

**Understanding Team-Based Intrapreneurship Within the Complex Environment of a
Multi-Faceted Australian Healthcare Provider**

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KEY WORDS: Innovation, Intrapreneurship, Action learning, PDSA model, Organisational development

Track: Entrepreneurship and Innovaton

Word count 6378

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Introduction

The organisation, a leading Australian (Queensland) health services provider consisting of seven hospitals (three public and four private) in an extremely competitive and tight financial environment. Innovation and cooperation were used within this organisation to form strategies to develop a competitive advantage. The complexity of this study is further heighten by the organisation's adherence to the values of mercy, dignity, care, commitment and quality.

Even though the organisation had experienced exceptional results in research and clinical practice, spiralling healthcare costs and reducing funds saw the infrastructure supporting this work reaching breaking point. The development of an effective intrapreneurship environment was proposed as a method to drive the changes required to address both internal and external competition issues. The authors proposed a framework to facilitate the understanding of innovation in services and products through intrapreneurial and organisational development activities. The need for this approach stems from perceived deficits in the way in which intrapreneurship is conceptualised and delivered operationally. The framework contends that successful new products result from a sequential process involving the development of new services, underpinned by effective team performances and the resulting increase in cooperation and collaboration.

The framework a three-stage model starts with effective teambuilding and builds through the development of new services and culminates in new product development. Each of the three stages utilises Deming's PDSA cycle to reach the point of learning that enables the next stage to occur; a process of intrapreneurship based on action learning and integrated with knowledge management. Current research approaches focus on the characteristics of intrapreneurs, rather than the activities that lead to successful product development. Important issues such as how teams progress through the stages of new service and product development are not usually considered. Therefore, there is little in the extant literature to guide prospective intrapreneurs or organisations. This study presents the three-stage model in use and the findings are discussed, together with opportunities for further study through the use of a second model developed for the evaluation of organisational transformation. This second model incorporates: Deming's system of profound knowledge and PDSA cycle; the organisational change and development philosophies emphasized by Argyris' Espoused and

In-Use Theories; and the development of applicable knowledge through Argyris' Discover, Invent, Produce and Generalize cycle.

The conclusion provides insights into the relationship of cooperation and innovation within a values based healthcare culture and how intrapreneurship within a supportive environment provides both internal and external competitive and strategic advantages. The models used indicate that management and operational aspects of innovation via intrapreneurship can reduce dissonance and lead to successful organisational outcomes.

Intrapreneurship in Context

Intrapreneurship has received less research attention than entrepreneurship, however, the research that does exist provides informative insights. Definitions of intrapreneurship range from entrepreneurial action within an organisation (Antoncic & Hisrich, 2003) focusing mainly on the establishment of new ventures, to Kolchin and Hyclak's (1985) more defined belief that intrapreneurship is the development of new products or business opportunities via the introduction of a new process or the adaptation of an existing one. This focused understanding of intrapreneurship makes it a sub-field of entrepreneurship, consisting of innovative activities within an organisation that creates new services and products and strengthens the competitive position of the organisation (Antoncic & Hisrich, 2003). Intrapreneurship is often achieved through non-core business activities (Nielsen, Peters & Hisrich, 1985) that serve to add value to organisations.

Research by Kuratko, Montagno and Hornsby (1990) attempted to measure the likeliness of intrapreneurial activity through the lens of organisational culture. A review of intrapreneurship research by Antoncic and Hisrich (2003) identified three main areas of focus: (1) The individual, with an emphasis on individual characteristics and the way in which individual intrapreneurial efforts were supported; (2) The development of new ventures and the internal environment in which such ventures operated; and (3) The characteristics of organisations deemed to be intrapreneurial. The focus on the intrapreneur as an individual is also evident in Kolchin and Hyclak's (1987) notion of the 'typical intrapreneur' as a manager who uses the system to conceal risk-taking entrepreneurial behaviours while appearing to be a traditional manager who follows policy and is risk-averse. Individualism was also a theme in Robinson's (2001) account of intrapreneurship within the 3M Company.

McGinnis and Verney (1987) suggested that intrapreneurship is based on individual qualities or characteristics that are supported by organisational factors. The research identified seven individual and nine organisational characteristics that facilitated innovation. These characteristics can be harnessed through teams of individuals with complementary skills formed with a view to developing innovation within an organisation (McGinnis & Verney, 1987). The authors believe that innovation through intrapreneurship is more likely to be achieved in medium and large organisations through the use of teams, rather than by individuals; an approach supported by Abraham's (1997) research. This is not to say that intrapreneurship does not need a champion, rather that its attainment is more likely to be a team event.

Success through a planned and structured approach to innovation can contribute to corporate growth and the maintenance of a competitive advantage. A review of three approaches adopted by successful companies suggests that multi-disciplinary teams have an important role to play, particularly in screening proposals and developing strategies (Cates, 1987).

In order to distinguish between what may be classified as services and what as products, Bateson and Hoffman (1999) suggest that the outputs of many organisations now combine the characteristics of both services and products. In some instances, it has been convenient to describe outputs as "a bundle of goods and services," with goods or products at one end of the

continuum and services at the other (Davis, Aquilano & Chase, 2003, p12). Customer contact is the variable that increases from minimal at the product end of the continuum towards maximum at the service end.

Using customer contact as the distinguishing feature enables each output to be viewed in terms of its constituent parts; i.e. service or product components. The service component of any output is easier to improve than the product component, as the nature of services with their high customer contact component is more amenable to team-based strategies such as effective communication, interpersonal skills etc. This suggests that new service innovations, based on intrapreneurship, are more likely to be successful if undertaken by an effective team. Given the composition of outputs as ‘a bundle of goods and services’, innovations of the service component should occur prior to innovations of the product component. This leads to the development of a more effective product through a greater alignment of the user (customer) and the producer in terms of both requirements and expectations.

Conceptual Framework

Given the limited research available, the authors developed a model within a conceptual framework based on achieving innovation through a process of intrapreneurship using teams. The model involves three stages achieving an appropriate level of capability and knowledge as the previous stage provides the point of departure for the next stage.

The first stage is effective intrapreneurship team development. The team is initially supported through the stages proposed by Tuckman (1965) and then the characteristics of cooperation and collaboration stipulated by Schein (1980) as essential for successful group performance are incorporated. The PDSA cycle is introduced to the team as a knowledge management system with the aim of enhancing learning, innovation and organisational improvement. Deming’s PDSA cycle (1986, 1994) is similar to Revans’ (1996) concept of action research. Deming initially proposed the cycle as the Plan, Do, Check, Act cycle, which evolved to the Plan, Do, Study, Act cycle. The replacement of ‘check’ with ‘study’ emphasised the system of profound knowledge’s components of: appreciation of the system, understanding variation, a theory of knowledge and psychology. This emphasis deepens the approach from the concept of a simple review to a detailed investigation with a commitment to knowledge generation and its application.

The Plan element of the cycle requires the team to analyse the current situation and before making any decision to visualize the impacts of that decision. At this stage of the cycle it is also important to consider what should be measured in order to ensure that desired outcomes have been achieved. All processes should be considered and a plan of implementation drawn up. The Do element of the cycle involves the trailing of change on a small scale, usually under controlled conditions. Experiments or prototypes may be used. The Study element of the cycle involves analysing the results of an experiment. The main purpose at this point is to determine how effective the test has been. The Act element of the cycle involves incorporating the innovation or process into standard operations and the continuation of the cycle itself.

The PDSA cycle, being an iterative knowledge led process, is an ongoing system where knowledge is increased through the actual journey of discovery itself. At each stage of the cycle key questions should be asked (Imai, 1986): these being *who, what, why, where, when and how*. When a team reaches the point in its development where a new service development is indicated, the point of departure is reached and the intrapreneurial activity to develop a new service, or to improve an existing one, commences.

In the new service phase, the team again employs the PDSA model to effect continual improvement. As in the team building stage, the PDSA cycle is ongoing and utilises the questioning approach (Imai, 1986) as outlined above. When a team reaches the point in its

development that indicates readiness for a new product development, the point of departure is reached and the intrapreneurial activity to develop a new product, or to improve an existing one, commences. In most cases the organisational output will not be a pure service or product, instead being ‘a bundle of goods and services’ as suggested by Davis, Aquilano and Chase (2003, p12). The model proposes that a team would commence innovation, through intrapreneurial activity, on the service component until the point of departure is reached through the operation of the PDSA cycle. At the point of departure where a new service development or improvement had taken place, innovation on the product component commences.

The three-stage model “Innovation Through Participative Intrapreneurship” is shown as Figure 1. The PDSA cycle operates continuously within each of the stages of the model and is positioned to indicate that it does not operate solely within a segment of the model, but also draws on the surrounding environment.

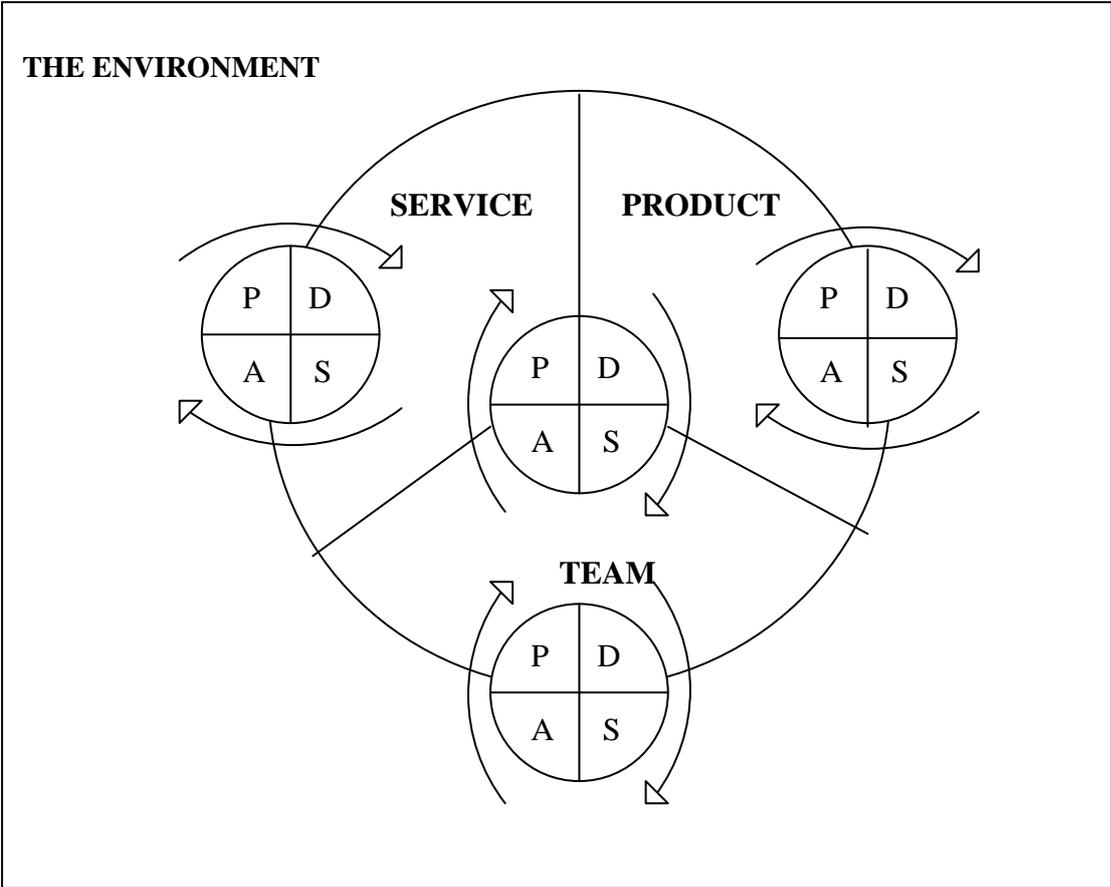


Figure 1: The Participative Intrapreneurship Model

Background to the Organisation

100 years ago, the organisation was formed by a religious order with a single private hospital in a donated building. Funding was predominantly through benefactors and the assets of the order this that to a prevailing financial attitude of ‘God will provide’. The organisation now has three public and four private hospitals, numerous specialised services and world-leading research centres. In 2001, the individual entities were incorporated into a single Health organisation. A new Board of Directors and CEO were appointed, along with a new senior management team. The new CEO made three significant changes. He changed the organisation’s structure, attempting to move from a silo to a matrix model, centralised many

of the support and back-of-house facilities and introduced more traditional management functions such as marketing. Senior managers at the Executive level headed these functions.

The organisation is knowledge based employing approximately 4,800 people. Over 70% of employees have a tertiary degree and around 20% have two or more. Although a highly educated workforce, there was little demonstrated commercial knowledge and expertise. It was also not widely evident in the people charged with leadership and management responsibilities that managing knowledge workers was a major competency, their focus was more on technical skills.

Background to the research

This research occurred as a component of a much larger five-year project that initially involved investigating the complexity of managing, marketing and delivering healthcare services within a tight financial environment. Pressures from governments and customers were increasing and conflicted with the original values of the organisation, based on love, respect and the delivery of care to all in need regardless of their background or ability to contribute to the cost of the treatment. To this end the values are summarised by the following five concepts:

- Mercy - the spirit of responding to one another
- Dignity - the spirit of humanity, respecting the worth of each person
- Care - the spirit of compassion
- Commitment - the spirit of integrity
- Quality - the spirit of professionalism.

The outward expression of the organisation had become “Exceptional People, Exceptional Care”. The challenge was how to maintain the business and its values in the face of the present and future pressures?

In the early stages of this research the levels of skills held within the organisation in the area of research and development (R&D) were seen as assets. When this point was discussed with the relevant senior management, it became clear that while R&D was viewed as important the process was still far from optimum. The organisation had just committed to improving innovation of both services and products by investing in the human/soft skills components of a number of innovative projects being undertaken within the organisation. This provided a clear platform for this research to investigate the development of the internal innovation methodology, its success and its limitations, while also gaining a deeper insight into the organisation and its people in terms of the larger study.

The Study

Given the positioning of the research, and the development of a high level of trust within the senior management ranks, this initial research was undertaken as a case study based on the work of Yin (1994) and uses qualitative data. The material developed within the case study is based on a number of interviews with senior management.

The interviews with relevant senior management were undertaken over a 12-month period, initially to occur every 3 months, thus providing a clear track of the approach. This increased as those involved found the interaction and reflection beneficial to improving the actual intervention. In all six formal interviews were held, supplemented with a number of phone calls and informal discussions. This paper therefore provides a summary of a complex and detailed set of qualitative data.

The Initial Intervention

As emphasised earlier, the organisation has a strong national and international record in clinical and healthcare research. This led to the question, “how well do we manage and support innovation?” The answer to this question was, “It appears to happen in isolation and with no real understanding of the process” and “clinical/research issues come from a list of problems looking for answers, whereas work based are problems that are often yet to identified.” On further investigation it became clear that “we employee highly skilled people and have assumed that the skills of managing people, things and processes is automatic, when in fact it is true some of the time but mostly we employee high levels of technical competence (hard skills) and lower levels of enabling skills.” Most of the activity undertaken, except in the area of externally funded research (of which there is a substantial amount), is in addition to existing workloads other than the project or innovation under investigation.

In order to demonstrate a commitment to the staff involved in innovation or improvement and to increase positive outcomes, a number of discussions were held with both successful and unsuccessful work based (rather than research based) teams. A number of themes appeared in relation to project support and development. The major issues outside a lack of time were:

- Developing effective teams through addressing problems in a timely and conciliatory way.
- Access to mentoring, facilitators, supportive counselling and other reflective processes.
- Assistance in managing timelines, deadlines and complex project issues.
- Effective communicating requirements,
 - Both within the development of the project and across other departments and projects as well as communication of the final outcomes of the project to the organisation.
- Effective access to data and information,
 - This need not only relate to the project itself but also to material to assist in the soft skills development required; and
- Access to a supportive environment that included other teams and senior management.

All these factors correlate with Gapp’s (2002) finding in relation to the development of successful self-managed teams. In response to these findings, a three-person project support team was developed consisting of a team leader (of this team) who was a highly skilled female project manager with a background in engineering management, a highly skilled report writer with both nursing and business qualifications and a person with both librarian and medical record skills. The project support team was not only made available to all teams but was also charged with meeting, assessing and developing all chosen teams. This team provided a focal point for the process and enhanced understanding and communication across the teams as well as the organisation. The project support team and the project teams reported directly to the Executive via a senior manager charged with improving the process. This manager commented, “the organisation is a unique place to work and has some of the most highly committed caring people I know. Making this work not only supports them, it will be essential to the long-term viability of the organisation.”

In the initial phases, 28 projects were identified by the organisation. These projects were already in existence or had been identified as important. The projects in existence were encouraged to actively recruit and expand their membership with new projects staffed through recruiting motivated members. Senior management also made direct contact with the teams to enhance communication and as a sign of commitment to the process.

It was at this stage of the research that the researchers questioned the nature of the teams, previously described as innovation teams. It was clear to the authors that the teams were actually three distinct groups focused on either improvement, service or product

innovation. This was first seen to be at issue with the research but has become an important aspect as it highlighted a number of important developments in relation to the role of teams and cooperative behaviour in the development and delivery of innovative rather than individualistic responses to the process.

Discussions with senior management highlighted the following as important components in fostering innovation:

- Service innovation often leads to product innovation.
- Quality Improvement is often an identifier of a service innovation.
- Product innovation can often fail or be less successful if it is not linked to the appropriate service innovation.
- Problem solving within a creative and supportive group/team environment is an acquired skill that can be improved and enhanced if correctly supported, not an existing skills set as often assumed.
- For creativity and innovation to grow rapidly the ability to work within teams is essential, however, this skill is often more readily developed in an environment where the problem/project provides quick results that are significant to the organisation and the outcomes can be achieved. These are characteristics more commonly identified with quality improvement issues, rather than service or product innovations, which are often longer-term issues and the significance and outcomes of which are not always readily definable.

The following statements provide insights to the above points:

- “We found that bringing cross-functional and disciplinary teams together highlighted why product (eg clinical applications) and service innovations were not up to scratch. It also highlighted the types of products and services that were lacking. Working on issues at the coalface often stimulated bigger behind the scenes innovations.”
- “Working with people provides valuable insight into abilities, knowledge and capabilities that you never knew were there in the first place.”
- “We always knew that there was a better system, we knew what it would look like and how it would work. How to start and what to do was daunting working around it. With different people it allowed the concept to grow into a solution rather than be an impossible dream.”

At this point, senior management commented that it was clear that the evolving nature of team development, from the improvement to service to product innovation within a supportive mentoring environment, was not slowing but actually enhancing creativity and innovation. Detailed discussions with senior management and team members led to the development of the model previously discussed and presented as Figure 1. All parties agreed that it was an accurate representation of the process that had been undertaken.

The development of an evaluation model

Previous research by Gapp and Fisher (2005a) indicated that many companies are often inwardly focussed and once organisational performance drops, a negative reactive cycle that attempts to return performance to acceptable levels is introduced. These approaches are usually short-term, with a focus on simply correcting immediate problems. Cost reduction is often a planned outcome of such measures. There is little emphasis at any stage on the gains associated with innovation, continuous improvement or organisational learning.

Approaches of this kind stifle innovation, continuous improvement or organisational learning. Organisations typically conform to Argyris' (1985) Model 1, where leadership espouses particular causes of action yet implements actions inconsistent with this. In such

organisations, single loop learning (Argyris, 1976) is employed. Simply, it will only identify the current round of problems and initially bring performance back to acceptable levels without identifying underlying issues that inform future action.

How then do managers engage in activities that lead to innovation and organisational learning? How do they know which direction to take? How do they avoid the push to Model 1 behaviour and address the issues through the cooperative approaches embedded in Argyris' (1976) Model 2 behaviours? This led to the development of a model for the evaluation of organisational transformation presented as Figure 2.

The Organisational Transformation Model Based on the Work of Argyris and Deming

In response to often superficial approaches, as seen in the Model 1 response, Covey (1995, p.4) proposed the concept of internal wisdom and educating the conscience, "The only way to have enduring competitive advantage is to create a culture that continuously produces the next technology by promoting learning and innovation." This approach aligns with Argyris' (1985) approach to overcoming organisational defensiveness and acquiring the desirable Model 2 values set and is very much in line with Deming's (1986, 1994) concept of quality.

Deming describes the following concepts as fundamental to the success of undertaking the transformation process. "Quality is improved in three ways, through innovation in design of a product or service, through innovation in process and through improvement of existing process" (Deming, 1994, p.30). These three approaches require the catalyst of an environment that fosters the extension and use of knowledge. Deming also believed that management had not accepted this focus and still relied on quantity and other basic economic indicators.

The outcome of combining Argyris' (1985, 1973) and Deming's (1986, 1994) material represents an organisation that has addressed the organisational defensiveness that limits change and embraces the challenge of moving from Argyris' (1985) Model 1 values set and establishing Model 2 values as the new evolved norm for the organisation and its members. A model that provides insight to this approach is presented in the next section.

Figure 2 represents a combination of Argyris' (1985) Espoused versus In Use Theory and its relationship to moving from Model 1 to Model 2 behaviours through the use of a planned process where internal learning and development (micro) are achieved through Deming's (1994) PDSA cycle and the organisational uptake of learning and application are understood in terms (macro) of Argyris' (1973) four step model of Discover, Invent, Produce and Generalise. This approach supports both innovation and transformation by understanding the balance between the internal focus of the individual and organisational development and external appreciation of competition and sustainability that lead rather than follow market demand.

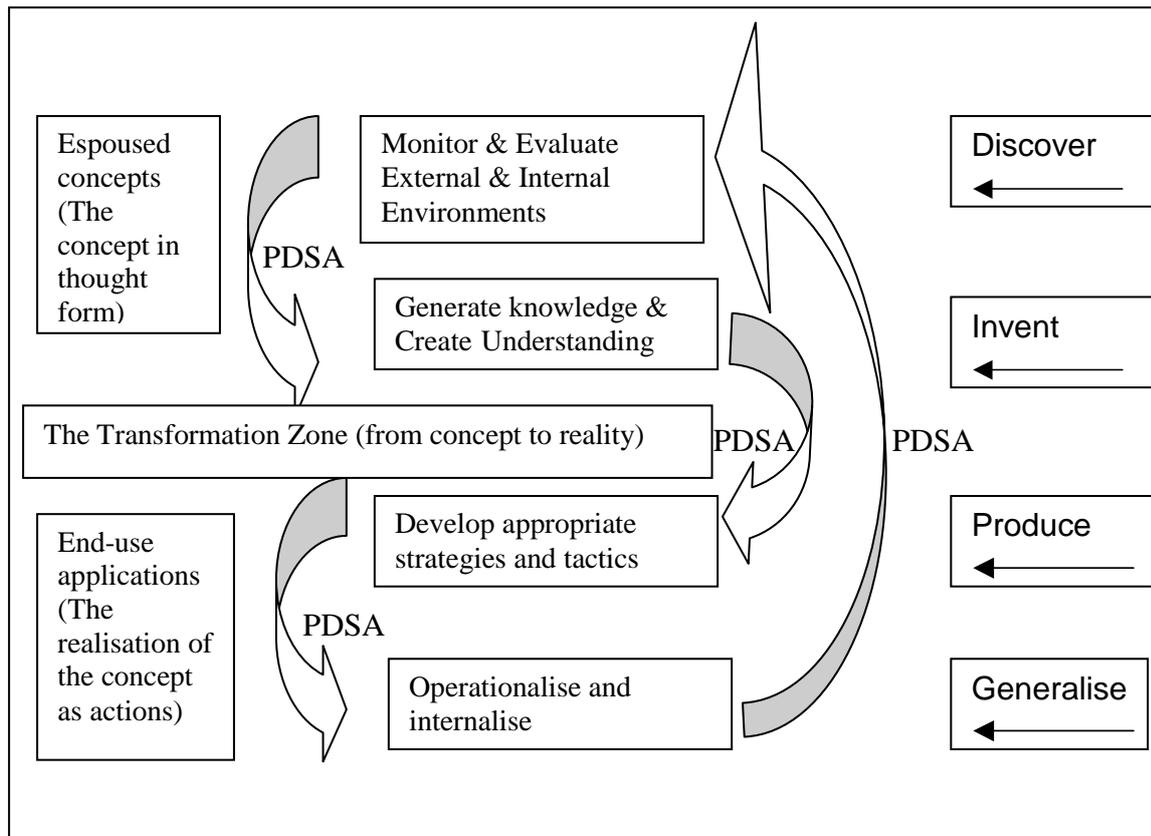


Figure 2: The Organisational Transformation Model

The model addresses the three questions asked previously in regard to leadership, engagement and direction by identifying imbalance. This imbalance or “lack of holistic thinking has ultimately created a “segmentalist” organisational culture that has proven to be dysfunctional because of its inability to respond quickly to changes and its obstruction of creativity that impedes improvement and innovation” (Kanter 1983, p.28). The answer is a balanced integration of analytical and humanistic management skills, as seen in Deming’s system of profound knowledge (McNary 1999, p.20). A method of approaching this balance through this model is the blending of four concepts:

- An understanding of the process required to move from Argyris’ (1985) Model 1 to Model 2 behaviour, thus overcoming organisational defensive routines;
- Creating an internal knowledge and learning environment through Deming’s (1993) PDSA cycle;
- Assessing the overall organisational effectiveness via Argyris’ (1973) four-step model of the Discover, Invent, Produce and Generalise cycle; and
- Gaining an understanding of system or process terms of the current state of the organisation both internally and externally through the use of intrapreneurship.

The outcome is an organisation that balances structure and consideration. Here new systems and procedures are readily identified and developed while simultaneously a climate of trust and enthusiasm takes individuals through the steps of understanding, values development, behaviours adaptation and finally organisational transformation.

Discussion

Applying the 'Organisational Transformation Model' highlighted a number of interesting issues and verified existing statements. When investigating successful innovations from the points described as discovery and generalise on the model, all the characteristics highlighted in previous discussions on the 'Participative Intrapreneurship Model' held true. Additional information at a team level is summarised in the following statements:

- I work with lots of fantastic, friendly people, that is one of the best things about the job.
- Well accepted – trusted with respect and surrounded by excellent human beings.
- An excellent team to be part of.
- I feel I'm a valued member.
- Respect for each other is very important -- which helps me to take on the challenges of my position. People skills are very important.
- We have a great team. We need better assistance.
- My workgroup is committed, hard working and professional.
- We have an excellent team always supportive.

This successful group presented the following comments in relation to participative practises:

- It has improved since recent organisational change.
- I feel that I have enough freedom as well as support to take some authority over decision-making.
- Within my immediate work area, work practices and decisions are made after discussion.
- I have input into most discussions and decision-making affecting my work.
- Staff in my work are asked their opinion.
- I feel that I have enough freedom and support.
- Usually a multidisciplinary effort.

In the group where innovation was unsuccessful, the follow comments were typical of both teamwork and the level of participation. Firstly teamwork:

- Difficult to get consensus.
- Difficult to feel like a supported part of a team when denigrated and bullied in front of others.
- It can be very hard and I really have to try. I like working alone.
- I don't mind being a team member but others need a bit of training in that area.
- There are team players and there are non-team players.
- There is a group of motivated workers who do everything, with a group of lazy people who sit back and let everyone else do the work.

In response to participative practice within the unsuccessful group, the following was stated:

- Staff are asked but their input never changes the decision-making.
- Consultation is just lip service.
- What decision-making? A number of significant decisions are made without consultation.
- Participation/involvement in decision-making is spasmodic.
- Comes from above with very little input from the workers.
- Decisions affecting my work area are made by people without consultation or collaboration who have never even set foot in it.
- Decisions are made and we are informed of the decision.

- It seems to be in the hands of people who have their own agendas as a priority and a tunnel vision.
- Sometimes it's last-minute.
- Decisions are made long before the workers are consulted.
- There is no participation in decision-making.
- The decision-making ignores that we are a hospital with sick people.

This information clearly identifies with the espoused vs in-use aspects of the 'Organisational Transformation Model'. The successful intrapreneurial activities align with high levels of participation and the associated involvement in decision-making. This group also provided positive examples of team development and activity including statements that indicated higher and complementary levels of knowledge within the team, positive group dynamics and organisational processes.

The second group with low levels of intrapreneurial activity showed that for them the ability to cross the transformational zone of the second model did not exist. For them the organisation and its management did not provide clear evidence that this espoused vs in-use argument was aligned, creating an intolerable amount of dissonance. This was expressed in the fear, frustration and disconnection all associated with their perceived lack of participation and direction. Lower levels of teamwork were commonly associated with this group in terms of the business direction of the organisation. Teamwork did appear to play a role for this group that being the provision of a supportive environment to assist these individuals to cope with the dissonance they felt within the organisation

Successful innovations were also strongly linked to individuals or groups being able to influence the methods and approaches used in day-to-day activities within the organisation. In most cases this represents the service component of the previously discussed 'service/goods bundle.' The service aspect provided the vision required for the 'discover' phase of the second model and was achieved through the freedom to evaluate and monitor existing and external systems. The mechanism for managing and achieving this aspect of the model was the higher levels of participative practice expressed by these individuals and groups.

The 'invent' phase of the model was highlighted by the service implication of the type of industry being investigated, where service equated to the level and quality of care given. This provided tangibles for understanding the process as expressed in service terms and enabled or actioned the development of innovative practices via participative practices and the supportive, knowledgeable and effective environment created by the team.

The transition to the 'produce' phase (from espoused to in-use) was seen in taking service aspects and creating new methods, procedures, techniques and applications, which generated improved outcomes. Again the team based activities provided the mechanism to take concepts and create an effective output of product. The outcome is also representative of the 'generalise' phase of the second model.

Conclusion

The Participative Intrapreneurship Model has effectively provided insight into the development of innovation through a process rather than by targeting or promoting individuals. The application of the 'Organisational Transformation Model' provided effective insight into the conditions required for the fostering of team-based intrapreneurship. More importantly, it also provides direct information into areas within the organisation and factors creating resistance for the development of innovative practice. It is clear that these factors do not lie within one facet of the organisation but across a number of facets and levels of the organisation. The model assists in indicating where shortfalls may have occurred in

communication, leadership, training, appropriate levels of support and resourcing and employee commitment.

Most approaches to improving processes, services and products remain at the lowest level, that of process improvement. These models demonstrate an approach that addresses the higher order goals of innovation of process, service and product. The PDSA model is a true action learning approach that has been shown to provide innovations through intrapreneurship in an important industry sector.

At a strategic level the information gained from this study emphasises the importance of developing managerial and operating practices that align with organisational values that are espoused as important to the organisation. In this investigation, promotion to management based on clinical or technical acumen alone produced situations where a lack of interpersonal and managerial abilities increased this discrepancy. The groups that had managers with greater interpersonal skills demonstrated a greater propensity to succeed with intrapreneurial based innovations. This has definite strategic significance as promotion in this sector is often based on clinical or technical success rather than the more rounded and balanced capabilities associated with team-based innovation identified in this study.

The models are intuitively appealing although their use to date has been limited to the healthcare industry. Although the authors have no reason to believe that its utility is in any way industry specific, or that it is more applicable to services than products (or vice versa), the next stage of the research will be to test the models across a number of different industry sectors.

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