Deriving projects from the organisational vision using the Vision-to-Projects (V2P) Framework

C. Marnewick & L. Labuschagne

ABSTRACT

Organisations initiate and execute projects at an ever-increasing rate in order to achieve their strategic intentions. Many of these, however, find it difficult to measure the contribution that these projects make towards the realisation of the organisational vision. In order to effect these changes in a cumulatively beneficial way, a holistic approach is needed. The Vision-to-Projects (V2P) Framework was developed to facilitate such an approach and can be applied to all organisational types.

This article shows how participatory action research was applied in the development of the V2P Framework. While largely validating the theoretical framework, it did indeed reveal several beneficial modifications to improve its applicability.

The main results of this research are twofold. It firstly provides organisations with a framework that can be used to derive projects from the organisational vision and strategies, thereby ensuring continuous alignment. Secondly, it shows the successful use of participatory action research in the field of project management that has been dominated, thus far, by quantitative research methods.

Key words: project management, vision, strategies, Vision-to-Project Framework, action research, strategy maps, balanced scorecard

Introduction

Although project management is an academically young discipline, the project management discipline has matured in the last few years through the publication

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of several standards (Ahlemann, Teuteberg & Vogelsang 2009; Crawford & Pollack 2007), best practices (Crawford & Pollack 2007), research articles (Marnewick & Labuschagne 2008; Sewchurran & Barron 2008) and significant growth in its community of certified professional practitioners (Smith 2003; Leyborne 2007). From this, it may be concluded that today, the majority of projects should be completed successfully, given the maturity of the discipline (Wang 2002; Thiry & Deguire 2007).

Several surveys and reports suggest that this is not the case, however, especially in the information technology (IT) subdomain (Hyväri 2006; Rubinstein 2007; Pellegrinelli, Partington, Hemingway, Mohdzain & Shah 2007). Labuschagne, Marnewick and Jakovljevic (2008) report on a South African study that showed that 37% of IT projects are perceived as successful and 36% as being challenged, while 27% are outright failures. This implies that organisations do receive some benefit from 73% of IT projects, but that 27% still represent a significant waste of financial resources, time, effort and scarce human resources. It should be noted that during this research, the interpretation of 'success', 'challenged' and 'failure' was determined by the respondents themselves based on context.

The problem does not lie in the procedural dimension of project management, but rather in the selection of projects. Over the last few years, there has been a shift in research from doing projects right to doing the right projects (Besner & Hobbs 2006; Crawford, Hobbs & Turner 2007).

Understanding the problem has been well researched and documented using quantitative methods, but finding a pragmatic solution requires a more holistic research approach. This implies that a variety of research approaches and alternatives are available. The use of a single research approach (in other words, quantitative) is no longer appropriate. According to Aguinis, Pierce, Bosco and Muslin (2009), 90% of published research in project management in the last ten years was quantitative in nature, with only 10% being classified as qualitative. Qualitative research methods are therefore still undervalued.

Action research (AR) is well recognised as a qualitative research method within the social sciences and is slowly gaining acceptance within the project management domain (Parker & Mobey 2004; Whitehead 2005). AR is known by many other names, including 'participatory research', 'collaborative inquiry', 'emancipatory research', 'action learning' and 'contextual action research', but all are variations on the same theme (O'Brien 1998). Cicmil (2006) states that qualitative research is an intellectual engagement that can be used in the discipline of project management to create knowledge through research. Leybourne (2007) further motivates that qualitative research, including AR, can be used in project management to investigate

the many areas of management theory. The value lies therein that it highlights the relationship between theory and practice.

The remainder of the article provides background to the research project, addresses the development of the theoretical V2P Framework and validates it using participatory AR (Dick 2006). The results are explained together with the value they hold for the project management community.

The goal of the paper is to validate the V2P Framework for deriving projects from the organisation vision using participatory AR (PAR).

Background

Strategic planning is a well-documented management discipline and entails planning for the future (Gupta, Boyd & Sussman 2004). The primary responsibility of a board of directors is to set a vision and then to determine organisational strategies for achieving the necessary changes within a predetermined timeframe (Lint & Pennings 1999; Spanner, Nuňo & Chandra 1993).

Despite this, few organisations have a structured, documented process for deriving projects from the organisational vision, opting for a more intuitive approach. Portfolio management is a relatively new management discipline that attempts to bridge the gap between vision and projects (De Reyck, Grushka-Cockayne, Lockett, Calderini, Moura & Sloper 2005; Thiry & Deguire 2007). Several publications suggest different frameworks or models, yet many of these seem to be without any published scientific proof or validation (Comprehensive Consulting Solutions 2001; Phillips 2002; Szymczak & Walker 2003; Walls 2004).

Theoretical Vision-to-Projects (V2P) Framework

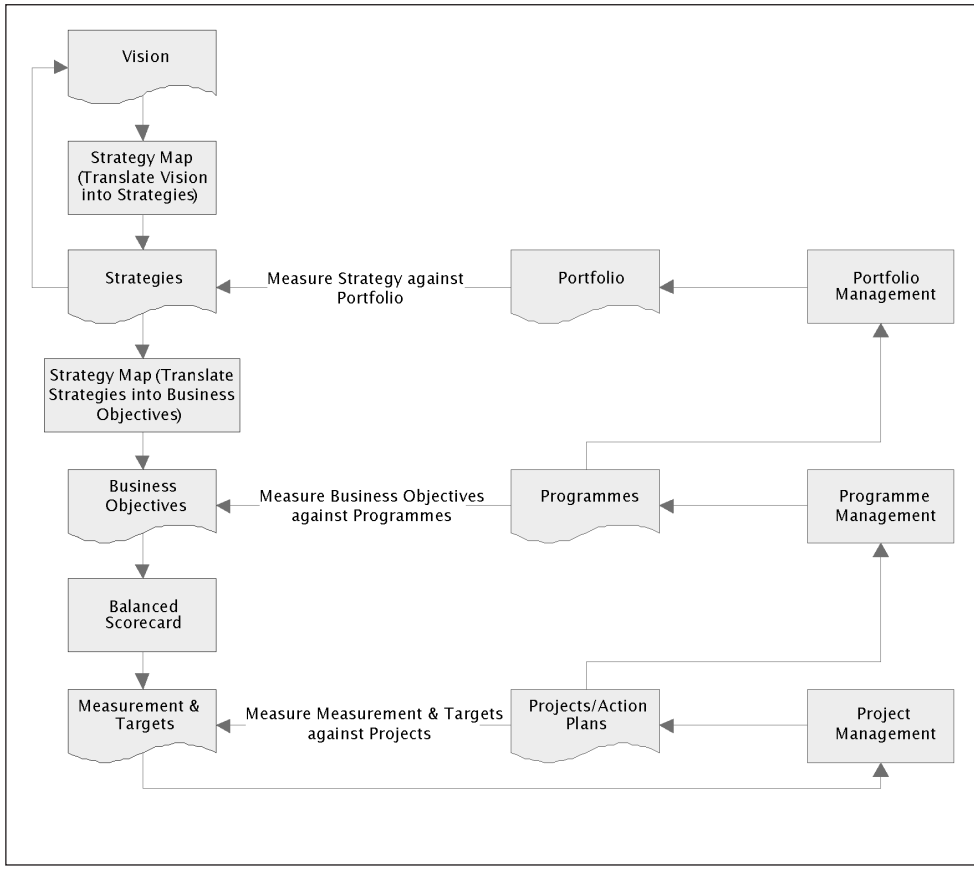
The theoretical V2P Framework (Marnewick & Labuschagne 2006, 2008) was developed using a two-stage approach: firstly a literature survey (Olivier 2006: 8; Bell 2007: 99) was conducted to determine whether any models or processes already exist, and secondly modelling (Brynard & Hanekom 2006: 9; Hofstee 2006: 129) was used to construct a framework.

The purpose of a literature review is to look for credible publications directly relating to the topic of the research (Brynard & Hanekom 2006). Many literature sources agree that projects enable and facilitate the implementation of an organisational vision (Cohen & Graham 2001; Phillips 2002; Kendall & Rollins 2003). The Organisational Project Management Maturity Model (OPM3®) of the Project Management Institute (PMI) states that "projects help organisations deliver

desired strategic changes in a changing world" (PMI 2003). It also states that "this is true whether the goal is the development of a new software product, implementation of new systems in an organisation, or designing and building a bridge". Although the OPM3® recognises the fact that the vision and strategies of an organisation are implemented by means of projects, it does not provide a lucid approach for proceeding from the vision to the projects. According to PriceWaterhouseCoopers, "any project undertaken by a company should be driven by business objectives" (Peterson 2002). It is also reported that many organisations lack a structured process through which to derive projects from the business objectives. Longman and Mullins (2004) also acknowledge that an organisation's strategy should provide the boundaries for projects, and note that "installing effective project management includes putting a mechanism in place to evaluate every project for its fit with the strategy before implementation".

The second process in defining the theoretical V2P Framework used deductive reasoning (Hyde 2000; Dean, Fornaciari & McGee 2003), based on an extensive literature survey and modelling (Brynard & Hanekom 2006: 9; Hofstee 2006: 129), to arrive at a model. A model captures the essential aspects of a system or process (Olivier 2006: 45). The theoretical V2P Framework uses processes to derive projects from the vision, and modelling is thus an appropriate research method. The framework was modelled by design, as it shows the major components of the framework as well as the flow of information between the various components. The reason for choosing a model or framework is that it is simple, comprehensive and provides clarity (Miles & Huberman 1994: 18; Oliver 2006: 49). The essence of the V2P Framework is illustrated in Figure 1, starting with the vision.

The first two steps are to deconstruct the vision into strategies, using strategy maps, which are also then in turn deconstructed into business objectives (Kaplan & Norton 2004a). Strategy mapping is a method used to describe the vision and strategies of the organisation by means of processes and intangible assets (Kaplan & Norton 2004b; Marr & Adams 2004). It is used to align intangible assets such as information technology with the organisational strategies and ultimately the vision of the organisation. The third step involves assigning measurements and targets to each business objective, achieved through the use of a balanced scorecard (Kaplan & Norton 1996). Each of these business objectives, with its associated targets and measurements, is then further deconstructed as projects and/or action items using principles from the project integration management knowledge area. The projects are then grouped together, where appropriate, into programmes that are related to the business objectives (in other words, each business objective will be aligned with a programme or, at least, a project). Programmes are concerned with managing



Source: Marnewick & Labuschagne (2006)

Figure 1: Vision-to-Projects (V2P) Framework

a collection of related projects (PMI 2008a). The management of a collection of projects requires a macro view, and as such differs significantly from managing single projects.

The final step involves grouping together the programmes into a portfolio that is aligned with the strategies of the organisation. A portfolio is a collection of programmes to meet strategic objectives and strategies (PMI 2008b). Portfolio management is defined as "the management of a portfolio in such a way that the organisational strategies are implemented and the vision is realised optimally" (Lyn & Hsieh 2004). The portfolio is therefore managed, and decisions are made on the priority of the programmes it comprises. The management of the portfolio takes place at two levels. The first level involves operational management, which ensures

that the programmes within the portfolio achieve the set measurement criteria and targets. The second level involves strategic management, which ensures that the vision and strategies of the organisation are being achieved through the cumulative execution of programmes.

The limitation of the theoretical V2P Framework is that it is conceptual in nature, and so does not take into consideration the inherent limitations and flaws of existing processes, techniques and best practices. Another limitation of the theoretical V2P Framework is that it can only be applied to organisations that have already reached a certain degree of maturity in project management. Since the V2P Framework follows a top-down approach, it limits itself to organisations that have adopted a top-down approach, and this relates back to the maturity of the organisation in relation to project management.

This poses the challenge of how to validate the theoretical V2P Framework. For this purpose, PAR (Drummond & Themessl-Huber 2007) is an ideal method for validating such a framework without running the risk of causing organisational failure.

Validating the V2P Framework through participatory action research

The purpose of this part of the research was to determine whether the V2P Framework could be utilised within an organisation to derive projects from the vision. This implies some sort of participation from an organisation. A few research methods fall under the qualitative research approach, for example AR, interviews and observation (Olivier 2006; Denscombe 2007). Interviews were not suitable for this research, since the framework is theoretical, and potential respondents cannot comment on the practical implications. Observation as a method could not be used, as no-one would be willing to risk their organisation's validating the theoretical framework. AR, by contrast, was suitable, since it optimises processes and could thus be used to optimise the processes within the V2P Framework. This provides the linkage between theory and practice. According to McNiff and Whitehead (2006), AR is appropriate as a research method when attempting to improve the understanding of something. In this case, PAR was used to improve the understanding of the V2P Framework and to refine it.

AR as a research method has a long and complex history that has evolved over time in various academic disciplines (Brydon-Miller, Greenwood & Maguire 2003). Various schools of thought therefore exist, and an analysis and comparison thereof is outside the scope of this article. As disparate as the history is, the key question to researchers is: how do we go about generating knowledge that is both valid and

vital to the wellbeing of individuals and communities as well as for the promotion of larger-scale democratic social change? AR is about action and research, meaning both practice and theory (Dick, Stringer & Huxham 2009). A cycle or spiral is common to most varieties of action research (Kemmis & McTaggart 1988). The cycle is described as 'plan, act and observe, reflect'. Within the turn of the action research cycle, thought guides action, which in turn guides thought. Theory and practice are interlinked. Thought draws understanding or insight from the experience of acting. Action then puts the understanding to the test.

According to Masters (1995) and O'Brien (1998), there are various types of action research:

- Scientific-technical view of problem solving: The underlying goal in scientific-technical research is to test a particular intervention based on a pre-specified theoretical framework.
- Practical-deliberative action research: The researcher and practitioners come together and identify potential problems, their underlying causes and possible interventions.

These two types of action research were not applicable for this specific research due to their inherent nature. The research method used to validate the V2P Framework was therefore PAR, which has its origins in participatory rural appraisal and is described as "approaches and methods to enable local people to share, enhance and analyze their knowledge of life and conditions, to plan and to act" (Chambers 1994). Fals Borda (2006) argues that PAR has addressed the issues of validity and scientific rigour.

The components of PAR are applied to the V2P Framework – in other words, the approaches and methods (strategy maps and balanced scorecards) enable the organisation to share, enhance and analyse their knowledge of the strategies and business objectives in order to plan or derive new projects and then to act or execute these projects.

The following section briefly explains the PAR process that was followed.

The participatory action research approach

The PAR approach that was chosen uses a five-phase cyclical process, as illustrated in Figure 2 (Stringer 1996; Avison, Baskerville & Myers 2001; Earl-Slater 2002; McNiff & Whitehead 2006; Zuber-Skerrit & Fletcher 2007).

The approach first requires the establishment of a client-system infrastructure, which is the specification and agreement that constitutes the research environment. This infrastructure provides the authority under which the researchers and host

practitioners may specify actions, and it also legitimises those actions with the express expectation that they will ultimately prove beneficial to the client or host organisation. This is then followed by the five identifiable phases as in Figure 2.

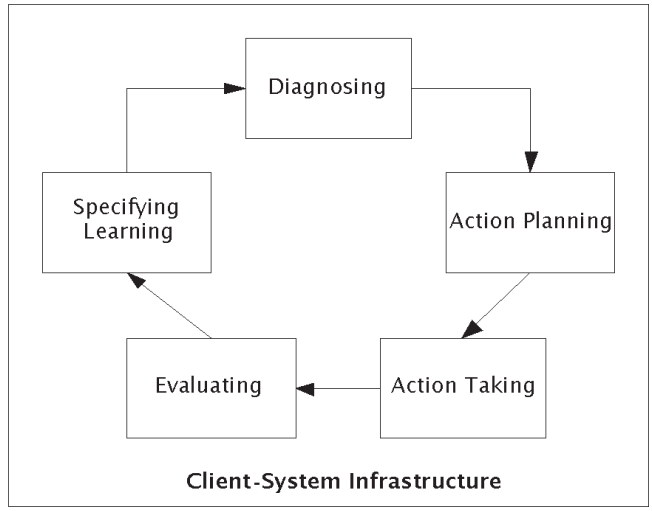


Figure 2: Action research cycle

The PAR cycle can continue, whether the action proved successful or not, to develop further knowledge about the organisation and the validity of relevant theoretical frameworks (Daniel & Wilson 2004). As a result of the studies, the organisation thus learns more about its nature and environment (Zuber-Skerrit & Perry 2002). For a more detailed overview of the process, refer to Mumford (2001), Rowley (2003), Ballantyne (2004), Doherty and Manfredi (2006) and McNiff and Whitehead (2006: 9).

Applying participatory action research to the Vision-to-Projects Framework

Different PAR cycles were applied to the V2P Framework, as illustrated in Figure 3. The overlapping of the four PAR cycles is indicated by vertical grey lines, illustrating that each subsequent PAR cycle is dependent on the outcome of the previous one and that it involves the whole organisation.

Based on the practice of McNiff (2000), the V2P Framework was broken down into manageable and measurable sections, each of which then went through the PAR process and cycles described above. The main sections were:

- Participatory action research cycle A: Using a strategy map to derive the strategies from the vision
- Participatory action research cycle B: Using strategy maps again, but this time focusing on deriving business objectives from the strategies
- Participatory action research cycle C: Using the balanced scorecard to assign targets and measurements to each business objective
- Participatory action research cycle D: Using project integration management methods to identify projects to achieve the targets and measurements.

The following case study explains how PAR was applied to the theoretical V2P Framework in order to validate it.

Case study summary

The Democratic Republic of the Congo (DRC) issued a decree that constituted the rebuilding of the country in such a way that would enable it to build and maintain support centres throughout (O'Connor 2007). A support centre is defined by the DRC as a town with an entire supporting infrastructure, including agricultural and environmental activities. A governmental department, Service National (Combrinck 2007), was formed to oversee the implementation of these support centres, and their first objective was to select an organisation that would implement four of the support centres in the south-west of the DRC. The organisation would be required to implement several projects across various divisions and so ensure the realisation of Service National's decree or vision.

The authors used the following criteria for selecting the research organisation:

- The organisation had to comprise more than 50 full-time staff. The reason for this is that everyone had to participate in the compilation of the business strategies and the business objectives, thereby representing different views and stakeholders.
- It had to use projects as a vehicle for implementing its vision. This is because projects could be linked to specific business objectives.
- It was not yet to have a process in place for deriving projects from the vision and strategies. This is because the PAR process could be manipulated by the participants to deliver a predetermined result, thereby losing objectivity.
- It had to believe that the research would be advantageous to the organisation itself. A lack of confidence in the PAR process would negate the validity of the results.

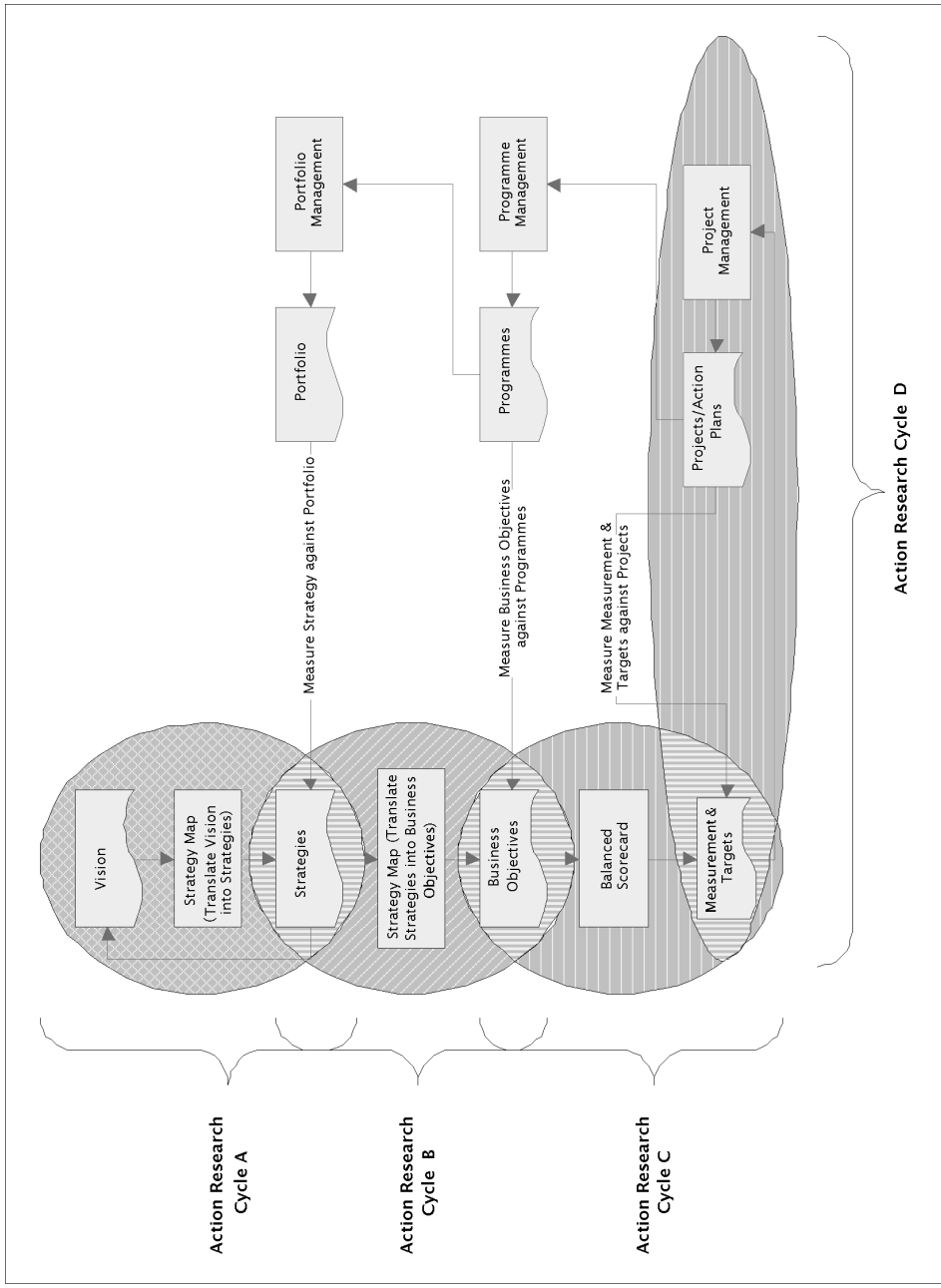


Figure 3: Action research cycles applied to the Vision-to-Projects Framework

Based on the selection criteria, a South African organisation was selected (referred to as 'Organisation SA' for reasons of anonymity). This organisation conformed with the selection criteria set out in Table 1 and was awarded one of the contracts to implement the four support centres as explained.

The first step in the PAR process, as shown in Figure 2, was to formalise the client-system infrastructure, which determines the subject of the study, the processes, the objective and the agreed outputs.

Subject of the study

The subject of the study was a pragmatic framework that can be used to derive projects from the organisational vision (Marnewick & Labuschagne 2006).

Processes

As already indicated, the processes that were used were strategy maps (Kaplan & Norton 2004b) and balanced scorecards (Kaplan & Norton 1996). These processes were used to deconstruct the organisational vision into strategies, business objectives, measurements and targets.

Objective

The objective of the research was to determine whether the V2P Framework can be used to derive projects from the vision and therefore ensure alignment. This alignment will in turn ensure that valuable organisational resources are not wasted on projects that do not contribute to the realisation of the vision.

Table 1: Selection of organisation

Selection criteria	Conformation to selection criteria
1. Number of full-time staff > 50	Organisation SA consists of 90 staff. The organisation is split into two sections, with the managerial section situated in South Africa and the operational section based in the DRC. The managerial section comprises 16 and the operational section 74 staff.
2. Deploys internal projects	Organisation SA has various internal projects, including setting up a mine in the DRC, building roads and implementing an enterprise resource planning (ERP) system to manage the organisation as an entity.
3. No vision-to-project process in place	Organisation SA is a new organisation, so it does not yet have a process in place.
4. Supports research	The CEO recognised the importance of the research, as it was mutually beneficial to Organisation SA and the AR group.

Agreed outputs

The outputs that were agreed upon for this research were:

- The vision of the organisation
- The strategies and business objectives
- The projects that had to be initiated to ensure the successful implementation of the business strategies and objectives and, ultimately, the organisational vision.

In order to conduct PAR successfully, all participants had to understand the process and their responsibilities. Participants in this research imply only the management of the organisation, as they are involved in determining its vision, strategies and business objectives. The team structure, and roles and responsibilities are defined in the following sections.

Team structure

At an initial meeting held with Organisation SA, it was decided that the core of the research group would include the following three members:

- An executive of the organisation
- A board member
- The action researcher.

Roles and responsibilities within the team structure

The roles and responsibilities of the executive were defined as follows:

- Provide all the necessary information according to the needs of all relevant parties
- Approve the vision, strategies and business objectives derived from the V2P Framework
- Ensure that all the relevant staff needed to participate were available to the action researcher.

The roles and responsibilities of the board member were defined as follows:

- Act as liaison between the action researcher and Organisation SA
- Assist in the PAR process in an active way by providing input and all relevant documentation needed to derive the strategies and business objectives.

The roles and responsibilities of the action researcher were defined as follows:

- Ensure that the PAR process was followed properly
- Ensure that everyone who participated understood the concepts of strategy maps and balanced scorecards
- Observe the PAR cycles and document all changes
- Document all the processes, including the results.

The agreed processes, objectives and outputs were communicated to all participants to ensure that no ambiguity could arise.

Once the client-system infrastructure was determined, the phases of the PAR (Figure 2) could be applied within all four cycles.

Participatory action research cycle A

The first cycle in the case study was to determine whether the process of strategy maps could be used to derive strategies from the organisational vision. This was done through a series of workshops, in which members of the executive management of the organisation were included.

The first observation was that Organisation SA's vision did not adhere to the general guidelines of a vision (Pearce & Robinson 2000; Bogler & Nir 2005) and therefore had to be redrafted. Information regarding the vision was gathered through a series of interviews and meetings. The input from the action researcher stipulated the general guidelines, on the basis of which the vision was redrafted. Table 2 shows the original and redrafted vision statements.

Once the vision was reformulated and communicated to the organisation, the process of using strategy maps to derive strategies from the vision commenced. This was again done in the form of workshops, where the action researcher explained the process of strategy maps. Owing to space constraints, the strategies in Table 2 relate only to the operations management process within strategy maps.

The inputs for each of the strategies were provided by the executive management team that participated in the workshops. Based on these workshops, the executive management team defined three major strategies, namely: (1) productivity, (2) growth and (3) customer (Table 2).

The following lessons were learned during this cycle:

- The vision must be well constructed for the V2P Framework to be useful. If the vision is not well constructed, the subsequent strategies will also be poorly constructed and could place the organisation on the wrong course.
- Strategy maps (Kaplan & Norton 2004a) can be used as a method to derive strategies from the vision.

Table 2: Organisation SA vision before and after action research

BEFORE ACTION RESEARCH		
Vision	**Strategies**	**Business objectives**
To mine the most sought-after diamonds: • Acting with integrity in everything done • Valuing our employees and their diversity • Establishing long-term relationships with our customers • Creating value for our customers • Becoming a model organisation in the community in which we operate	None	• The recovery of the most sought-after diamonds in the concession diamond deposits • Investing in the growth in human capital within its community and the broader society
AFTER ACTION RESEARCH		
Vision	**Strategies**	**Business objectives**
To be Service National's partner of choice for the implementation of a sustainable first-class infrastructure	• Productivity Strategy o (F1): Maximise the use of existing and new assets o (F2): The mining operation must be cost effective	None
	• Growth Strategy o (F3): Revenue from new customers i.e. Service National o (F4): Increase the account share with Service National o (F5): Offer products and services that are consistent, timely and low-cost o (F6): Products and services that expand existing performance boundaries into the highly desirable o (F7): Provide the best solution to Service National	
	• Customer Strategy o (C1): Low-cost supplier o (C2): Perfect quality o (C3): Speedy purchase o (C4): Appropriate selection	

The output from this cycle was a business strategy and a go decision to continue to the next cycle.

Participatory action research cycle B

The focus of cycle B was again to use strategy maps, but this time to derive business objectives from the newly defined strategies. The action researcher scheduled several workshops, in which the operational management team participated, as they were responsible for the production and delivery of the goods and services. The only person attending the workshops from the executive management team was the board member who acted as the liaison between the action researcher and the organisation.

The starting point of these workshops was an explanation of how strategy maps worked and an overview of the revised business strategies. Data from the various workshops were gathered and documented, later to be confirmed by participants as a true reflection of the meetings held. The outcome of these workshops is given in Table 3. The purpose of the operations management process is to produce and deliver goods and services to the customers (Kaplan & Norton 2004a). It is one of four processes, with the others being customer management, innovation, and regulatory and social. These are not shown here owing to space constraints.

The original business objectives listed in Table 2 are substantially different from the ones listed in Table 3, the reason being that a structured methodology was now being used to assist the organisation in deriving business objectives from the strategies.

An observation was made that the executive management and operational team had difficulty in determining the business objectives. A working session was held with these managers to determine the reason for this. It became clear during this session that they had difficulty determining the business objectives without relating them to operational measurements. Linking measurements and targets was only supposed to be done in the third cycle of the original V2P Framework, and was not addressed in cycle B.

The following lessons were learned during this cycle:

- Business objectives should be developed in conjunction with the measurements and targets.
- Strategy maps (Kaplan & Norton 2004a) can be used as a method to derive business objectives from the strategies, but the balanced scorecard must also be used simultaneously, to determine the measurements and targets.
- The processes of the strategy map and balanced scorecard do not have be to changed, as they provide the results required; however, changes must be made to the V2P Framework to incorporate the balanced scorecard and define the business objectives.

Table 3: Business objectives of the operations management process

AFTER ACTION RESEARCH		
Vision	**Strategies**	**Business objectives (BO)**
To be Service National's partner of choice for the implementation of a sustainable first-class infrastructure	• Productivity Strategy (F) ○ (F1): Maximise the use of existing and new assets ○ (F2): The mining operation must be cost effective • Growth Strategy (F) ○ (F3): Revenue from new customers i.e. Service National ○ (F4): Increase the account share with Service National ○ (F5): Offer products and services that are consistent, timely and low-cost ○ (F6): Products and services that expand existing performance boundaries into the highly desirable ○ (F7): Provide the best solution to Service National • Customer Strategy (CS) ○ (CS1): Low-cost supplier ○ (CS2): Perfect quality ○ (CS3): Speedy purchase ○ (CS4): Appropriate selection	• (BO1) Lower cost of ownership (F1) • (BO2) Achieve just-in-time supplier capability (CS3) • (BO3) Develop high-quality supplier capability (F1, F5, CS2, CS5) • (BO4) Use new ideas from suppliers (F1, F2, F5) • (BO5) Achieve supplier partnerships (F2, F5, CS2, CS5) • (BO6) Lower the cost of production (F1, F2, F5, CS1, CS6) • (BO7) Continuous improvement (F1, F2, F6) • (BO8) Improve process cycle time (F1, F2, F5, F6, CS2) • (BO9) Improve fixed asset utilisation ((F1, F2, CS3) • (BO10) Responsive delivery time (F6, CS2, CS3)

Note: The number in brackets at the end of each business objective shows the specific strategy to which it links.

Based on these lessons, the PAR cycles were adapted, as depicted in Figure 4. As a result of this change, cycle B had to be repeated.

Participatory action research new cycle B

Based on the above information, the balanced scorecard was introduced into the new cycle B. The operations management process of the strategy map was used again. The implication is that PAR cycles B and C, as shown in Figure 3, merged into PAR new cycle B as per Figure 4. Using this altered process, the identified business objectives, targets and measurements are listed in Table 4.

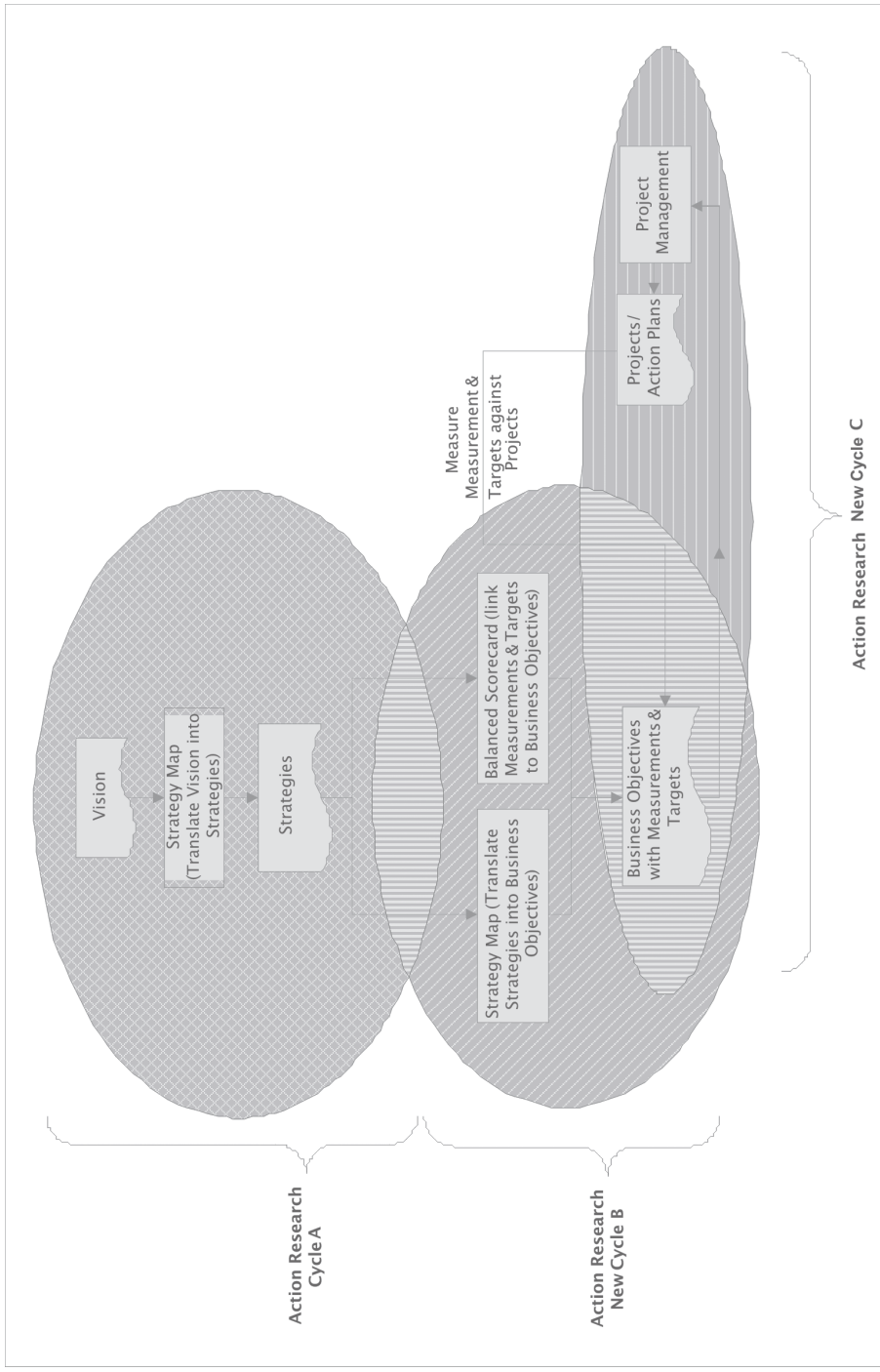


Figure 4: Adapted action research cycles

Table 4: Business objectives, targets and measurements for customer management process

Business objective	Measurement	Target
(BO1) Lower cost of ownership	Cost of purchasing as percentage of total purchase price	<10%
	Percentage of purchases made electronically	>90%
(BO2) Achieve just-in-time supplier capability	Lead time from order to receipt	<2days
	On-time delivery percentage	=100%
	Percentage late orders	<5%
	Percentage of orders delivered directly to production process by suppliers	>80%
(BO3) Develop high-quality supplier capability	Percentage of defects, incoming orders	<5%
	Percentage of suppliers qualified to deliver without incoming inspection	>80%
	Percentage of orders received	>95%
(BO4) Use new ideas from suppliers	Number of innovations from suppliers	>5
(BO5) Achieve supplier partnerships	Number of suppliers providing services directly to customers	>3
(BO6) Lower the cost of production	Cost per unit of output	<R9 500
	Marketing, selling, distribution and administrative costs as percentage of total costs	<20%
(BO7) Continuous improvement	Number of processes with substantial improvements	>15
	Number of inefficient or non-value added processes eliminated	<5
	Scrap and waste percentage	<12%
(BO8) Improve process cycle time	Cycle time (from start of production until product completed)	<10 days
	Process time (time the product is actually being processed)	<2 days
(BO9) Improve fixed asset utilisation	Percentage capacity utilisation	>90%
	Equipment reliability (percentage of time available for production)	>95%
	Percentage of breakdowns	<5%
(BO10) Responsive delivery time	Lead times: from order to delivery	<24 hours
	On-time delivery percentage	=100%

The output from this new cycle was measurements and targets that were directly linked to the business objectives, which in turn were directly linked to the business strategy. A go decision to continue on to the next cycle (new cycle C) was made, which involves transforming the above into projects.

Participatory action research new cycle C

According to the PMI (2004), two methods or mechanisms can be used to identify potential projects, the first being requirements management and the second project integration management. The former, requirements management, covers the process of defining the business and technical requirements in a solution-free way (Powell & Buede 2006). The requirements should be specified in a manner that allows the solutions that are subsequently proposed to be traced back to the requirements in a structured way and to be tested against the requirements. The use of requirements management ensures that the resulting specifications are typically of a higher quality than those done on an ad hoc basis (McKay, De Pennington & Baxter 2001). The latter method or mechanism, project integration management, covers the processes used to identify projects that will address specific needs (PMI 2004), the primary goal being to successfully manage stakeholder expectations and to meet requirements.

Based on discussions with the managers of Organisation SA, the decision was made that requirements management was preferred. It should be noted that PAR was not applied to the requirements management process, as it was outside the scope of the original research environment as depicted in Figure 3. This decision led to another adaptation of the PAR cycles. Requirements management was now included in PAR cycle C, as shown in Figure 5.

Based on this change, cycle C had to be repeated. A workshop was held to identify projects that would potentially achieve the business targets.

Participatory action research adapted new cycle C

The introduction of requirements management required the executive and operational managers to think of what they actually needed; for example, Organisation SA needed to invoice customers. A basic financial package would have sufficed, but the question arose whether it would address all the other needs of Organisation SA as well as integrate with the rest of the initiatives? Organisation SA also had a need for a supply chain management (SCM) system to address the business objectives of responsive delivery time (BO10), as well as improve the process cycle time (BO8). Based on this, the requirements for the financial applications changed, as Organisation SA needed to integrate the financial package with the SCM system. Responding to these requirements, an enterprise resource planning (ERP) system could address Organisation SA's immediate and future needs.

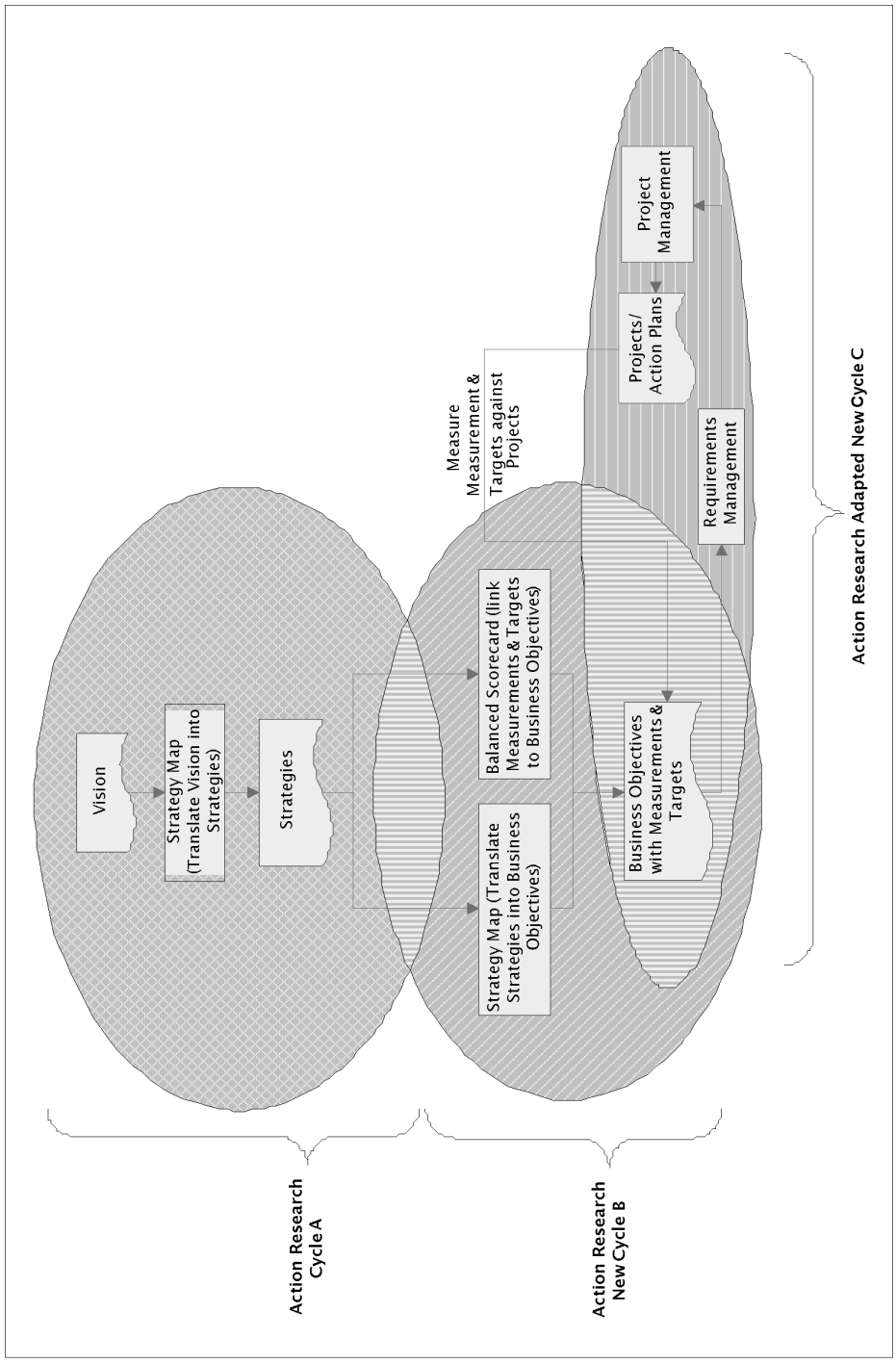


Figure 5: Adapted action research cycles

The ERP system could also provide customer relationship management (CRM) and supplier relationship management (SRM) systems that could achieve some of the other business objectives (BO2, BO4 and BO5), as set out in Table 4. Using requirements management, the requirement was stated as 'Implement a total IT solution'. The process of requirements management continued by defining additional business and technical requirements.

Using requirements management, the executive and operational managers of Organisation SA determined the projects necessary to implement the business objectives.

The advantages realised by Organisation SA in using requirements management are listed as follows:

- The process is repeatable. This means that Organisation SA should be able to identify the same projects every time they go through the process of requirements management.
- The requirements are measurable, and the delivered product and/or service can be linked back to the original requirements.
- Any personal preferences are eliminated, as it is a structured process.

The following lessons were learned during this cycle:

- Requirements management can be used to identify projects from measurements and targets.
- An additional step must be included in the V2P Framework to allow for the introduction of requirements management.

Results

The application of PAR to the V2P Framework highlighted several shortcomings that required modification. The first modification to the framework is that the processes for developing business objectives, and measurements and targets must be grouped together. This means that strategy maps can be used in conjunction with the balanced scorecard to determine the different business objectives and their associated measurements and targets. The second modification is the introduction of requirements management. This is added after setting the business objectives with their associated measurements and targets. The revised framework is illustrated in Figure 6. Despite the positive results achieved, there are some limitations that need to be taken into consideration.

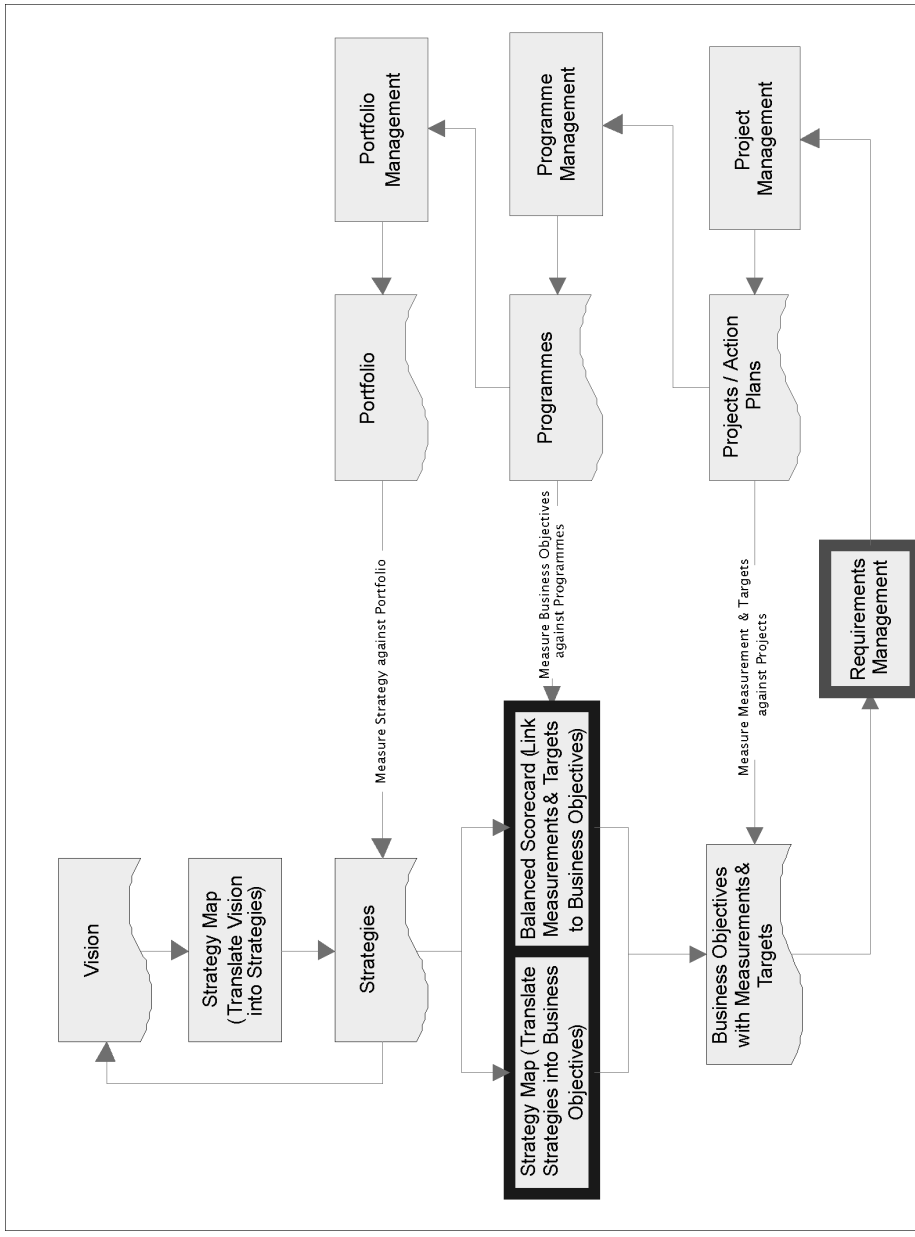


Figure 6: Revised Vision-to-Projects Framework

Limitations of this study

The first major limitation of this study is that it was conducted on a relatively small organisation in South Africa. This highlights two considerations:

- A non-South African organisation may respond differently to the process that was followed, owing to cultural differences.
- The size of the organisation might influence the V2P process. Future research will test the framework on larger organisations.

The second limitation is that the V2P Framework is limited to organisations managing internal projects. The framework has not yet been applied to an organisation that provides project management as a service to others.

Value of participatory action research

PAR provided a scientific means of validating the V2P Framework. The framework would not have been validated through any other research method (such as surveys, case studies or models), as explained earlier. The reason for this is that PAR addresses practical problems in a positive way and feeds the results of the research directly back into practice (Denscombe 2007: 131). The modifications that have been made were subjected to the same process again to show that they had the desired effect.

This statement highlights the relationship between theory and practice. The theoretical components of strategy maps and balanced scorecards were practically challenged, and through PAR, the necessary changes were highlighted.

Participatory action research focuses on the participation of the research objects, and this role should not be underestimated (Street 2003). The research objects become part of the research itself and, due to this sense of belonging, the quality of the research improves. This was clearly visible throughout this research, in that all the participants tried their utmost to ensure that the desired outcomes were achieved as stipulated during each cycle.

The ultimate value of PAR is that it addresses practical problems in specific situations. The situation that this research addressed is that there is not a formal and consistent means and manner that organisations can use to derive projects from the vision and strategies. A solution was provided through the use of PAR. By using strategy maps and balanced scorecards, organisations now have the means and manner to derived projects from the vision and strategies.

Conclusion

This article provides a brief overview of the V2P Framework, as well as the application of PAR to validate it. The V2P Framework is a holistic framework that can be used to derive projects from the organisational vision and strategies. It is based upon proven methods and tools such as strategy maps, balanced scorecards and requirements management. Through the application of PAR, the framework was modified so as to be more pragmatic.

The first finding is that the format of the vision statement is crucial in applying strategy maps and the balanced scorecard. Despite the availability of several literature sources on developing vision statements, several organisations still struggle with writing a good statement.

The second finding is that the linear approach of the original V2P Framework was inefficient. Humans are capable of complex thinking and processing multiple thoughts simultaneously. This led to the adaptation of the original model so as to have parallel processes and to bring in a new process that would facilitate turning needs into requirements.

Two conclusions can be drawn from this research. Firstly, PAR can be applied successfully to the field of project management. Project management as a scientific discipline is reaching maturity and would benefit from a more holistic approach to research. Secondly, the revised V2P Framework can indeed be used in practice to derive projects from the vision of the organisation. The framework is more than just a suggested framework, as it has been validated using scientifically sound research methods.

Future research is aimed at applying PAR to other organisations that differ in context and size, as well as to organisations that provide project management as an external service.

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