internal electronic forum or social network	Actively participated in a discussion in an external electronic forum or social network
18	Consulted with a mentor/expert inside your organisation e.g. mentorship	Consulted with a specialist outside your organisation

	program, assigned peer-to-peer mentoring	
19	Attended presentations/seminar by other units/departments on a regular basis	Attended presentations/seminar by other organisations on a regular basis to learn from their work practices
20	Participated in business excellence assessments or audits and e.g. annual cross-functional audits of units/departments	Participated in business excellence assessments or audits e.g. excellence certifications, ISO standards, Malcolm Baldrige quality awards or equivalent
21	Combined face-to-face, emails & documents	Combined face-to-face, emails & documents
22	Accessed online best practice group or networks	Accessed online best practice group or networks
23	Accessed online meeting platforms or conference calls	Accessed online meeting platforms or conference calls
24	Attended tea bonding sessions	-
25	Used WhatsApp or instant messaging	WhatsApp or instant messaging
26	Attended lunch time talks or similar	-
27	Participated in a cross-functional operations team	-
Incidental Learning of Work Practices from These Tools/Activities		
1	Ad-hoc face-to-face conversation with colleagues from other units/departments that incidentally helped you to learn from their work practices e.g. coffee corner, lunches, tea-breaks at or post meetings	Ad-hoc face-to-face conversation with associates from other organisations that incidentally helped you to learn from their work practices e.g. coffee, lunches
2	Attended informal functions or social activities of other units/departments and incidentally learnt of their work practices e.g. festivity, celebrations, golf game, walk/run	Attended external informal functions or social activities with customers and incidentally learnt of their work practices e.g. festivity, celebrations, golf game
3	-	Attended informal functions or social activities with suppliers and incidentally learnt of their work practices
4	-	Attended informal functions or social activities with other stakeholders (partners/shareholders) and incidentally learnt of their work practices
5	Participated in internal electronic forum	Participated in external electronic forum

NON-SOCIAL DIMENSION		
Deliberate Learning of Work Practices from These Tools/Activities		
INTERNAL (own units/departments)		**EXTERNAL (other organisations)**
1	Read regular newsletters of other units/departments to learn from their work practices	Read regular newsletters of other organisations to learn from their work practices
2	Read internal books/magazines/circulars of other units/departments to learn from their work practices e.g. annual report	Read external books/magazine to deliberately learn from the work practices of other organisations
3	-	Deliberately researched a topic on the internet
4	Accessed SharePoint or similar collaborative/learning applications	Accessed extranet or external websites of other organisations
5	Participated in a benchmarking comparison survey inside your organisation e.g. sales performance, studying good or smart practices	Participated in a benchmarking comparison survey e.g. competitors' performance, studying good or smart practices
6	Reviewed our organisation's database/knowledge bank of best practices	Reviewed a database/knowledge bank of best practices of other organisations
8	*Read an internal blog page (happenings or new business)*	*Read an external blog page (happenings or new business)*
9	*Accessed video exemplars*	-
10	*Participated in staff suggestion scheme or quality Improvement program*	-
Incidental Learning of Work Practices from These Tools/Activities		
1	Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organisations	Read responses in an external electronic forum or social network and incidentally learnt from the work practices of other organisations
2	Observed a critical incident of other units/departments that enabled you to learn from their work practices i.e. a situation or condition which made you question your own work practices	Observed a critical incident of other organisations that enabled you to learn from their work practices i.e. a situation or condition which made you question your own work practices
3	Found information on SharePoint or other intranet applications which incidentally helped you to learn from the work practices of other units/departments	Found information on extranet or external websites of other organisations which incidentally helped you to learn from their work practices
4	Read internal books/magazines which incidentally helped you to learn from the work practices of other units/departments	Read external books/magazines which incidentally helped you to learn from the work practices of other organisations
5	Read a random internal newsletter which incidentally helped you to learn from the work practices of other units/departments	Read a random external newsletter which incidentally helped you to learn from the work practices of other organisations

Step 2. Assess the Maturity of Informal Benchmarking in your Organisation

It is recommended that one or several top management personnel with an oversight of the organisation's functions perform the self-assessment on behalf of the organisation. The QUANTUM Maturity Self-assessment consists of 7 main categories and 62 descriptive statements. Organisations are to rate each statement on a 4-point scale to assess their maturity level according to each statement:

2.1 Quantum Maturity Self-Assessment

Maturity Level			
Level **1**: None or little	Level **2**: Under development	Level **3**: Operational	Level **4**: Mature

A	**Qualify the vision & readiness to use informal benchmarking as a strategy**	**1**	**2**	**3**	**4**
A1	*Readiness for informal benchmarking as a primary tool*				
1	Our organisation uses informal benchmarking as a dominant strategy to improve work practices across the board				
2	Our organisation extensively uses informal benchmarking techniques to complement formal benchmarking projects				
3	Our organisation takes a consultative approach to discussing work improvement strategies and ideas across the board i.e. no bad idea policy				
4	Our organisation has multiple channels to gauge the state of work practices so that improvements can be made eg. ground-level feedback, performance management systems, productivity measurement, informal benchmarking activities tracker				
A2	*Management & sponsors support*				
1	Our *top management* supports informal benchmarking activities eg. worker-initiated communities of practices, conferences				
2	Our sponsors support informal benchmarking activities eg. worker-initiated communities of practices, conferences				
3	Our *top management* actively engages in informal benchmarking activities				
4	Our sponsors actively engage in informal benchmarking activities				
5	Our organisation recognises and rewards both work practice suggestions, informal or otherwise that lead to actual improvements				
	Total				

B	**Use & commitment of resources to support informal benchmarking**	**1**	**2**	**3**	**4**
B1	*Networks*				

1	Our workers have and use internal networking opportunities to improve work practices e.g. cross-functional teams, day-to-day work, internal dialogues, conferences and gatherings				
2	Our workers have and use external networking opportunities to improve work practices e.g. counterparts or associates doing similar functions, communities of practices, attending conferences and seminars, organised site visits				
3	Our organisation cultivates and maintains a strong and wide established external network for learning best practices e.g. associations, industry-related memberships, affiliations with best practice networks globally and locally				
B2	*Environment*				
1	Our organisation has created a conducive workplace environment for the proliferation for collegial exchanges that lead to improved work practices e.g. open cubicles, informal working environment				
2	Our organisation has deliberately created additional physical spaces for informal collegial exchanges that lead to informal benchmarking eg. coffee corners, learning rooms				
3	Our organisation has deliberately created additional virtual spaces for informal collegial exchanges to promote informal benchmarking eg. online forums, practice enhancement blogs, web-based collaboration spaces, smart phone technology				
4	Our organisation has deliberately created additional social spaces for informal collegial exchanges to promote informal benchmarking eg. communities of practices, work-based interest groups				
5	Our organisation has created a safe environment for the sharing of knowledge that leads to higher quantities of improved work practices eg. tacit knowledge, know-hows, short-cuts				
6	Our organisation has created a safe environment for the sharing of tacit knowledge that leads to higher quality of improved work practices eg. innovations, creative solutions, breakthroughs				
B3	*Systems*				
1	Our organisation has incorporated informal benchmarking programs or events into its culture eg. regular best practice events, success stories sharing sessions				
2	Our organisation has a system to receive suggestions for improving work practices and processes eg. internal feedback or external feedback, staff suggesting scheme				
3	Our organisation has a system to implement suggestions for improving work practices and processes eg. innovation team set-up, facilitators to assist them				
4	Our organisation codifies and stores records of improved practices, processes and procedures eg success stories, SOPs				
5	Our organisation's repository of best practices can be readily accessed by workers at their authorised levels				
6	Our organisation has mechanisms to ensure new knowledge learnt by workers are shared on a regular basis eg. abridge sharing from a training course, department sharing, newsletters				
	Total				

C	**Assess competitiveness and culture of informal work practice improvement**	**1**	**2**	**3**	**4**
C1	*Competitiveness*				
1	Our organisation remains competitive and cost-effective by:				
1.1	Being able to balance between guarding practices and sharing practices informally with other organisations eg. trade secrets, superior processes, better procedures				
1.2	Using appropriate levels of MOUs, non-disclosures and mutual agreements to facilitate benchmarking opportunities, informal or otherwise eg. organised site visits, product development, sharing of best practice documents				
C2	*Culture of work practice improvement*				
1	Our organisation has a strong culture in place to facilitate informal work practice improvement opportunities				
2	Our workers have ample opportunities to source, maintain and use internal resources that help them perform informal benchmarking more effectively eg. subscription to newsletters, magazines, access to best practice archives				
3	Our workers have ample opportunities to source, maintain and use external resources that help them perform informal benchmarking more effectively eg. subscription to external resources, membership of best practice group				
4	Our organisation recognise and reward workers for sharing new and innovative sources for informal benchmarking				
	Total				

D	**Nullify risks & threats to informal benchmarking**	**1**	**2**	**3**	**4**
D1	*Bureaucracy vs transparency, flexibility & creativity*				
1	Our organisation uses informal collegial opportunities to promote creativity and innovation in formal work practice improvement meetings and projects				
2	Our organisation combines both formal and informal activities to improve work practices or processes eg. best practice sharing sessions, formal programs, use of cliques, informal dialogues on specific practices				
3	Our organisation adopts a level-playing field or flattened organisation structure so that all levels of staff can participate in informal benchmarking activities and be recognised accordingly				
D2	*Too informal vs balanced approach*				
1	Our organisation has in place checks and balances to ensure the filtering of misleading or detrimental information from informal benchmarking sources				
2	Our organisation is careful to not allow informal benchmarking to become a political tool in undermining others eg. inappropriate bypassing of superior, using other's knowledge as one's own				
3	Our organisation uses external professionals to optimise the use of informal benchmarking as a stand-alone or complement to formal benchmarking processes				
D3	*No-Time mentality vs Investment mentality*				

1	Our organisation ensures workers do not spend excessive amounts of time in the name of informal benchmarking but have nothing to show for it eg. coffee corners, break times, collegial, tea sessions culture				
	Total				

E	**Training & facilitation of informal benchmarking**	**1**	**2**	**3**	**4**
E1	*Facilitation*				
1	Our organisation recognises and promotes workers who perform well in informal benchmarking:				
1.1	By engaging them as facilitators or co-ordinators to promote informal benchmarking techniques within their specific functional areas				
1.2	By engaging them as facilitators or co-ordinators to promote informal benchmarking techniques throughout the entire organisation				
1.3	By engaging them as trainers to increase Informal benchmarking competency eg. expert or mentoring programs in informal benchmarking				
1.4	By organising and engaging a regime of high-performing informal benchmarkers as a strategic resource to increase informal benchmarking competency and proliferation throughout the organisation				
E2	*Certification*				
1	By sending suitable workers for informal benchmarking training, co-ordinating and facilitation courses				
	Total				

F	**Useful measures of informal benchmarking effectiveness**	**1**	**2**	**3**	**4**
F1	*Time & Money*				
1	Organisational performance has improved as a result of informal benchmarking activities eg. better KPIs attributed to informal benchmarking				
	Our organisation get a lot more communication, ideas and assistance in the informal benchmarking setting than compared with formal methods				
2	Organisational cost effectiveness has increased as a result of informal benchmarking activities eg. cost savings in product development or services, speed in implementing changes				
3	Organisational innovation has increased as a result of informal benchmarking activities eg. new or smarter processes in product development or services, breakthroughs, fresh approaches				
F2	*Regular assessment of practices*				
1	Our organisation readily uses audits and assessments to identify practices and processes that can be improved				
2	Our organisation uses the feedback/results from audits and assessments to improve those practices and processes that can be fixed immediately i.e. without formalising into a project				

3	Our organisation regularly uses internal feedback to informally improve practices eg. internal customer or supplier feedback				
4	Our organisation regularly uses external feedback to informally improve practices eg. external customer, stakeholder, supplier feedback				
F3	*Reliability and frequency of informal benchmarking*				
1	Our organisation is able to ensure accurate & reliable inputs when benchmarking informally with other organisations				
2	Our organisation is constantly being sought after as a benchmarking partner, informal or otherwise because of our abilities and/or approachability and/or reciprocity				
	Total				

G	**Momentum & sustainable impact**	**1**	**2**	**3**	**4**
G1	*Virtuous cycles of value creation*				
1	Our organisation has a robust system to ensure that when workers learn, the organisation learns as well, and vice versa				
2	Line of sight to returns on investment in informal benchmarking is visible and rewarding				
G2	*Experimentation*				
1	Our organisation encourages experimentation with work practice improvement ideas across all levels				
2	Our organisation uses its resources to support experimentation with work practice improvement ideas across all levels				
	Total				
G3	*Speed and ease, renewal of benchmarking sources*				
1	Our organisation is constantly discovering new avenues and opportunities to improve work practices				
2	Our organisation is constantly being sought after for informal benchmarking activities (micro level) because of our integrity and reciprocity				
3	Our organisation is constantly being sought after as a benchmarking partner (macro level), informal or otherwise because of our integrity and reciprocity				
G4	*Informal benchmarking the primary tool*				
1	Our organisation is able to keep pace on what is learnt with what is implemented via informal benchmarking, that is, not lag in implementing what is learnt				
2	Our organisation has instituted informal benchmarking activities and programs that are delivering results				
3	Our organisation uses informal benchmarking as the preferred organisational improvement tool as a stand-alone or complement to formal benchmarking projects				
4	Our organisation uses informal benchmarking techniques as a quick and cost-effective prelude to future formal benchmarking projects				
	Total				

2.2 Evaluating Scores & Gap Analysis

Upon completion of the Maturity Self-assessment, organisations can proceed to use the Maturity Assessment Grid to gauge the level of informal benchmarking in each of the 7 QUANTUM components.

2.2.1 Overall Self-Assessment Score

1. Inputs your points obtained for each of the 7 components in the table below.
2. Multiply each category's points by the weighted index for a weighted score. The weighted index = Total Score / (max points for component X 7).
3. Obtain your Total Weighted Score.

	Component	Max. Points	Points attained	Weighted Index	Weighted Score
1	Qualify the Vision & Readiness	36		0.98	
2	Use & Commitment of Resources	60		0.59	
3	Assess Competitiveness & Culture	24		1.48	
4	Nullify Risks & Threats	28		1.27	
5	Training and Facilitation	20		1.77	
6	Useful Measures of Effectiveness	36		0.98	
7	Momentum & Sustainable Impact	44		0.81	
	Total Score	**248**			**/248**

Band	Maturity Assessment Band	Score
1	None or Little	62 to 99
2	None or Little **to** Under Development	100 to 137
3	Under Development **to** Operational	138 to 175
4	Operational **to** Mature	176 to 213
5	Mature	214 to 248

6. Identify which band your organisation is in: _____
   (Note that though there are **4 levels** of maturity, there are **5 bands** of maturity to accommodate scores that are in between the levels of maturity)
7. Identify the desired band your organisation wishes to be in: _____

2.3 Compare Scores against the QUANTUM Maturity Assessment Grid

The maturity assessment grid describes 4 levels of maturity for each of the 7 QUANTUM components. Using the raw scores for each component, organisations can perform a gap analysis between their current and desired maturity levels. The maturity assessment grid is shown below:

2.4 Informal Benchmarking QUANTUM Maturity Assessment Grid					
Maturity Level		**Level 1**	**Level 2**	**Level 3**	**Level 4**
1	**Vision & Readiness** **Your Score:** **Desired Score:**	**None or Little**	**Under Development**	**Operational**	**Mature**
		9 points	18 points	27 points	36 points
		Aware that IB is a popular business improvement tool. And probably should get to know how it is done Little or no management support. Staff are left to perform IB on their own.	Aware that there is a need to improve work practices because of internal or external pressure. Though there is some informal learning of work practices, implementation is carried out in an ad-hoc manner, The sponsors and management do see some value in IB.	An active stance is taken to engage IB for innovation and work practice improvement across the board. IB is more than comparison and includes identifying, adapting, and implementing the practices that produce a relatively high level of performance.	To gain a competitive edge and achieve best in class by the use of IB independently or as part of a formal benchmarking strategy. Organisation is in a position to win internationally recognised business excellence awards. Desires to learn from best practices irrespective of industry. IB is a major approach used by management to gain a competitive edge. Incentives/ awards for knowledge sharing are provided
2	**Use & Commitment of Resources** **Your Score:** **Desired Score:**	15 points	30 points	45 points	60 points
		Aware of resources available to support IB but none or little are used	Limited provision and use of resources. These are used as and when to support IB. Limited number of work practices implemented.	A centralised and co-ordinated effort to use resources/enablers such as networks, people and teams, the environment and systems & structures. The learning of work practices are well supported and improvements are adequately adapted for organisation use.	Systemic. The organisation is committed to use IB as a dominant approach to improve practices. IB is highly integrated into the culture and processes. Programs/activities incorporate IB techniques and tools to improve work practices at all levels of the organisation.
3	**Assess Competitiveness & Culture** **Your Score:** **Desired Score:**	7 points	14 points	21 points	28 points
		Aware sources for IB but no drive to tap into those sources. Not interested in using IB for competitive advantage	Learning better practices are ad-hoc such as external conferences, seminars or learning visits. Only a small portion of staff are selected to attend and perform IB.	There are varied sources of IB in learning from others, activities/events and non-social assets. All staff are encouraged to discover and benchmark against those sources regularly.	Staff are encouraged to look for potential sources of IB with the purpose of exploiting them. A system is in place to support their continued search and maintenance of these sources. IB is embedded in the culture and used as a main tool for competitiveness and cost-effectiveness and efficiency.
		7 points	14 points	21 points	28 points

4	**Nullify Risks & Threats** **Your Score:** **Desired Score:**	Aware of barriers to IB but have not done anything about them	Attempted to overcome some of identified barriers as they surfaced so that some IB could be carried out	Analysed the major and minor barriers in a systematic fashion, and put it place systems and resources to tackle the issues. As a result a lot of the improvements via IB could be successfully implemented	A framework for assessing and managing threats and potential risks of IB with a view to systematically eliminate and mitigate the effect of these barriers. The results of the assessment is used for strategic planning so that future IB is cultivated as a powerful approach to business improvement.
5	**Training and Facilitation** **Your Score:** **Desired Score:**	5 points	10 points	15 points	20 points
		Aware that some staff perform IB better than others, but nothing is done about it.	Staff observed to do IB better are asked to train others on an ad-hoc basis.	There is identification and recognition of staff competency levels in conducting IB. Facilitators are deployed across the organisation to increase competency in IB.	Staff are identified and sent for IB facilitation courses to become fully-trained IB facilitators. A regime of trained IB co-ordinators and facilitators are used to increase IB competency and sharing at a strategic level.
8	**Useful Measures of Effectiveness** **Your Score:** **Desired Score:**	9 points	18 points	27 points	35 points
		Aware of the benefits of IB but have not considered any measures	Able to describe the benefits of IB in a nebulous manner. System to measure its impact is being considered.	Able to quantify the benefits of IB in a clear fashion. The changes as a result of IB is documented and tracked.	A system of documenting and monitoring the impact of IB is in place. There are people assigned to manage and link it with a knowledge management system for sharing with others. Improvements related to IB are presented regularly.
7	**Momentum & Sustainable Impact** **Your Score:** **Desired Score:**	11 points	22 points	33 points	44 points
		Aware of the need to support IB in the long run for work practice improvement but nothing is done about it.	IB is recognised and performed at a tactical level. Random and ad-hoc sharing of learnt practices exist.	A coordinated approach is used for sharing through various mechanisms. Strong knowledge management approaches are used to and increase absorptive capacity and transfer of work practice improvement internally.	An Integrated organisational wide system is in place for sharing of practices/ knowledge that has been gained internally and externally. IB sources are continually being renewed. The organisation has positioned itself as an excellent IB resource. IB is also used to complement formal benchmarking projects

Step 3. Develop your Strategy

The QUANTUM strategy is to be used in conjunction with the QUANTUM maturity self-assessment to bridge the gap between your current and desired state in each of the 7 components of QUANTUM. The strategy provides focus areas and informal benchmarking initiatives for a targeted implementation strategy for the future. Organisations can decide which initiatives and the extent to which they wish to develop these initiatives.

3.1 The QUANTUM Strategy

Qualify the Vision & Readiness		
Qualifying the vision and readiness refers to the preparedness to ***use informal benchmarking as a primary work practice improvement strategy with the support of management and sponsors at various levels in the organisation.***		
Focus Areas		**Informal Benchmarking Initiatives**
A1	**Readiness**	i) preparedness to use informal benchmarking as a dominant tool ii) use informal benchmarking techniques to complement other business improvement tools such as formal benchmarking iii) use a consultative approach to discuss work improvement strategies across the board iv) be able to gauge the state of work practice improvement at all times so that action can be taken to not lag the industry
A2a	**Management & Sponsors Support**	i) get top management support for the activities ii) get sponsors to support the activities iii) get top management engaged in activities iv) get sponsors engaged in activities v) get as many people as possible, involved in the activities, programs or events
A2b	**Rewards and Recognition**	i) reward and recognises sharing & codifying of success stories ii) reward and recognises ideas & innovation that lead to informal benchmarking iii) reward and recognises implementation, most importantly

Identify the above initiatives you wish to undertake to improve your maturity level:

Use & Commitment of Resources		
Understanding and supporting the mission of informal benchmarking goes beyond knowing an organisation's infrastructure. It refers to knowing how to ***exploit the fullest potential of the networks, the culture, the environment, the systems and the power structures***.		
Focus Areas		**Informal Benchmarking Initiatives**
B1	**Networks**	i) build internal networks ii) cultivate and leverage external networks iii) leverage off superiors for bigger outcomes iv) join industry best practice networks
B2	**Environment**	i) regulate an informal workplace culture ii) create open space cubicles, coffee corners iii) use virtual or e-platforms iv) join interest groups and communities of practice v) make it safer to share ideas and knowledge
B3	**Systems**	i) incorporate informal benchmarking programs, events and activities into the organisational life ii) have multiple channels to sense ground sentiment iii) have a system to receive/implement suggestions iv) codify, store and provide access to success stories, SoPs, best practices v) ensure new knowledge are shared regularly

Identify the above initiatives you wish to undertake to improve your maturity level:

Assess Competitiveness & Culture Nullify Risk & Threats
This section refers to the assessment of the current strengths and opportunities and ***mitigating potential threats and risks to advancing the strategic use of informal benchmarking in organisations***.

Focus Areas		Informal Benchmarking Initiatives
C1	**Competitive vs collaborative stance**	i) balance between guarding practices and sharing practices ii) use appropriate levels of MOUs, non-disclosures and agreements as these can be dominant routes for mutual benchmarking in certain industries iii) observe integrity, be ethical and reciprocal at all times
C2	**Opportunities to grow**	i) source, maintain and use internal resources ii) source, maintain and use external resources iii) recognises and reward new and innovative sources for improving work practices
D1	**Bureaucratic vs Transparent, flexible & creative**	i) use informal collegial contact to promote innovation where formal meetings lack creative pitch ii) combine formal and informal ways to improve work practices or processes iii) adopt a level-playing field or flattened organisation structure so that all levels of staff can participate in informal benchmarking and be recognised accordingly
D2	**Too informal vs balanced approach**	i) checks and balances to ensure informal channels are not detrimental or misleading ii) ensure tools are not allowed to undermine managers in the hierarchy iii) use an external professional to optimise tools
D3	**Time-scarce mentality vs Investment mentality**	i) ensure staff are not counter-productive by spending excessive amounts of time in the name of informal benchmarking ii) coffee time spent in building relationships with work colleagues is good, not time-wasting

Identify the above initiatives you wish to undertake to improve your maturity level:

_____

_____

_____

Training & Facilitation
This section refers to the ***selection and training of suitable workers as facilitators* and coordinators* for informal benchmarking***. It recognises the predisposition of certain staff to perform informal benchmarking better than others.

*Facilitators are those who are well-versed with the tools and techniques of informal benchmarking, and are able to help others use informal benchmarking as a strategic tool for work practice improvement.

*Co-coordinators are those appointed in their respective units to organise and administrate informal benchmarking programs, events and activities.

Focus Areas		Informal Benchmarking Initiatives
E1a	**Search for good informal benchmarkers**	i) search for positive deviant (workers with exceptional ability for work practice improvement) ii) reward and recognises them (positive deviant workers) very generously
E1b	**Facilitation**	i) appoint them facilitators and coordinators across the various units of the organisation ii) engage them as facilitators to promote informal benchmarking techniques iii) engage them as facilitators or coordinators to create a conducive environment for informal benchmarking to flourish naturally
E2	**Certification**	i) send suitable workers for informal benchmarking courses

Identify the above initiatives you wish to undertake to improve your maturity level:

_____

_____

_____

Useful Measures of Effectiveness

Useful measures of the effectiveness of informal benchmarking refer to ***the discovery and monitoring of indicators that link to performance either tangibly or intangibly***.

Focus Areas		Informal Benchmarking Initiatives
F1	**Time & Money**	i) get others to prioritise and speed up your work improvement efforts by building mutual trust ii) compare how much more communication, ideas and assistance one get from informal benchmarking than compared with formal methods

		iii) use informal network a secondary think tank and work process improvement force iv) trace how informal benchmarking activities positively co-relate with performance improvement or KPIs
F2	**Regular assessment of practices**	i) do regular audits and assessments to improve in known areas (pre-audit) and unknown areas (post-audit) ii) measure process improvements year on year at the least iii) obtain a steady stream of internal and external to improve practices
F3	**Reliable information & frequent use**	i) access into networks and organisation via informal channels to benchmark in the industry ii) remove external obstacles and receive accurate inputs from partners or competitors iii) get access to proven "short-cuts" without the risks involved iv) position your organisation to know "trade secrets" v) position your organisation to be a sought-after benchmarking partner

Identify the above initiatives you wish to undertake to improve your maturity level:

_____

_____

_____

Momentum & Sustainable Impact		
Momentum and sustainable impact refer to the ability of the organisation ***to maintain a strong culture of informal benchmarking for significant work practice improvement outcomes to be visible and measurable***.		
Focus Areas		**Informal Benchmarking Initiatives**
G1	**Create virtuous cycles of value**	i) ensure that when individuals learn, the organisation learn as well, and vice versa ii) autonomy is important but line of sight to returns on investment must be transparent and rewarding iii) immediate follow-up on fresh knowledge gained
G2	**Experiment**	i) encourage and support experimentation with work improvement ideas across the board ii) once a huge improvement potential is seen, bounce ideas off people affected and customise since there is no one model
G3	**Renew sources**	i) have an ongoing process of discovering new avenues and opportunities to improve practices

		ii) be attractive as a benchmarking source by displaying integrity and reciprocity
G4	**Primary tool**	i) institute informal benchmarking programs and activities into organisational life ii) be open to adaptive or generative change as informal benchmarking can lead or be part of major improvement programs iii) keep pace on what is learnt with what is implemented via informal benchmarking, that is, not lag in implementing what is learnt

Identify the above initiatives you wish to undertake to improve your maturity level:

_____

_____

_____

Step 4. Apply the Informal Benchmarking Toolset

Once the strategic initiatives have been identified, the next step is to decide the most suitable and effective tools and activities (toolset) you wish to deploy to complement the various initiatives in the QUANTUM strategy. The toolset application model combines the use of the taxonomy and toolset descriptive model to show how informal benchmarking tools and activities can be applied in organisations. It can be especially useful when considering what type/content of benchmarking is important to each unit/department* within your organisation. The model suggests the most effective/popular tools practitioners have used for the type/content of benchmarking they wish to undertake. The details of the model are shown in the tables below (8 categories):

	Social Dimension		**Non-Social Dimension**
1	Internal-deliberate	5	Internal-deliberate
2	External-deliberate	6	External-deliberate
3	Internal-incidental	7	Internal-incidental
4	External-incidental	8	External-incidental

Each table will include 3 aspects:

i) Map of tools/activities to the 8 content-type of benchmarking (These are suggestions based on the experiences of practitioners, and thus can vary)

ii) Most Effective tools/activities in each of the 8 categories

iii) Most Popular tools/activities in each of 8 categories

Most effective tools/activities: **blue**	Most popular tools/activities: **yellow**
Most effective and most popular tools/activities: **grey**	

*It is useful to note that different units within your organisation may have different approaches (differing content and tools/activities). For example, the strategy unit may be interested in strategic or functional benchmarking. On the other hand, the product development unit may want to focus on product benchmarking.

Social Dimension (Tables 1 - 4)

1	Internal-Deliberate	Stra-tegic	Func-tional	Gen-eric	Pro-Cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	***Attachment to other units***		√		√				
2	Participate in business excellence assessments or audits	√	√	√	√	√	√	√	√
3	**Combination of face-to-face phone emails documents**	√	√	√	√				
4	***Consulted with internal mentor or expert***		√		√				√
5	Cross functional operations team	√	√	√	√	√	√	√	√
6	**Email to colleagues**				√				
7	***Face-to-face internal customers***				√	√			
8	**Face-to-face with colleagues**	√	√		√				√
9	***Face-to-face with internal suppliers***	√	√		√				√
10	Face-to-face with stakeholders				√			√	
11	**Internal best practice group**		√		√	√	√	√	√
12	Internal best practice sharing event or activity	√	√	√	√				
13	**Internal conference**		√	√					
14	Lunch time talks or similar		√	√	√				
15	Online meeting platforms or conference calls	√	√	√	√				
16	***Organised Site visits***	√	√	√	√	√	√	√	√
17	Tea Bonding Session				√	√	√		
18	WhatsApp or instant messaging group				√	√	√		

Identify the type/content and the tools/activities that best fit your unit/organisational need:

1	Organisational Unit	Type/Content(s)	Tools/Activities
1			
2			

2	External-Deliberate	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	***Combination of face-to-face phone emails documents***	√	√	√	√				
2	**Consulted with specialist mentor or expert**	√	√	√	√	√	√	√	√
3	**Email to other organisations associates**	√	√	√	√				
4	**Face-to-face with associates**	√	√	√	√	√	√	√	√
5	***External best practice sharing event or activity***	√	√	√	√	√	√	√	√
6	**External conferences**	√	√	√	√	√	√	√	√
7	External formal organisational events or activities	√	√	√	√	√	√	√	√
8	Face-to-face with customers				√	√			
9	***Face-to-face with external supplier***	√	√		√		√		√
10	Focus group dialogue	√	√	√	√	√	√	√	√
11	Online Best practice group or network		√		√	√	√	√	√
12	Organised site visits	√	√	√	√	√	√	√	√
13	Presentations or seminars of institutes or other organisations		√	√					
14	**Face-to-face with best practice group**		√	√	√	√	√	√	√
15	***Business excellence assessments or audits***	√	√	√	√	√	√	√	√

Identify the type/content and the tools/activities that best fit your unit/organisational need:

2	Organisational Unit	Type/Content(s)	Tools/Activities
1			
2			

3	Internal-Incidental	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	***Attended informal functions or social activities***	√			√		√		
2	**Ad-hoc face-to-face with colleagues or partners**			√	√				
3	Internal electronic forum or social platform				√				

Identify the type/content and the tools/activities that best fit your unit/organisational need:

3	Organisational Unit	Type/Content(s)	Tools/Activities
1			
2			

4	External-Incidental	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	Ad-hoc conversations with associates		√	√	√	√			
2	***Attended informal functions***			√	√		√		

Identify the type/content and the tools/activities that best fit your unit/organisational need:

4	Organisational Unit	Type/Content(s)	Tools/Activities
1			
2			

Non-social Dimension (Tables 5 to 8)

5	Internal-Deliberate	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	Performed 360 degree appraisal	√						√	
2	Participated in benchmarking survey	√	√	√	√	√	√	√	√
3	Blog page chatty box		√		√				
4	Use of Video Exemplars	√	√	√	√				
5	Dreamler online	√	√		√				
6	***Staff suggestion system or quality improvement teams***	√	√		√				
7	Read Internal books or magazines	√	√	√	√	√	√	√	√

8	**Regular newsletters of other units**	√	√	√	√				
9	Reviewed org database or knowledge bank of best practice	√	√	√	√	√	√	√	√
10	Read Weekly Newsletter update					√	√	√	√
11	Accessed SharePoint or others	√	√	√	√	√	√	√	√

Identify the type/content and the tools/activities that best fit your unit/organisational need:

5	**Organisational Unit**	**Type/Content(s)**	**Tools/Activities**
1			
2			

6	**External-Deliberate**	**Stra-tegic**	**Func--tional**	**Gen-eric**	**Pro-cess**	**Pro-ducts**	**Svcs**	**Tar-gets**	**Stan-dards**
1	Accessed extranet or external website	√	√	√	√	√	√	√	√
2	***Participated in Benchmarking comparison survey***	√	√	√	√	√	√	√	√
3	**Read external books or magazines**	√	√	√	√	√	√	√	√
4	Read regular newsletter or subscription	√	√	√	√	√	√	√	√
5	**Researched a topic on internet**	√	√	√	√	√	√	√	√
6	Reviewed database or knowledge bank of best practice	√	√	√	√	√	√	√	√

Identify the type/content and the tools/activities that best fit your unit/organisational need:

6	**Organisational Unit**	**Type/Content(s)**	**Tools/Activities**
1			
2			

7	Internal-Incidental	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Svcs	Tar-gets	Stan-dards
1	**Observed a critical incident**	√	√	√	√	√	√	√	√
2	Read responses in an electronic forum or otherwise	√			√		√		
3	Accessed SharePoint and others				√	√			

Identify the type/content and the tools/activities that best fit your unit/organisational need:

7	Organisational Unit	Type/Content(s)	Tools/Activities
1			
2			

8	External-Incidental	Stra-tegic	Func--tional	Gen-eric	Pro-cess	Pro-ducts	Sv cs	Tar-gets	Stan-dards
1	***Observed a critical incident***	√	√	√	√	√	√	√	√
1	***Found Info on extranet external website***	√			√				
2	Read a random newsletter	√	√	√					

Identify the type/content and the tools/activities that best fit your unit/organisational need:

8	Organisational Unit	Type/Content(s)	Tools/Activities
1			
2			

Step 5. Implement QUANTUM Strategy & Toolset Application

Once you have decided upon both the QUANTUM strategy initiatives and the toolset to apply in the various units/departments in your organisation, you are ready for implementation. The QUANTUM strategy and toolset application, when integrated together, will produce a customised informal benchmarking roadmap for your organisation.

5.1 Implementation Team & Timeline

The time you will take to implement the initiatives will depend on the number of initiatives you have identified and the extent to which you wish to develop those initiatives.

It is important that an Informal Benchmarking Team commissioned by management take up the responsibility to see to the completion of the roadmap initiatives. It is also recommended that management appoints a co-ordinator for each unit/department who will be accountable for the implementation of those initiatives, and the application of the tools/activities identified.

An Implementation summary chart is provided below (section 5.2).

Step 6. Re-assessment of Maturity in Informal Benchmarking

Upon the completion of your implementation, you are now ready to evaluate the success of your implementation. Allow an additional 3 to 6 month before re-assessing your maturity in informal benchmarking:

6.1 Repeat Step 2

Summary

The Informal Benchmarking QUANTUM Roadmap provides a holistic development for informal benchmarking to be used as a sustainable platform for organisational improvement. It uses both a QUANTUM strategy to create an eco-system for informal benchmarking to flourish, and suggests effective and popular tools/activities that can be applied day to day at a tactical level. Organisations should plan a timeline of 6 months to one year for implementation and re-assess their maturity about 3 to 6 months after implementation. By repeating the cycle till a high level of maturity is reached for all 7 QUANTUM components, it is possible for organisations to achieve a quantum leap in informal benchmarking and organisational improvement.

5.2 Implementation Summary Chart

Quantum Strategy

	Component	Current Score	Desired Score	Initiatives to bridge the gap*	Staff Responsible/Unit	Timeline	
						Est.	Actual
1	Qualify the Vision & Readiness						
2	Use & Commitment of Resources						
3	Assess Competitiveness & Culture						
4	Nullify Risks & Threats						
5	Training and Facilitation						
6	Useful Measures of Effectiveness						
7	Momentum & Sustainable Impact						

Toolset Application

	Organisational Unit	Type/Content of Benchmarking	Tools/Activities	Staff Responsible/Unit	Timeline	
					Est.	Actual
1						
2						
3						
4						
5						

Appendix I: key Findings Report to Informants

REPORT OF KEY FINDINGS:

A QUANTUM LEAP IN INFORMAL BENCHMARKING

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Summary

The primary aim of this study is to provide a wider and deeper understanding of informal benchmarking as an organisational improvement tool, and to make recommendations on how to increase its effectiveness. The two objectives are to provide a conceptual model (theory) of informal benchmarking and to provide business practitioners an alternative and efficient solution to superior performance in a time-scarce executive world. To achieve these objectives, I have performed an analysis and interpretation from 81 survey questionnaire responses from 14 countries, and 15 in-depth interviews comprising of CEOs, directors, managers and entrepreneurs from 7 different countries.

Findings

The findings illustrate the inter-relationships between the elements of informal benchmarking. More significantly, the integration of its concept and the application. Praxis denotes the very pragmatic manifestation *of* ***both theory and application*** at once; the action of informal benchmarking in the real world of organisations (Figure 1).

I. Conceptual Model

Three outstanding ideas has emerged from the findings. Firstly, it relates to how informal benchmarking creates ***virtuous cycles leading to the positive saturation of an idea***, solution or practice. The genesis of a work improvement cycle is often nebulous. Sometimes it starts out as a formal project and at other times, informally or even serendipitously. Notwithstanding, the cycle of formal and informal interactivity irons out and evolves thoughts, ideas and issues. When it reaches a critical juncture or saturation point, a strong motivation arises within the individual or team to improve a task, procedure, plan, product, standard, service, practice, process, function or strategy. Secondly, informal benchmarking ***appeals to the positively deviant thinker***. These are the achievers who seemingly utilise the same rate of resourcing as others, but attain outstanding results. Their abilities naturally gravitate, knowingly or unknowingly, towards the creative use of day-to-day informal tools and activities (tools/activities in the survey you answered) for the betterment of work processes and improved solutions to organisation issues.

Thirdly, informal benchmarking ***advocates a transparent organisation*** that thrive on professional and personal well-being. The impetus to assist each other, teams, and the organisation to augment work practices stem from a collegially safe environment where failure is acceptable, calculated risks are applauded, and courageous conversations to uncover impediments were permissible and even encouraged. Such environments

flourish the “formally-informal”, or “informally-formal” activities that improve work practices. Many of which (activities) are co-created by empowered knowledge workers and supported/funded by the organisation.

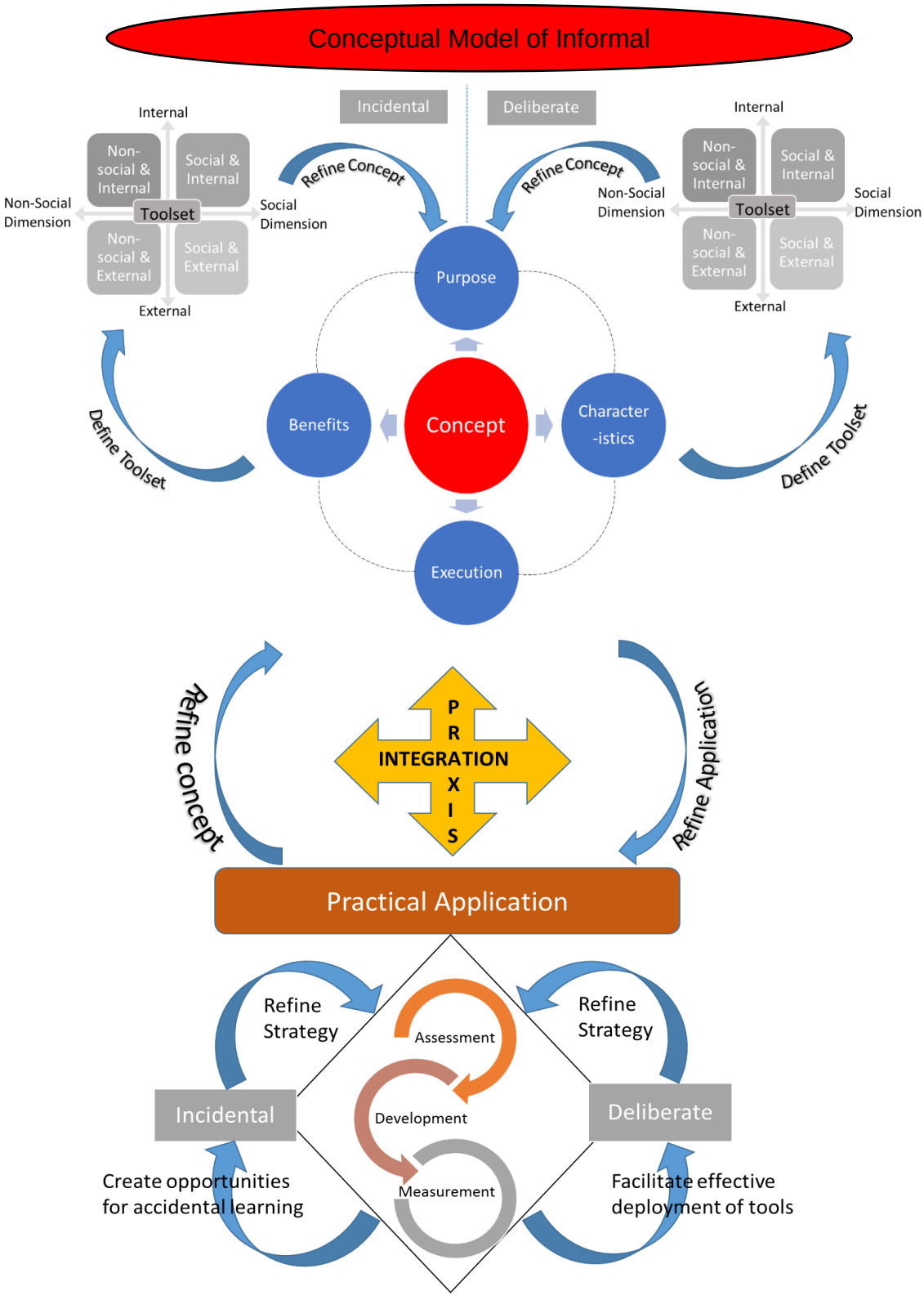

Figure 1 – Praxis Model of Informal Benchmarking

Taxonomy: Informal benchmarking can occur in the social and the non-social dimensions, internally within an organisation, or externally with other organisations. Another important distinction is whether or not it takes place deliberately or incidentally.

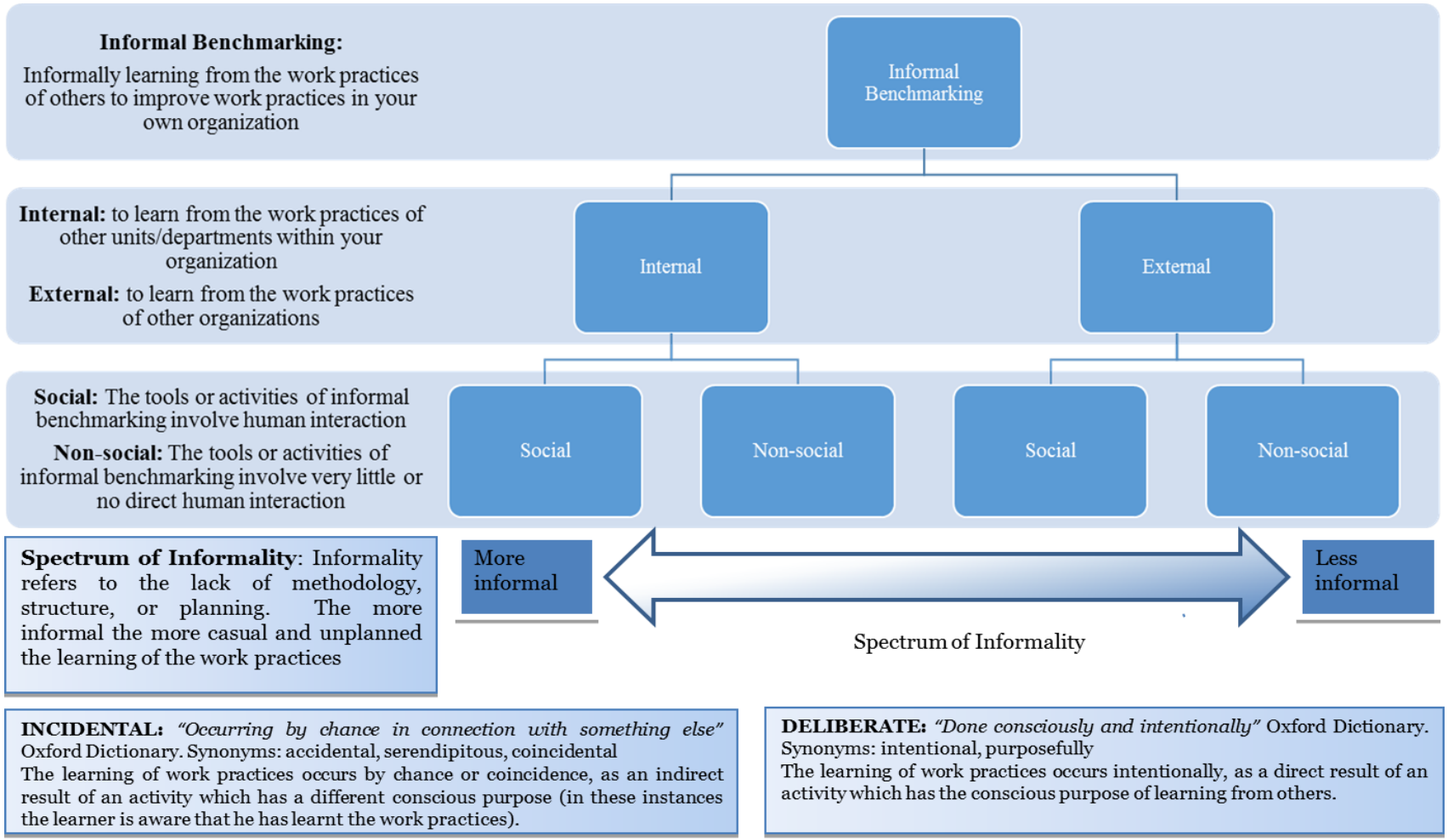

Figure 2 – Taxonomy of Informal Benchmarking

II. Application

Cultivating informal benchmarking as an approach to organisational improvement vis-à-vis improving work practices, can prove to be rather counterintuitive. On the one hand there is empirical evidence on the extensive use and popularity of informal benchmarking, but on the other hand, developing a strategy around the tools/activities could be seen as an effort to formalise what appears to be informal, causing it to lose the essence ("informally") of how it accomplishes its mission. Notwithstanding, informal benchmarking can be investigated with the same rigour as informal learning has been studied and applauded. It also bears some resemblance to a comparison between Newtonian and quantum thinking, both possessing very different paradigmatic perspectives of philosophy.

The development strategy is a deliberate effort designed to promote and support informal benchmarking activities, Though most organisations attest to the effectiveness of informal benchmarking, their overall strategy do not consider the plausibility of supporting informal benchmarking more intentionally.

Obstacles standing in the way of its extensive and effective use of the tools come in the form of bureaucracy, misplaced priorities, fear and mistrust. According to the findings, these could be overcome by fostering trust, realigning priorities, mitigating fear and taking calculated risks. The findings show some very tangible measurements of informal benchmarking effectiveness, amidst other less tangible results. Sustaining its impact on the organisation is another important element for quantum gains to be achieved. The Q.U.A.N.T.U.M. Roadmap represents ***a cultivation process of an eco-system*** that support informal benchmarking. The extent to which these 7 elements are developed and integrated together, will determine the degree of success of informal benchmarking.

Figure 3 – The QUANTUM Roadmap

Qualify the Vision

Proactivity is key to an improvement culture where workers from ***all levels and cross-sections mentally assent to an improvement agenda***. The courage to experiment with novel ideas begins when people do not feel inhibited to clear doubts and inquire freely, thereby hastening the pathways to solution creation. The urge to formalise a process too early often stifles creativity. Hence, maintaining an informal, unthreatening environment is vital in promoting tacit knowledge flows amongst workers, enriching institutional knowledge and know-how, and creating a safe space for relationships to flourish. In such an atmosphere, the learning of success stories catalyses the adaptation of better and smarter practices in the organisation. The transferability of these learnt practices could be simple or complex, depending on the cultural, operational and philosophical differences. The larger the vision for work practice improvement, the larger would be a demand for a correspondingly well stocked armoury of resourcing and management support. The journey becomes far more fulfilling when colleagues are on board and in the queue with you to see to its completion.

Understand & Support the Mission

Knowing an organisation's infrastructure is not enough, one must also know how to ***exploit to the fullest potential of the networks, the culture, environment, the systems and structures***.

The findings show a much higher rate of informal benchmarking opportunities amongst organisations who extensively leverage off their superior's networks and via specific interest groups or communities of practice. The informal appeared to be the preferred mode for collegial contact at all levels. It. Many important decisions were taken with regard to improving a current practice, employing a new practice or discarding an old one. The leaders of organisation are pivotal in regulating a comfortable and collaborative work environment in the light of increasing virtual spaces and e-communications. Enrichment of work practices thus becomes somewhat personal, occurring in the minds of knowledge workers even when they are not in the office "working". All of the organisations interviewed do not have a full-blown deliberate performance management system surrounding informal benchmarking. They do, however, understand how a mindset tuned to informal benchmarking opportunities would immensely benefit the organisation. From a systemic point of view, most organisations set aside a budget for best practice sharing activities/events at the strategic, generic (core process) functional

and process levels. The nomenclature for these sessions are varied but the intent is clearly to compare and improve performance in the longer run. Self-initiated communities of practice/interest groups often use organisation e-platforms to increase the velocity of information flows. When organisations mindfully support these natural formations to advance work practices without too much interference, these become organic and part of the culture of improvement.

Assess Current Realities, Nullify Barriers

Barriers to informal benchmarking include the threat of competitive advantage, turf-guarding, bureaucracy, excessive informality, confidentiality, and time scarcity.

Benchmarking, formal or informal brings with it the consideration of competitive or commercial advantage. The collaborative camp ***thrives on reciprocity*** whereas the competitive camp adopt a protectionist mentality. The level of friendship and trust appeared to be directly co-related to the level of sharing due to concerns of misuse or confidentiality breaches. It was important to position oneself as a sharer, taking time to build camaraderie for mutual benefit rather than for a one-sided gain. Such benchmarking partnerships were a result of informal exchanges that worked out. Several were experimentations of ideas to produce a better product or practice, which eventually led to official mutually beneficial contracts. There were other informal collaborations that did not work due to non-delivery of agreed upon outcomes.

Flattening the organisation culture (some organisations interviewed were highly structured and layered but possessed a strong internal culture of informal benchmarking), added leeway for more accidental sharing of work practices and the bouncing of ideas amongst colleagues. Some colleagues were unware of how valuable their knowledge were to others. It was in these interactions that knowledge transfers took place, birthing a new practice caused by the cross-pollination of ideas. The conversations that go on after bureaucratic formal meetings were almost always more revealing of the bigger picture, more honest and robust, giving participants of that meeting a clear rationale for improvement verses just doing it because the boss says so.

If professional integrity is compromised via bypassing protocol, it would become very difficult to propagate learned practice in such an environment of distrust. The misuse of benchmarking as a political tool to gain favour because of an “open-door policy” need be balanced out.

Sifting out information of value is an art, given the voluminous amounts of information pushed to the mail box, physical or electronically. If not careful or savvy, knowledge workers could become counter-productive by ***spending excessive amounts of time in their quest for new knowledge***. The need to move from a time-wasting mentality to a time well-invested mentality in the informal spaces/activities that induce informal benchmarking require management support. A few organisations in the findings have successfully managed to "formalise the informal", as part of the way they do business, despite the very busy schedule of their staff. **Employees enjoy tea-bonding sessions, visits, sharing events for process improvement and other *self-directed communities of practices as part of work, and not at their own expense or time***.

Take Account Regularly

Regular auditing and testing of products, services, and practices are "necessary evils" to eliminate sub-standard deliverables. Standards and procedures also need updating to be responsive, especially in high velocity environments like manufacturing. It would be ***far more cost-effective to use several smaller informal benchmarking tools every few months, than embark on a large formal benchmarking project every 2 years***. Opportunity costs advantage is real and there is also an opportunity to gauge which specific tools work better for the organisation.

The fruit of informal benchmarking is the ***adaptations of practices*** after having learnt from others, the ***extensions of practices*** to others within your company, and on occasion, organisational ***expansion when strategic or functional benchmarking takes place*.** Anytime a betterment of practice occurs, it can be tracked to either a social or non-social activity that supported informal benchmarking. Incidental observations of critical incidences internally or externally, appeared to have accounted for rather major improvements in standard operating procedures.

Organisations found informal benchmarking easy to perform but not very easy to track. Some organisations though, have managed to institute several informal learning/benchmarking activities and programs which they have found to improve the performance of a unit/department in the organisation, compared over time or with other homogenous units which have not implemented them.

Utility & Measures

Organisations require the discovery and publication of better practices to increase productivity. The findings show that ***a more informal environment directly correlated to increased numbers of process improvement suggestions, and to levels of creativity***. If the suggestions contribute to key performance indicators, then these were likely to be implemented, resulting in efficiencies and cost-savings.

Cutting through red tape involves locating the right people to give one access to knowledge, or the legitimacy to carry out work practice enhancements. Findings show that ***experts and positively deviant workers use short-cuts and ingenious ideas that seemingly break the rules and procedure codes***, but still meeting standards. The rulebook need to be changed to accommodate them and not the other way around. Intelligent risk-taking and trade secrets are held in the hands of the workers. Organisation would do well to foster a happy and conducive environment to facilitate the conversion of such tacit knowledge to institutional knowledge, and see growth in performance and the bottom line.

Feedback is to be taken seriously, regardless of its source or how it makes the people who have the power to change things feel. The findings show how organisations with well-thought out ground-sensing and customer feedback mechanisms continually improve their product, services and the well-being of their staff. ***It appears some of the most useful opinions came from extremely casual unplanned situations***. Hence creating a setting for serendipitous feedback (or informal benchmarking) can be very rewarding. Informal benchmarking in many instances becomes a prelude to formal improvement projects.

An initial face-to face assessment of stakeholders is very swift, very inexpensive, and very effective. Face-to-face conversations over coffee are also superior alternatives to elaborate emails and formal agendas to iron out issues. ***Short bursts of precise and incisive knowledge sharing are preferred over long formal training programs which staff may not have time to attend anyways.*** The findings show that spontaneous, simple and unsophisticated mode of face-to-face encounters (online too) are not just the best forms of communication, but correspondingly the most effective informal benchmarking tools.

Momentum & Sustainable Impact

When workers learn or discover a better practice, it does not automatically imply the organisation has learnt or discovered a better practice, and vice versa. The issue is whether or not the individual chooses to transfer his learning, and likewise, whether or not he absorbs the knowledge and implements new processes the organisation presents to him. ***Virtuous cycles of learning, transference, closing gaps and taking action depends on how well organisations inspire their most precious assets to act, or not.***

Informal benchmarking will continue to proliferate because of the pace and pressure facing organisations who want to stay in the game. Knowledge workers need to collectively organise themselves onto informal platforms to improve work practices, and use the informal environment to provide themselves opportunities to clarify and understand the rationale behind management decisions, so that they can plug into the business of being productive. Similarly, managers are informally benchmarking a lot more and seeing quick and good results. ***Trust and mutual respect is built when workers discover their ideas are taken seriously and implemented*** even via a simple conversation, casual breakfast, or an online group chat with their bosses.

III. Summing it up

To sum up, informal benchmarking creates virtuous cycles of knowledge till saturation point is reached. It is about positive deviance and thinking creatively to maximise scarce resources. It advocates and thrives in environments of trust and reciprocity. The Quantum Roadmap shows the application of informal benchmarking represented by 7 elements:

i) **Q**ualify the Vision
ii) **U**nderstand & Support the Mission
iii) **A**ssess Current Realities
iv) **N**ullify Barriers
v) **T**ake Account Regularly
vi) **U**tility & Measures
vii) **M**omentum & Sustainable Impact

When all these elements are well integrated together, a quantum leap in the effectiveness of informal benchmarking is possible.