THE HIDDEN POTENTIAL OF ORGANISATIONAL PLANNING: MATCHING ALEXANDER'S THEORY OF PATTERNS TO PRACTICE

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ABSTRACT

Generally, people look for patterns and attach meaning to the patterns they find. Alexander et al. (1977) originally conceived the concept of pattern languages within the architecture community and since the early 1990s patterning has been used widely to document software development practices. Most patterning efforts have focussed on software from a technical aspect; however, authors such as Coplien & Harrison (2004) have moved beyond purely technical aspects and used the concept of patterns to discuss issues of organisation structure. As demand on managers and their time has increased substantially in recent times, streamlining and making traditional management processes more efficient and time effective has become of increasing concern. Management has become a hugely complex and demanding task on people, with a significant cost to the organisation to ensure management staff are trained and capable in their role.

The ability of managers to make good management decisions affects the success of the organisation as a whole. The volume of processes managers are expected to understand and involve themselves in, and the rate at which the environment and processes change, has led to the development of a variety of business process management tools. Most business process management tools are used to manage, track or simplify core processes by recognising patterns that can be replicated easily to produce more efficient management and more effective outcomes though there is limited research and development of process management tools for the traditional management processes of planning.

Similarly, despite the potential for improved understanding, training and practice of planning, there is a dearth of literature or practical resources developed on the concept of management patterns. Flexible patterns would allow simple comparison between the model and the actual situation, provide a direct link between theory and practice and facilitate easy change to the conceptual model or adjustment to the practice or both. The challenge for researchers in this relatively new area of study was to map and codify existing management processes, fill gaps in knowledge and bring the work to the attention of the business community, writers in the business community and business academics.

The current study linked the management process of planning with Alexander et al.'s (1977) concept of patterns developed within architecture and later expanded to the information systems arena. The major focus of the study was to propose a model for identifying patterns in the management process of planning. The model was developed from responses of managers as to the management planning process in ten organisational workplaces from a range of industries.

Whether practitioners seek continuous improvement through controlling business inputs or processes, planning of outcomes is critical. Practical implementation difficulties continue despite a plethora of independent planning strategies. Using Alexander's concept of 'patterning', an underlying pattern that represents actual planning practices has been identified. Despite idiosyncracies in organisations, there are common themes that fit planning in public/private sectors alike; they can be used to improve the success of professional planning practices.

INTRODUCTION

The ability of managers to make good decisions in all aspects of management clearly affects the success of the organisation as a whole; thus, the volume of processes managers are expected to understand and involve themselves in, and the rates at which the internal and external organisational environments and processes change, has led to the development of a multiplicity of business process management tools because "process is the basic unit of business value within an organisation" (Verner, 2004:1). Successful management practice can be described as a manager's ability to orchestrate numerous processes in a manner that leads to desired outcomes. The ability to recognize and 'replay' appropriate processes can be enhanced by defining patterns that are associated with management practice. The majority of business process management tools are used to simplify, track and/or manage core processes by recognising patterns that can be easily replicated to produce more efficient business operations and more effective production outcomes. Establishing that patterns are utilized and applicable to management activity contributes to the understanding of professional practice.

In order to address the perceived gap in the theory and practice of management, the research study was designed to link, with the management process of planning, the concept of patterns as developed within architecture and later expanded to the information systems arena. The research topic was one of determining whether or not patterns could be discerned in organisational planning processes. While patterns have been used as an overarching technique in other disciplines the research into their use as a tool in the management field is extremely limited and despite the potential for improved understanding, training and practice of planning there is virtually no literature available, nor practical resources developed, on the concept of

management patterns. To provide a background for the research to current organisational practices, the study made use of literature in the fields of management, processes, planning and patterns.

An exploratory study, the primary focus of the research was to propose a practical model for identifying patterns in the management process of planning by examining planning as it was practiced in a number of organisations. Theorists have claimed that strategies are grounded in the real world and models are abstractions of those real-world strategies (Porter, 2001; Magretta, 2002; Seddon & Lewis, 2003). However, in practice, the models, or abstractions, are "useful for evaluating alternative possible future ways of building profitable businesses" (Seddon & Lewis, 2003:1). Therefore, it could be argued that models are an abstract representation of a critical, practical aspect of a business' strategy and performance.

The research model was developed as a result of sundry semi-structured interview responses received from managers in real-world situations; their views were sought as to the form of planning processes in their organisation. The ten different organisational workplaces included a range of public and private organisations in a range of industries such as transport, community care, service delivery, development and export and trade. Attention is drawn to the background, justification and significance of the research study and provide preliminary indications based on three initial case studies.

BACKGROUND TO THE RESEARCH STUDY

The difficulties associated with implementing organisational plans have been widely recognised (Mintzberg, 1994; Stead, Stead & Starik, 2004). Core processes (Hamel & Prahalad, 1994; Burlton, 2001) and knowledge most important to organisational success (Mertins, Heisig & Vorbeck, 2001; Lee, 2003) have reinforced management attention on current managerial actions. Kaplan & Norton (2001) recognised that assembling a complete set of business process applications quickly becomes unmanageable without a practical way to achieve control. Similarly, it might be argued that tools and applications were designed to operate independently, and the lack of an integrated approach has made management more confusing and chaotic.

One successful method of achieving control over business processes in the information systems domain is that of patterning. Flexible patterns allow simple comparison between the model and actual situations, thus facilitating easy change to the conceptual model or adjustment to the actual practices, or both. Thus, the research was designed to address the research problem of finding a pattern model that represented actual planning practices in organisations; an area of study that has not been addressed widely in the past. Seddon and Lewis (2003) claimed that creating a model, or abstraction, of the real-world situation allowed attention to be drawn to the factors of interest and new possibilities to be visualised by suppressing irrelevant detail.

RESEARCH OBJECTIVES

The study was exploratory because of a lack of specific management pattern literature. The investigation was to determine whether a conceptual paradigm using general extant literature about management processes, planning strategies and patterning models could be used as a basis

for research in organisations and to develop a 'pattern' model that was useful in improving planning practices. In order to ascertain whether there were patterns underlying the planning process within organisations, collected data were used to develop a hypothetical model of the management process of planning. The relevance of the candidate planning pattern was verified by the iterative process of data collection, verification, display and reduction adapted from Miles and Huberman (1994).

The major research question was;

- *Can patterns be discerned in the process of organisational planning in participating organisations?*

Related minor research questions were;

1. *What constitutes planning processes in participating organisations?*
2. *How are planning processes undertaken in participating organisations?*
3. *Are there common patterns in the planning processes used in different participating organisations?*

JUSTIFICATION FOR THE RESEARCH

The justification for the research derived mainly from the importance of planning as a management activity (Mintzberg, 1978). In the organisational context, planning is the most important activity regardless of its type (Goetsch & Davis, 2006), and understanding all steps and actions involved in the process is crucial for managers (Drucker, 2001). Therefore, the planning process is a worthwhile and valuable area of research from theoretical, practical and methodological perspectives. The theoretical justification for the research came from the

recognition that, at the organisational level, planning varies in its importance; and it becomes more complex and strategic when the outcomes have a direct affect on the organisation's success or failure (Harrison, 1992; Johnson & Scholes, 2002). Researchers have argued that the academic understanding of planning, and the decision-making that is inherent in that activity, is incomplete (Jennings & Wattam, 1994). Therefore, the research contributes to the growing body of academic literature on the subject. In general, the practical justification for the present research was drawn from the importance of planning as an activity that is present in all organisations at some level. The practical application of a pattern to any of these management processes will enable practitioners to better manage and monitor a critical management process.

SCOPE AND LIMITATIONS

The research participants were selected on the basis of Patton's (1990) purposeful sampling technique and were all senior executives whose comments, perspectives and opinions explicated the planning processes in their respective organisations to facilitate analysis. As with all research, the study involved a number of limitations that need to be acknowledged and considered. The following six points were noted.

- The limited availability of management patterns literature was a positive reason for undertaking the study.

- As an analysis technique, mapping was viewed often as merely a graphical representation that assisted management to understand a process (Damelio, 1996). Whilst the researchers acknowledge that mapping did not provide a complete answer, it is a useful analysis tool that had the capacity to indicate potential patterns. The technique may be considered as providing a way not only to understand, but also

improve, a process by providing a common frame of reference that adds to existing knowledge.

- It was recognised that mapping processes carried the potential to uncover unexpected consequences and serendipitous events for which the mapmaker must be prepared (Jacka & Keller, 2002). The researchers were aware of this possibility and recognised that it was necessary to develop clear and direct questioning, and to use efficient listening skills as a mitigating factor; thereby ensuring limitations would not reduce the potential of the analysis.

- Interview participants were sourced from senior management ranks; their focus on senior level planning indicated a vested interest in promoting the benefits of good planning. Thus, it was incumbent on the researcher to monitor participants to ensure they were committed to reporting accurately on planning processes, thereby contributing freely and willingly and were not engulfed by restrictive perspectives, whilst recognising the potential limitations.

- Researcher bias was recognised as a possible limitation. For example, researcher decisions made during the design and implementation of a study could affect participants, data and compilation of findings (Hammersley & Atkinson, 1983). The emphases on confirmatory feedback regarding the interview process and the transparency of interpretation of results were intended to expose and minimise researcher bias.

- It should be recognised that, by nature, an exploratory study is limited to suggesting trends in factors related to the field of investigation (Patton, 2002; Yin, 2003). Therefore, it would be wise to recognise the indicative

nature of the research conclusions. Results must be treated with a degree

of caution until the developed concept of management pattern models is

tested further.

RESEARCH METHODOLOGY AND DESIGN

As the purpose of the research study was to propose and test a new concept of business

patterning, the study was conducted in the following stages;

Data collection - involved a literature review that consolidated a number of terms and

descriptors (e.g., management, processes, planning and patterns) with the intention of outlining

the concept of a business pattern using interpretive analysis of discursive research (Miles &

Huberman , 1994; Keeves, 1997; Dey, 1998).

Interview data and verification – a series of semi-structured interviews with experienced and

practicing managers was used to gather qualitative descriptions of a critical business planning

process. Follow-up contact was used to clarify and verify data interpretation (Hamel, Dufour &

Fortin, 1993; Yin, 1994; Stake, 1995).

Data reduction - involved transcription, coding and analysis of the collected interview data

using manual techniques as well as NVivo© (v.7.3) to identify emerging commonalities in the

individual case interview data. Data display and postulating of conclusions were engaged

concurrently at this stage and required a number of iterations.

Data display – the transcribed, coded data was further analysed and used to create visual

planning process representations for each organisation (Huff, 1990; Jacka & Keller, 2002).

Conclusions - the individual organisational representations were examined, compared and

analysed to allow potential pattern elements to be identified for further analysis against

Alexander's (1979) pattern structure literature. This stage included the development of a model of the research findings.

The interpretive paradigm was the most appropriate model to adopt for the research study to allow the researcher to get inside the minds (Hassard, 1993) and experiences (Yeung, 1995) of the planners. Theory building also required the use of the interpretive paradigm (Perry, 1998). The case study method represents one of the primary research methods for studies adopting interpretivism (Perry, 1994; Gephart, 1999). Furthermore, the case study method, including in-depth interviews, has been used widely by experienced researchers in examining strategic processes in organisations (Bourgeois & Eisenhardt, 1988; Krabuanrat & Phelps, 1998; Ulaga & Sharma, 2001). Because of the exploratory nature of the research and the complexity of the planning subject, the embedded multiple case study approach proposed by Yin (1994; 2003) was employed as the most suitable case study design to gain a comprehensive and accurate understanding of the process.

Ten organisations, five from each of two generically recognisable groups, were invited to participate in the study. Senior executives involved in planning were asked to describe a recent planning exercise that they had undertaken with their staff. A semi-structured interview instrument was developed by adapting a Process Data Collection form (Jacka and Keller, 2002) to capture the obvious, analytical data associated with the identified recent planning event, together with open ended questions adapted from Huff (1990) to capture the invisible, individual values and influences that might have been present during the planning process. Development of the semi-structured interview tool ensured all respondents remained on-task in describing their

recent planning event. The interview schedule contained an opportunity for participants to include any additional information that they deemed relevant, even when that may not have been covered by the semi-structured interview document.

Two main stages of analysis were utilised in the study; within-case and cross-case analyses (Creswell, 1998; Yin, 1994; 2003; Ayres, Kavanaugh & Knafl, 2003). Pattern matching through comparing the emerged themes with patterns derived from the literature review was utilised as suggested by Yin (2003).

CONCEPT BUILDING

The challenge in this relatively new area of study was to map and codify existing management processes, fill in the gaps and bring this work to the attention of the business community, writers in the business community and business academics. Checkland (1981:68) provided some hope for the researcher undertaking such research when he stated "our knowledge of the world acquired by science does seem to show symmetries, patterns, regularities. It would seem surprising if social phenomena were not similarly patterned". Further, Alexander (1979:115) claimed that it is "clear that patterns play a concrete and objective role in determining the extent to which we come to life in any given place". However, Ambler (2003) sounded a note of warning and urged people to remember two vital things about patterns; not everything is a pattern and a lot of good information is yet to be encased in a pattern.

Consequently, capturing the good information contained in unmapped processes such as planning could help simplify the practice for managers at all levels of the organisation. In the

1990s, business process re-engineering strategies were promoted on the basis that obliterating old systems would re-vitalise business (Hammer & Champy, 1993; Watson, 1994). Unfortunately, re-engineering's impact on internal cultures and the cost of 'dumping' previous information system investment lead to failure (Smith & Fingar, 2003). Subsequently, business process management (Hunt, 1996; Smith & Fingar, 2003) was argued to use new technology and develop standards to enable business process implementations that could make use of existing technology, incorporate new systems, utilise current human resource investment and provide management with dynamic control over core processes (Damelio, 1996; Jacka & Keller, 2002; Petrassi, 2004). Nevertheless, as mentioned previously, assembling a complete set of business process applications quickly becomes unmanageable without a practical way to achieve control (Kaplan & Norton, 2001).

Therefore, the research study was developed to investigate whether identifying patterns as defined by Alexander (Alexander et al., 1977; Alexander, 1979) underpinning management activities may offer a way to implement solutions across particular process situations constrained by local policy, procedure and/or context. The implication from the literature reviewed was that unexamined assumptions form a rigid, unchangeable paradigm; and this is a situation that is neither desirable nor sustainable in the modern business management world. Consequently, the study was designed to challenge existing paradigms and provide support for the concept of patterns in management practices and processes; specifically the planning process.

A conceptual model was developed containing an overview of connected concepts from academic disciplines addressed in the literature review. The framework contained the three

related areas delineating the nature of the concept, desirable actions used to gain a quality result, and benefits that successful application of each concept could bring to the organisation thereby connecting the theory from the literature to actual practice in organisations. As a result of having reviewed the literature, it was considered that having a clear understanding of the research focus; that is, the relationship between planning and patterns, was the central feature that would lead to improved outcomes for organisational practice and that this would result from the application of detailed process identification systems.

The lower section of the initial model identified strategies used to investigate what constituted a business process and how the process could be mapped. The centerpiece of the model was a combination of concepts related to the use of planning as a practice that could be mapped to determine whether or not patterns exist within that planning. The top section of the model demonstrated how benefits to managers and the organisation could be put into practice if patterns held within the planning process were recognised.

By definition, patterns provide a means of capturing organisational knowledge and promoting organisational learning. Whilst the study was designed only to capture patterns that may exist (not test them in practice), it was postulated that once uncovered the patterns could contribute significantly to the concepts of organisational learning that would improve decision-making, thus making the overall task of management more successful. Also, it was hypothesized that, in general, identifying patterns in management tasks would help alleviate the complexity that currently exists within that particular business activity. Thus, the model was available for use as

a springboard from which the exploratory research could be conducted, and as an outline for the development of an appropriate interview schedule.

RESEARCH PRACTICE

Given the exploratory, model building nature of the research, it was desirable to use a variety of industry types within each sector. Therefore, although covering two distinct groups, the organisations were selected in a manner designed to avoid homogeneity within each sector by selecting organisations in various fields of business such as transport, service provision, development, exporting and community care. The decision was made to avoid the dangers of systematic bias and, at the same time, avoid what Krueger (1994:82) called "analysis by paralysis"; that is, using such highly directive methods and such similar research groups that respondents feel 'paralysed' into furnishing responses they think other participants have provided, or that they think the interviewer wants, rather than what is the true reality.

The decision to limit the interviews to senior staff was made on the basis that they would be involved in more planning events of various kinds and they would often be the 'bridge' between strategic, business and operational, or tactical, planning. The semi-structured interview schedule was used as the basis for asking managers to describe a planning process that they undertook in response to a recent critical issue.

ANALYSIS OF INTERVIEW DATA

Content analysis is an appropriate technique when faced with extensive interview data. It has been described as a systematic technique for compressing many words of text into fewer content

categories based on rules of coding (Weber, 1990; G.A.O., 1996). It enabled the sifting of large volumes of data with relative ease in a systematic fashion (G.A.O., 1996) and allowed for discovery and description of the focus of individual or institutional attention (Weber, 1990). Content analysis was useful, for examining trends and patterns in documents such as interview transcriptions (Stemler & Bebell, 1998).

Subsequently, to answer the research questions, the researcher has to look for relationships between various themes that emerge as a result of the analysis process (Lacey & Luff, 2001). Data were benchmarked to the conceptual framework and the research questions using multiple case study research. That is, individual case analysis and cross case analysis (Yin, 1994; Creswell, 1998; Ayres et al., 2003). Yin (2003) identified pattern matching as one of the most desirable analytic techniques to be used in individual case study analysis. The pattern matching technique entails comparing empirically based patterns with an expected or predicted one. In particular, pattern matching is appropriate for exploratory studies as in the current research study.

The second suggested stage of data analysis in multiple case study research relates to cross-case analysis which implies searching for cross-case patterns. Eisenhardt (1989) suggested three major strategies be employed in this stage: categorise the cases based on certain dimensions and search for similarities and differences among them; choose two cases and list the similarities and differences found; and finally, break up the data by data source. These cross-case strategies obligated the researchers to stretch preliminary notions and perceptions and enhance the possibility of revealing precise and reliable theory consistent with the data. Also, it boosted the probability for the researchers to identify unique aspects of the data.

The raw data collected using the semi-structured interview in each individual organisation were analysed using NVivo© (v.7.3) to create language lists, coding categories and knowledge trees. The collected data were encoded under each concept included in the semi-structured interview schedule, developed from the themes that emerged from the literature review in chapter two on a case-by-case basis. They were described then using a combination of NVivo© (v.7.3), an adapted version of the process mapping tool of Jacka & Keller (2002) and an adapted cognitive mapping tool (Huff, 1990; Huff & Jenkins, 2002) to create written and graphical descriptions of the planning process for each specific organisation. Word or diagrammatic forms such as process maps, flow charts, tables and other graphics were used to assemble and systemise the information (Miles & Huberman, 1994).

The next step of analysis involved identifying common elements present among the ten individual case maps. The interpretation phase (Creswell, 1994) implied ascribing meaning and sense to the analysed data through searching for a descriptive pattern.

Finally, identified common practices underpinning a particular management activity in the ten individual cases that formed a planning pattern as defined by Manns et al. (2001) as a written form for documenting a common, successful practice, were overlaid onto Alexander et al.'s (1977) pattern structure to address their relevance to the conceptual model and identify any patterns of planning, as defined by Alexander et al. (1977).

RESULTS

Case - by - Case Analysis

McFarlane (2004:n.p.) has reported that Einstein (1879–1955) claimed that "not everything that counts can be counted and not everything that can be counted counts". Nevertheless, inductive reasoning was used to interpret and give structure to the meanings that were derived from the interview data and to generate ideas as a way of uncovering, deconstructing and understanding the phenomena (Hussey & Hussey, 1997). Subsequently, a graphical representation of each individual case was prepared for later use in performing cross-case analysis.

The analysis of individual cases involved searching for, and describing, similarities and differences that might indicate the relationships between the three categories noted in the literature; i.e., the nature of planning, the actions involved in planning and the benefits of planning. Additionally, participants' descriptions and personal perspectives of planning were included in an attempt to ascertain whether there were other indicators not captured in the pattern components originally designed as a result of the review of literature. The core themes represented actual experiences in planning as used by participating organisations. Illustrative quotations from the interviews were provided verbatim, not merely to illustrate the theme being described and to support the findings, but to provide the voice and experience of the planning participant as clearly as possible.

The transcripts of the ten interviews were analysed to create case descriptions, maps and discussion for each. A complete list of indicators identified from the interview data was assembled and analysed. Related indicators were grouped together to create a list of broader

categories that suggested a common meaning between participants, even though in some cases different expressions were used to describe the same phenomenon. The various categories then, were fitted into the three components of nature, actions and benefits; the result suggests a pattern might be present in the planning concept. Two components of 'description/definition' and 'personal perspective' were not identified originally from the review of literature but did emerge from the interview data. They were included in the Planning Component Model that was developed from the interview data to provide a more complete overview of the components and of a pattern of planning that might be present in the participating organisations.
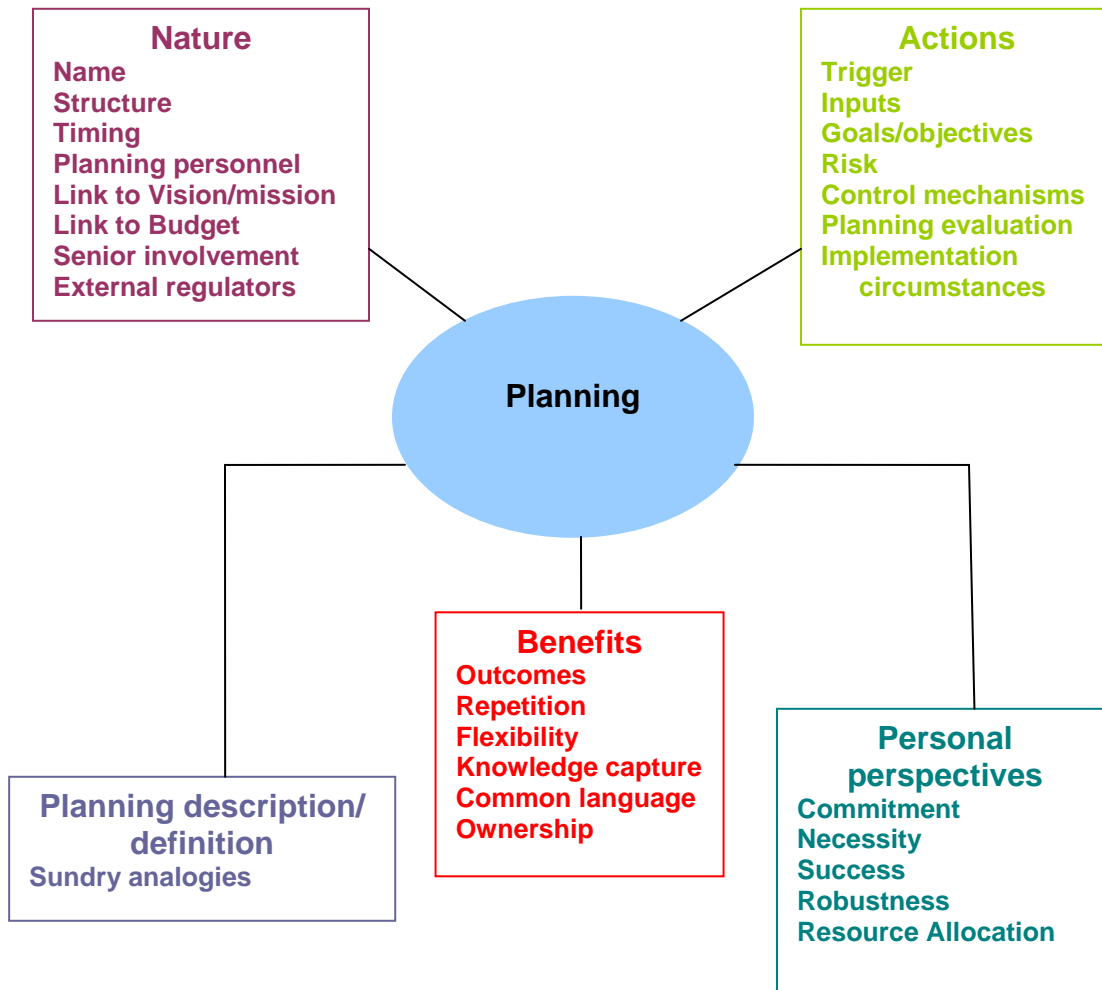
Cross-Case Analysis

Cross-case analysis was presented according to the planning components model (see Figure 1) developed from the case-by-case analysis. In order to answer the major research question it was considered necessary to examine respondents' comments to determine whether or not there were cross-case similarities among the relationships of nature, actions and benefits. To achieve this comparison, the various categories and their indicators within each component were presented and analysed and the data were presented in the form of bar graphs that illustrated the percentage of cases that identified particular indicators. This process allowed the minor research questions to be answered.

- *What constitutes a planning process in participating organisations?*

Participants indicated that planning was a process undertaken to develop future operations for the organisation in relation to its vision and mission.

Figure 1: Planning Component Model

Nature
Name
Structure
Timing
Planning personnel
Link to Vision/mission
Link to Budget
Senior involvement
External regulators

Actions
Trigger
Inputs
Goals/objectives
Risk
Control mechanisms
Planning evaluation
Implementation
  circumstances

Planning

Benefits
Outcomes
Repetition
Flexibility
Knowledge capture
Common language
Ownership

Personal perspectives
Commitment
Necessity
Success
Robustness
Resource Allocation

Planning description/ definition
Sundry analogies

- *How is the planning process undertaken in participating organisations?*

Participants described seven categories of actions associated with their planning processes. The critical features of these actions were identified as: triggers, inputs, goals/objectives, risk, control mechanisms, planning event evaluation and implementation circumstances.

- *Are there common elements in the planning processes used in different participating organisations?*

Despite the fact that participants described planning events that occurred in the public and private sectors, there were many areas of agreement. The differences appeared to be related to

particular organisational circumstances. Nevertheless, the number of categories of indicators that were repeated across the cases points to common elements in planning. The components of Nature, Action and Benefits strongly indicate evidence of a pattern in planning. However it was recognised that within those components, there were differences in the strength of the 'category' evidence indicating patterns. Subsequently, an amended Planning Component Model was developed to indicate the relationships between the components and the influence of personal perspective and description.

The final task was devoted to answering the major research question of:

- *Can patterns be discerned in the process of planning in participating organisations?*

Confirming the view of Mintzberg (1994), the findings indicated that nine out of the ten planning events discussed by participants described how organisations develop a pattern of behaviour such as using timing as a planning event trigger. The three major components of information related to patterns remained the same as those identified in the literature; Nature, Actions, Benefits. The wide variation of indicator responses within each category of information suggested that there was idiosyncratic application of the planning process by personnel in the participating organisations.

Results of the within case analysis, and cross-case analysis, suggested that indicators of planning in participating organisations could be collated into categories of information that formed micro patterns of planning that could be applied in individual, particular situations. However, when these categories were grouped into the three major components; Nature, Actions and Benefits, they formed a macro pattern of planning that could be applied in every situation. Therefore, the finding of the study indicated that patterns, at two different levels, could be discerned in the

process of organisational planning in participating organisations and Alexander's (1979) ideas were confirmed as useful in the field of business, particularly in relation to the planning process.

Alexander et al. (1977) claimed that a pattern describes a *problem* that happens over and over again in a given environment (*context*), then offers the core of a *solution*, in such a way that the solution can be used over and over again without ever being applied the same way twice. The findings of the research into planning practice, indicated that the process of planning could be described using the three categories of *nature*, *actions* and *benefits* as identified in the literature. The challenge, then, was to match the theory of Alexander et al. (1977) with the practice of planning as conducted in the ten participating organisations. The concept of matching *solutions* and *benefits* was a direct one in the sense that both terms referred to positive outcomes for the organisation. In the case of *context*, Alexander et al. (1977) used this term to indicate a framework within which an activity occurred; this is related closely to the term *nature* as identified in the planning literature because it referred to the organisational background of the planning activity. Finally, the terms *problem* and *actions* both referred to operational aspects of an organisational activity that needed to be addressed, in this case planning. Thus the nature, actions and benefits components were matched to Alexander et al.'s (1977) concept of patterns. Consequently, the major research question has been confirmed and extended, in as much as the analysis has related planning pattern information from ten case studies to the concept of patterns as suggested by Alexander et al. (1977).

CONCLUSION

A major argument of Alexander (1975) was that a pattern represents the current best guess as to the most practical way to arrange factors to solve a problem and can be the basis for shared agreement and organisational learning. Despite training and experience the participants used different language to describe planning, or, used the same words in different ways. The fact that organisations have their own practical idiosyncrasies within a set of common planning themes does leave open the question of what research into planning practices can reveal for private companies, and whether there are common themes in planning that fit both the public and private sectors alike.

The research achieved the aim of addressing the major question inasmuch as both general (macro) and specific (micro) patterns of planning have been identified and have been linked to the original model of patterning in architecture by Alexander et al. (1977). The results have confirmed Fowler's (2003) contention that patterns offer a practical advantage because they are firmly established in practice, are representations of what happens in the real world and are uncovered by observing what people do.

The macro pattern has a general focus that is common to all organisations and applicable in all situations. In the case of specific (micro) patterns, there is more opportunity for categories to vary to some degree within individual sectors, industries and organisations. These specific indicators form a lower level pattern that was not identified directly by Alexander et al. (1977) but was supported by Stacey (1993) who suggested that, while the dynamic business

environment might mean a degree of disorder, and randomness is present at a specific level, there would be a pattern at a general, overall level.

Some evidence in relation to the development of a common language within each organisation supported Alexander's (1979) view that a pattern can form the basis for shared agreement that can be discussed in public. Similarly, there was support for Coplien's (1997) view that the biggest payoff from patterns may be that they capture organisational truths that might otherwise be lost. Finally, through this study it was possible for the researchers to identify with the Alexander (1975) view that a pattern represents distilled, reusable knowledge, the best way to arrange factors to solve a problem and develop shared agreement and organisational learning. Identifying, developing and understanding patterns allows for a simple comparison between the pattern model and the actual situation in an organisation, thereby facilitating change to the conceptual model, adjustment to the practice, or both.

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