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**University of Cape Town**  
**Department of Mechanical Engineering**  
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**Submitted in partial fulfilment  
of the degree of  
Masters in Industrial Administration**

**The Infrastructure needs of a  
Growing Organisation:  
A study conducted in an IT  
company**

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**March 2011**

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# Abbreviations

|            |                                                                       |
|------------|-----------------------------------------------------------------------|
| B-BBEE     | Broad-based Black Economic Empowerment                                |
| BCEA       | Basic Conditions of Employment Act                                    |
| BCoE       | Basic Conditions of Employment                                        |
| BEE        | Black Economic Empowerment                                            |
| CEO        | Chief Executive Officer                                               |
| CIPRO      | Company and Intellectual Property Registration Office                 |
| DoL        | Department of Labour                                                  |
| DTI        | Department of Trade and Industry                                      |
| EB         | Employee Benefits                                                     |
| EE         | Employment Equity                                                     |
| EEA        | Employment Equity Act                                                 |
| EBIT       | Employee Benefits Information Technology                              |
| ETQA       | Education and Training Quality Assurance                              |
| EU         | European Union                                                        |
| FSB        | Financial Services Board                                              |
| HR         | Human Resources                                                       |
| HRM        | Human Resource Management                                             |
| IISA       | Insurance Institute of South Africa                                   |
| ISETT      | Information Systems, Electronics, and Telecommunications Technologies |
| ISETT SETA | ISETT Sector Education and Training Authority                         |
| IP         | Intellectual Property                                                 |
| IS         | Information Systems                                                   |
| IT         | Information Technology                                                |
| LRA        | Labour Relations Act                                                  |
| MD         | Managing Director                                                     |
| OECD       | Organisation for Economic Co-operation and Development countries      |
| PDA        | Personal Data Assistant                                               |
| SETA       | Skills Education and Training Authorities in South Africa             |
| SHRM       | Strategic Human Resource Management                                   |
| SME        | Small and Medium Enterprises                                          |
| SMME       | Small, Medium and Micro Enterprises                                   |
| SSP        | Skills Sector Plan                                                    |

|     |                             |
|-----|-----------------------------|
| UIA | Unemployment Insurance Act  |
| UIF | Unemployment Insurance Fund |
| WSP | Workforce Skills Plan       |

# Glossary of Terms

**Business Process Re-engineering:** A process through which the business processes are redefined with an aim to creating greater efficiency and cost-savings for the organisation.

**Employee Benefits:** A business area in the Life Insurance Industry that relates specifically to benefits provided to groups of employees of an organisation. The benefits include pension fund, provident fund and / or life risk insurance that covers death, disability and incapacity of staff. This is also known as Group Life Insurance.

**Human Resources:** The area of a business that is responsible for the people that work in the business.

**Leave Liability:** Leave liability is the financial cost associated with leave that staff members have accruing to them. The company has to keep a financial reserve, i.e. an amount of money kept aside to pay out accumulated leave to staff members if the need arises. This money is kept in reserve as it is money that belongs to the staff member for untaken leave and the money does not belong to the company.

**Mobile Products:** Products that are used to process data but that are connected without any physical cable or connection.

**Staff Attrition:** This is a measure used in the industry to compare the number of new employees against the base number of employees. It is calculated as a percentage of the number of leavers in a given year compared to the average of the total number of staff members at the beginning of the year and the total number of staff members at the end of the same year.

# Statement of Original Authorship

## Declaration

I know the meaning of plagiarism and declare that all the work in the document, save for that which is properly acknowledged, is my own.

Candidate: Teresia Arendse

Signature \_\_\_\_\_

Signed at Rondebosch this 29<sup>th</sup> day of March 2011

# Confidentiality

The organisation in which the study is conducted will be referred to as EbiTec throughout this document. The name of the organisation has been changed to maintain confidentiality, however, all data that has been presented exactly as has been obtained from the organisation. The environment in which the organisation operates is a relatively small market and it is considered a business risk that the name of the organisation is published, for this reason a pseudonym has been used.

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# Abstract

Most new businesses are formed as a result of an idea that has been developed by an entrepreneur or an entrepreneurial team. The idea could be in the form of either a service or product and could be as a result of a start-up or a spin-off from an existing business. In the early years of business the main driving force of the entrepreneur is to make the business idea work through creating a market for the idea. As the demand for the business grows, the demands on the entrepreneur increase steadily until the demand is beyond the capacity of the entrepreneur alone. The structures that were adequate for an organisation in the early years of its life become increasingly inadequate as the size of the organisation increases.

The aim of this research is to focus on the growth demands of a specific organisation. It explores the need of a growing organisation to have an operational support structure that supports its growth. The organisation being studied was formed in 1998 as a spin-off of an existing business when a few employees of the existing business were given the opportunity of creating a separate business. In the first few year of existence the primary function of the new business was to service the original business, with the opportunity to create an extended market. After the first five years of existence this company started to see a growing demand for its services from other organisations. It was at this stage that the organisation experienced problems in the structure in which it was operating. The concern that rested within the company was that the existing infrastructure and organisational demands could not meet the demands of business and if the existing structures were not changed or the infrastructural needs were not addressed then there was a real possibility that it would not only impose a limit on its growth potential but ultimately cause the demise of the organisation.

The Viable System Model was used as the conceptual framework in the definition of the problem as experienced in the organisation with the specific intention of defining the viability of the organisation.

This study adopted a constructivist epistemology, with an interpretivist theoretical perspective to guide the research framework. The methodology used in this theoretical framework has been one of grounded theory with the paradigm of action research. In the action research, three cycles have been examined to build and refine the theory that has emerged. Through these iterations of action research and learning it has emerged that the

organisation has to pay cognisance to its operational needs to remain profitable and effective.

Three cycles of action research and learning were implemented. The three cycles implemented included (1) implementing a centralised time keeping system, (2) defining an creating a policy that would support this system as well as addressing the staff members who were not compliant with this policy and (3) introducing an overtime allowance to compensate for the inconvenience of having to work overtime.

This research has shown the impact that growth can have on the infrastructure of the organisation and how this growth can create a strain and negative impact on the organisation. An organisation has to change as it grows and that the problems experienced are natural part of organisational growth. The organisation in the study had outgrown its infrastructure and needed to develop new systems, processes and structures to support its growth. There was a necessity to intervene to bring the unacceptable behaviour of the variables into acceptable zones. Left unchecked these variables would have grown in the unacceptable behaviour and would possibly, or probably, get out of control.

Through intervention and the implementation of systems, processes and structures the variables under consideration were brought back to acceptable levels. These interventions addressed the concern of the organisation by ensuring that the potential for profitability of the organisation had incrementally improved after each action research cycle.

# Chapter 1: Introduction

In this chapter the study is introduced. First, the concept of an organisational life cycle is discussed. The concept of the organisational life cycle is used as an integral part of the study to represent the changes experienced by the organisation in which the study takes place. Following this, the organisation is introduced, including a brief description of its history, to bring the problem into perspective. The company's performance indicators are shown in relation to the factors that have presented as concerns for the organisation. These concerns are the focus area of the study and lead to the identification of the research area and, more specifically, to the research questions that this study aims to answer.

The organisational life cycle is linked to the concerns presented in the study creating the premise that an organisation has different operational needs as it grows and passes through the various organisations life-cycles and that it has to take cognisance of these needs in order to survive.

The terms organisation, company, firm and business are used interchangeably in the document. No distinction is made between the terms and all four terms are deemed to be the same.

## 1.1 Mortality of a small organisation

In all spheres of business many new organisations are formed each year and it is often quoted that many of these businesses fail within the first few years of their existence. The number of companies that actually reach any considerable size in terms of work-force is the exception rather than the norm, (Stanworth, *et al.*, 1986), and the failure rate among small firms is very high, particularly in the years immediately following its formation, (Stanworth, *et al.*, 1986). The organisation's mortality risk is at its highest in the phase of adolescence or the period after its initial start-up phase, (Thornhill, 2007). Similarly, in the United States, there are many challenges managing SMEs with a 99% firm failure rate in this category (Hermens, 2007), where *"One in every five new ventures fail in the first five years of business"*, notes Moy *et al*, (Winter 2003 p. 199).

In the absence of a universal definition of small and medium enterprises (SMEs) (Hermens, 2007), a broad definition of SMEs that varies across countries could be said to exist. One such definition, as defined by (Hermens, 2007 p. 1), is that SMEs are *“independent businesses that are usually managed, funded, and operated by their owners, and with staff size, financial resources, and assets comparatively limited in scale”*. The Organisation for Economic Co-operation and Development countries (OECD) provides a more definitive definition – it uses the number of employees as a broad definition to the size of a company, (Hermens, 2007). This aligns with the European Union (EU), (Hermens, 2007), which defines small firms as having 50 or fewer members of staff and defines SMEs as companies with 250 or fewer staff members.

## **1.2 The company**

In this section the company is described in terms of its background and some of its history,

The company background is intended as a brief overview of the environment in which the study is undertaken, and is not intended as a full description of the organisation under review. Some of the detail described here may not have been entirely necessary, but it is presented to create a fuller picture to provide a greater understanding of the situation.

The organisation within which this study is undertaken will be referred to as EbiTec throughout this document. The name of the organisation has been changed to maintain confidentiality as the organisation operates in a relatively small market and it is considered a business risk that the name of the organisation is published.

### **1.2.1 Background**

Entrepreneurs create new business out of an idea, which may be either in the form of a service or a product, and through sheer dedication and perseverance the entrepreneur can turn this idea into a viable operation. This does not have to be a unique idea; (Costanza, *et al.*, 2007), it can be triggered by all sorts of reasons, including start-ups where this develops as a result of a perceived need or business opportunity or spin-offs where part of an existing business is developed to create a new business.

EbiTec was formed as a spin-off as part of the growth strategy of a large insurance company. On 1 November 1998, it was formed as a small private company with 16 founding members.

The core business of EbiTec was, and continues to be, to provide information technology (IT) services in the employee benefits (EB) sector of the insurance industry. Its primary clientele are the major insurance companies in Cape Town, South Africa and its main source of income is derived from services provided to the insurance company from which the spin-off resulted. The services provided to this company are for support of a computer system that is using technology that is no longer supported in the computer industry using skills that would otherwise be obsolete in a rapidly changing technological business world.

In the first five years of its existence, EbiTec's primary focus was on servicing its original client. It is only after these first few years that EbiTec saw an uptake of its offering by other insurance companies. To satisfy this demand in the market, additional personnel were employed and the staff complement increased. As the staff complement increased the rudimentary infrastructure created by the founders showed signs of being unable to support the growth. Various administrative problems emerged, e.g. time keeping records were inaccurate, invoicing was inaccurate and untimely, and staff performance management was non-existent, among other things.

When the staff complement was small and the number of projects and clients were few, the relevant aspects of the business were adequately managed. The managing director (MD) had capacity to assess and evaluate what each staff member was involved in coupled with the fact that the original staff members all had a financial interest in the organisation and therefore tended to behave in ways that were in the best interests of the organisation. In addition, the MD also had the capacity to manage the external clients and the internal operational requirements. Essentially, the entire operation was managed and controlled by one person, the MD, who had knowledge of each and every aspect of the business. However, as the staff numbers grew the capacity of the MD was stretched to breaking point and errors started to creep into the system.

The first significant signs of internal administrative problems were the repeated occurrences of inaccurate invoices, where clients returned their invoices because of errors in the billing. At the same time it appeared as though the management practices were inadequate and that the lack of rules and procedures were causing a variety of different responses from different members of staff. Up to this point, defined rules and procedures were minimal and

the onus was on each individual to manage himself or herself according to an inherent set of rules that were not explicitly defined or stated. The idea was that each person understood the needs of the organisation and would intuitively perform in the best interests of the organisation. The management considered the culture as being one where integrity, self-management and delivery was core, but instead, the lack of structure, with its minimal rules and procedures, resulted in the misunderstanding of expectancy and the abuse of the few company rules that existed; the combination of the culture and structure contributed to the increasing difficulties experienced in managing the company.

The lack of internal administrative structures along with the lack of adequate processes and procedures were identified as a concern that would limit the growth of the company. It was also envisaged that the problems would be amplified by further growth in the future and that it could ultimately result in the demise or downfall of the company.

EbiTec had reached a stage in its lifecycle that is indicative of change. It was evident from the performance factors that it was not achieving the results that the owners (or shareholders) of the company expected it to do, and to obtain better results it needed a strategic shift in thinking to bring about change from its current path of existence.

## **1.2.2 Company structure**

At inception, an initial leadership team of two co-managing directors were elected by the founder members. The organisation had a flat structure with no official reporting lines. Initially all staff members were based at the insurance company but as new contracts were attained, individuals were then relocated to the different client sites.

EbiTec aspired to a culture of integrity, self-management, transparency and democracy. All documents and business processes were readily available to all staff members. All major decisions needed to have the majority vote of all the founder members. This included all business policy and procedure, such as the remuneration policy, salary increases, performance appraisals, etc. Each member of staff was entirely responsible for their interaction with the client at which they were based, for the management of their work, as well as being responsible for their own performance and career. There were minimal checking or verification processes in place and authorisation of any matter was not seen as a necessity. All staff members were implicitly expected to act in the best interests of the

business; they were all regarded as peers with no reporting lines, and it was considered that all had same aspirations of nurturing and growing the business.

The researcher has been a shareholder and an employee of EbiTec since its inception in 1998 and thus formed part of this initial setup.

### 1.2.3 Growth in the company

The original contract with the insurance company from which the spin-off resulted was a five year contract setup to generate revenue on a reducing scale: for the first two years revenue would be based on the services of 16 employees, for the third year revenue it would be based on the services of 12 employees and then it would reduce to cover only 5 employees for the remainder of the contract.

During these early years, income was primarily from the original contract with a business focus on the need to create a market need beyond this contract. EbiTec's business offering was refined to being specifically a service orientated company in which it would provide IT services to the IT departments of the EB divisions of the major insurance companies in Cape Town, South Africa.

| Year Ending | Total Annual Income | Total Annual Expenses | Operating Profit |
|-------------|---------------------|-----------------------|------------------|
| Mar 2000    | R 6,167,320         | R 4,727,115           | R 1,440,205      |
| Mar 2001    | R 8,436,000         | R 6,479,359           | R 1,956,641      |
| Mar 2002    | R 7,170,920         | R 6,606,265           | R 564,655        |
| Mar 2003    | R 8,656,162         | R 8,175,272           | R 480,890        |
| Mar 2004    | R 8,276,812         | R 7,555,895           | R 720,917        |
| Mar 2005    | R 12,121,319        | R 10,582,383          | R 1,538,936      |
| Mar 2006    | R 16,075,026        | R 14,032,527          | R 2,042,499      |
| Mar 2007    | R 20,454,205        | R 18,102,512          | R 2,351,693      |
| Mar 2008    | R 21,704,845        | R 19,830,309          | R 1,874,536      |

**Table 1: Audited financial figures over the first eight years of EbiTec.**

Staff members that were released from providing services for the original contract were re-skilled and placed with new clients. In the first five years of its existence, EbiTec did not

grow significantly. This was largely due to its limited client base and its need to develop the necessary client relationships that underpinned its business model.

In Table 1 the annual income, the annual expenses and the annual profitability of the organisation are shown. The data shows the financial growth in EbiTec from 2000 to 2008. Taking into account that the original contract was its primary source of income in the first two years, the profitability in the first two years could be considered as unusual for that of a start-up company that would otherwise have borrowed money to fund the start-up of its business. The profitability is also compared to the income, and then this is compared to the staff attrition or staff movement within the organisation.

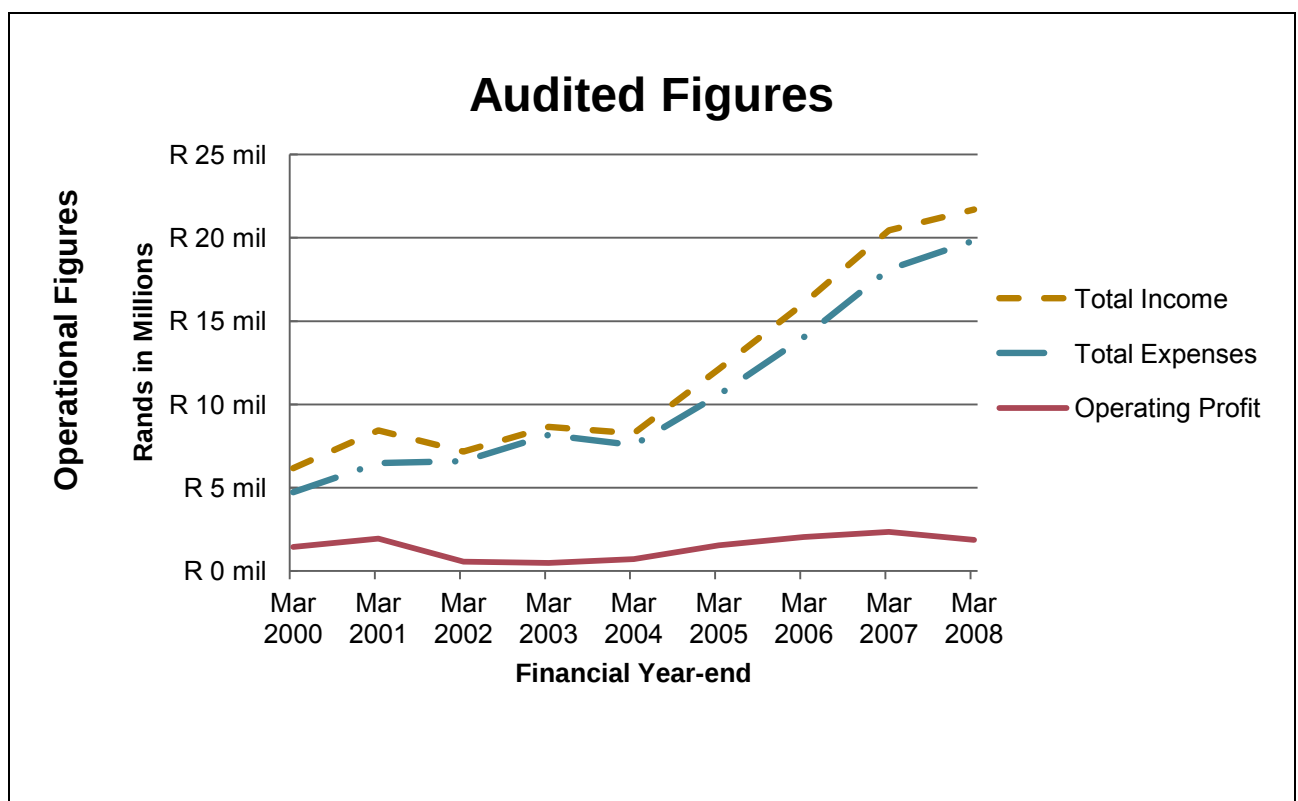
| Year Ending | Percentage<br>Expense /<br>Income | Percentage<br>Profit /<br>Income | Percentage<br>Profit /<br>Expense |
|-------------|-----------------------------------|----------------------------------|-----------------------------------|
| Mar 2000    | 76.65%                            | 23.35%                           | 30.47%                            |
| Mar 2001    | 76.81%                            | 23.19%                           | 30.20%                            |
| Mar 2002    | 92.13%                            | 7.87%                            | 8.55%                             |
| Mar 2003    | 94.44%                            | 5.56%                            | 5.88%                             |
| Mar 2004    | 91.29%                            | 8.71%                            | 9.54%                             |
| Mar 2005    | 87.30%                            | 12.70%                           | 14.54%                            |
| Mar 2006    | 87.29%                            | 12.71%                           | 14.56%                            |
| Mar 2007    | 88.50%                            | 11.50%                           | 12.99%                            |
| Mar 2008    | 91.36%                            | 8.64%                            | 9.45%                             |

**Table 2: Ratios based on audited financial figures of EbiTec.**

The figures in Table 1 are from EbiTec's audited financial statements for the financial years ending March 2000 through to March 2008. Until 2004 the annual income generated remained fairly consistent having fluctuated from between approximately R6 million and R8 million and with annual expenses increasing consistently from about R4.7 million to R7.6 million. In Table 2 the expenses are shown as a percentage of income and this trend shows a significant increase from 76.65 % in 2000 to 91.36 % in 2008, with a sharp rise in 2002 and a slight drop-off in 2005 but rising again 3 years later. The differences in the operating profit also show fluctuation over time. The figures in Table 1 show a significant drop in profitability between 2001 and 2002 which reversed in 2005, with an increase in 2006 and 2007 and a drop in 2008. In Table 2 comparing profit as a percentage of income there is a significant drop in 2001 and the increase in 2005 raises the percentage to about half of

the initial percentage profitability against income, with another drop in this profitability percentage in 2008. Profitability as a percentage of expense show similar trends, with a significant drop in 2002, an increase in 2005 to less than half of the original value and another drop in 2008.

If the underlying data is mapped over time, shown in the graph in Figure 1, it is evident that the income and expenses have increased significantly but the profitability has remained constant over time with a slight tapering off towards 2008. It seems that as the annual revenue increases so has the annual expenses, thereby limiting the amount of operating profit that is achieved.



**Figure 1: Audited figures of EbiTec.**  
 (Data collated from annual audit reports.)

An organisation, however, needs to ensure that profitable growth is sustainable over time – its senior executives have to create superior returns for its shareholders by achieving growth in both revenue and profit, (Raisch, 2008). In the data that is shown, the growth in both revenue and profitability was not achieved over time.

Figure 1 is a graphical representation of the audited data shown in Table 1. It is the data from the audited financial statements of EbiTec's for the financial years ending March 2000

through to the audited financial year of March 2008. Comparing the trend of the audited figures to that of the employment (staff numbers) as shown in Figure 2, there appears to be a strong correlation between the two.

As defined above, the OECD and EU uses the number of employees to define the size of a company, (Hermens, 2007). Although it is not explicitly stated that the growth of the organisation is related to the size of the organisation, it is reasonable to deduce that since income is generated directly from the number of resources in a services company that size must have some correlation to the growth of the organisation. It is also an intrinsic part of the EbiTec business model that revenue is generated from resources.

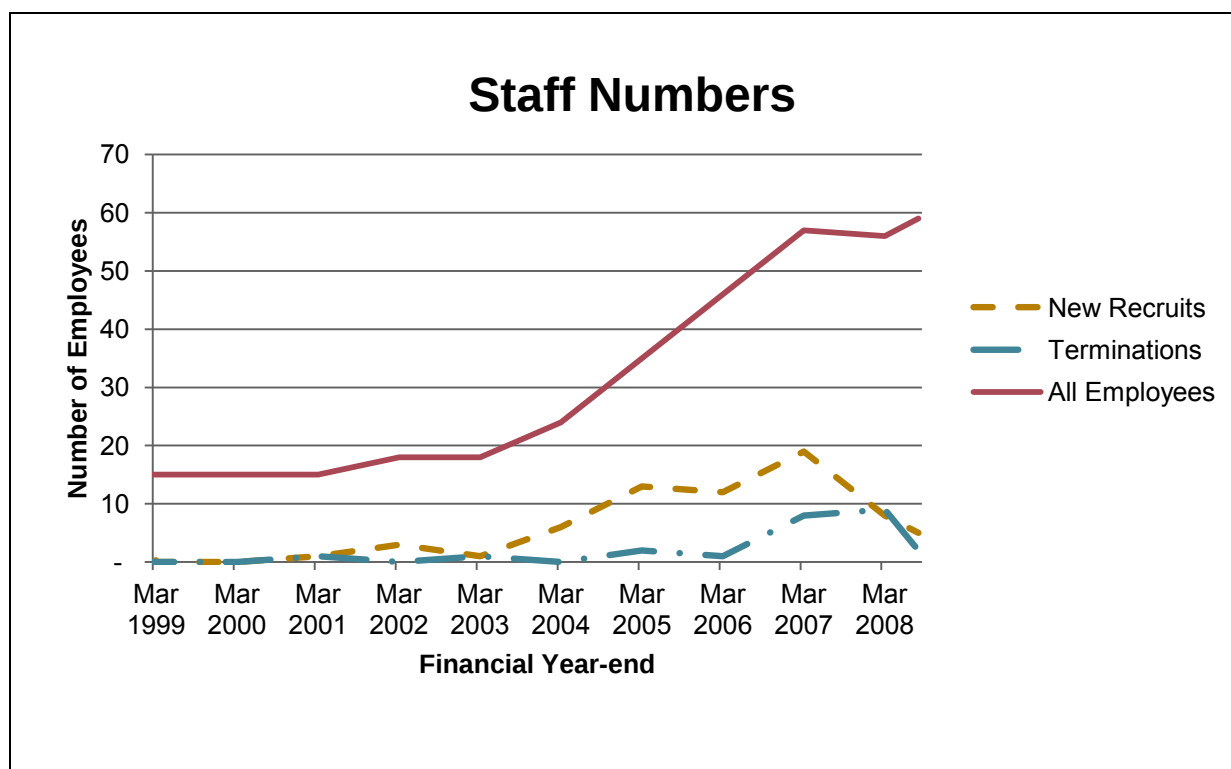
Table 3, Table 4 and Figure 4 represent the staff complement over the same time frames as the financials that were shown. All data comparisons are based on data taken over the financial year(s) of the organisation. Data shown in these tables and in the graph is accumulated from 1 April each year to the end of March of each year to align with EbiTec's current financial year end, which is also the 31 March of each year.

| <b>Number of Employees</b> | <b>Mar 1999</b> | <b>Mar 2000</b> | <b>Mar 2001</b> | <b>Mar 2002</b> | <b>Mar 2003</b> | <b>Mar 2004</b> | <b>Mar 2005</b> | <b>Mar 2006</b> | <b>Mar 2007</b> | <b>Mar 2008</b> |
|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Founder members</b>     | 16              | 15              | 15              | 14              | 14              | 13              | 13              | 13              | 13              | 13              |
| <b>Other staff</b>         | 0               | 0               | 0               | 1               | 4               | 5               | 11              | 22              | 33              | 44              |
| <b>New Recruits</b>        | 0               | 0               | 1               | 3               | 1               | 6               | 13              | 12              | 19              | 8               |
| <b>Terminations</b>        | 1               | 0               | 1               | 0               | 1               | 0               | 2               | 1               | 8               | 10              |
| <b>TOTAL</b>               | 15              | 15              | 15              | 18              | 18              | 24              | 35              | 46              | 57              | 55              |

**Table 3: Staff fluctuation over the life of EbiTec.**

Table 3 is a depiction of the staff numbers in each of the years. It shows the 16 members of staff that commenced employment on the date of formation; these members are known as the founder members.

In Table 3 the number of original founder members who remain employed by the company at the start of each year cycle are shown as well as the number of staff members other than founder members who remain employed at the beginning of each year cycle. It also shows the number of new employees (or new recruits) that commence in each year cycle and the number of staff that have left in the same year. In Table 4 these are shown as percentages.



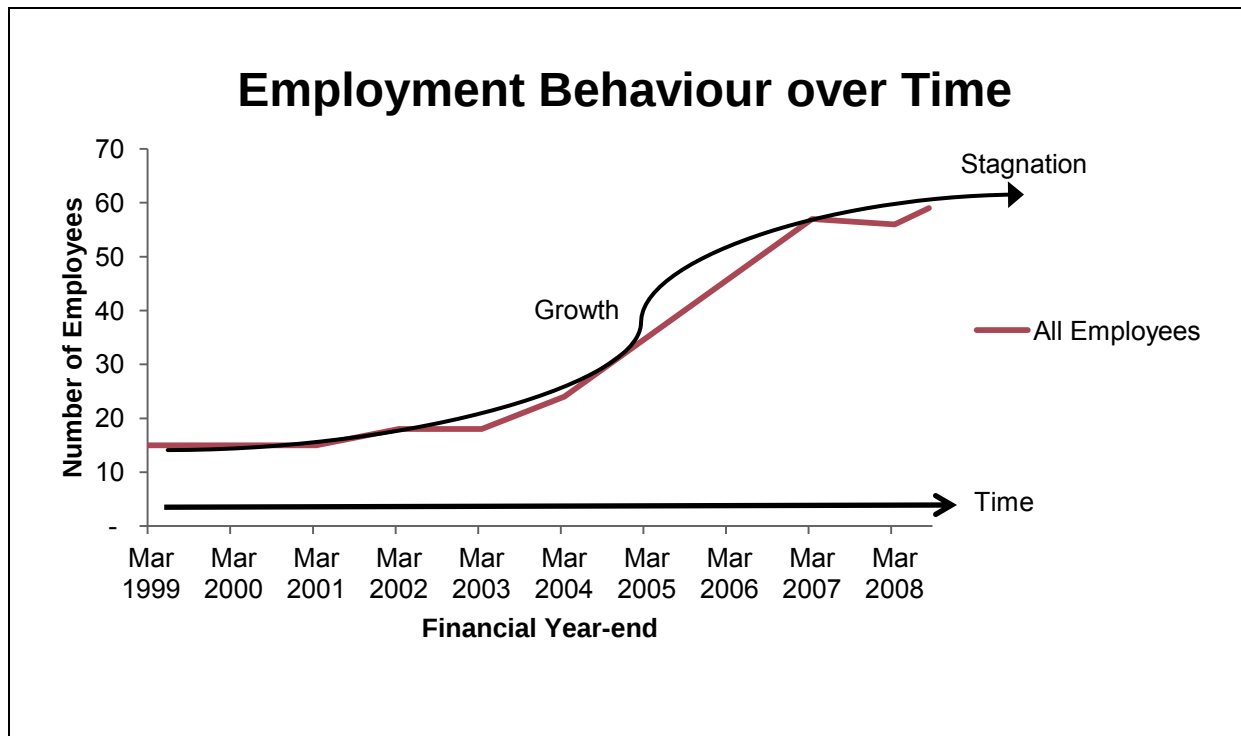
**Figure 2: Number of employees of EbiTec.**  
(Data collated from the personnel records.)

Figure 2 is a graphical representation of the staff complement as from 1 November 1998, the date that EbiTec was formed.

|                       | Mar<br>1999 | Mar<br>2000 | Mar<br>2001 | Mar<br>2002 | Mar<br>2003 | Mar<br>2004 | Mar<br>2005 | Mar<br>2006 | Mar<br>2007 | Mar<br>2008 |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Ave No Staff</b>   | 15.5        | 15.0        | 15.0        | 16.5        | 18.0        | 21.0        | 29.5        | 40.5        | 51.5        | 56.0        |
| <b>Staff Turnover</b> | 6.5%        | 0%          | 6.7%        | 0%          | 5.6%        | 0%          | 6.8%        | 2.5%        | 15.5%       | 17.9%       |
| <b>New Recruits</b>   | 0%          | 0%          | 6.7%        | 18.2%       | 5.6%        | 28.6%       | 44.1%       | 29.6%       | 36.9%       | 14.3%       |

**Table 4: Staff turnover percentages.**

In Table 4 the staff turnover is shown as percentages. In EbiTec the staff turnover percentage is calculated as the number of leavers in a given year compared to the average of the total number of staff members at the beginning of the year and the total number of staff members at the end of the same year. This number is also known as the staff attrition rate, the staff turnover rate or the staff separation rate. These calculations are used in the data shown.



**Figure 3: Comparing employment records to "The Business Vitality Curve",  
(Strümpfer, *et al.*, 1998)**

The new recruit percentages are based on the number of new recruits for a financial year divided by the average between the number of employees at the beginning of the year and the number of employees at the end of the year.

Comparing the employment records to The Business Vitality Curve (Strümpfer, *et al.*, 1998) as described in the literature review, there is an indication that EbiTec was experiencing a stagnation of growth, particularly since the revenue generated was tied intrinsically to the number of employees that were generating income.

The data in Figure 1 shows that the income generated had increased with a similar trend to the change in staff numbers as shown in Figure 3.

## 1.2.4 The cause for concern

Being a services company the revenue was generated by the number of employees providing services in the market.

The profitability was not purely based on a fixed margin being charged although the percentage margin charged did affect profitability. There was also a limit of the margin charged because if the margin was too great then the service became too expensive. Assuming that the margins are at an optimal rate then the next way to generate more income would be to provide more services. In the industry in which EbiTec was trading, the clients had strong control over the prices charged for services. EbiTec's clients were large financial organisations that strongly resisted increases prices so the only way to influence the revenue was for EbiTec to increase its service base.

In the behaviour over time graphs above it suggests that the number of employees have a direct influence over the income, but as the revenue increases so does the expenses, which in turn reduces the operating profit. The more the operating profit decreases the more need there is to obtain more people to ensure that EbiTec generates more income to remain at the same profitability level that it currently has. This is a reinforcing loop that shows that there are influences that are affecting the profitability and, hence, the sustainability and viability of the organisation.

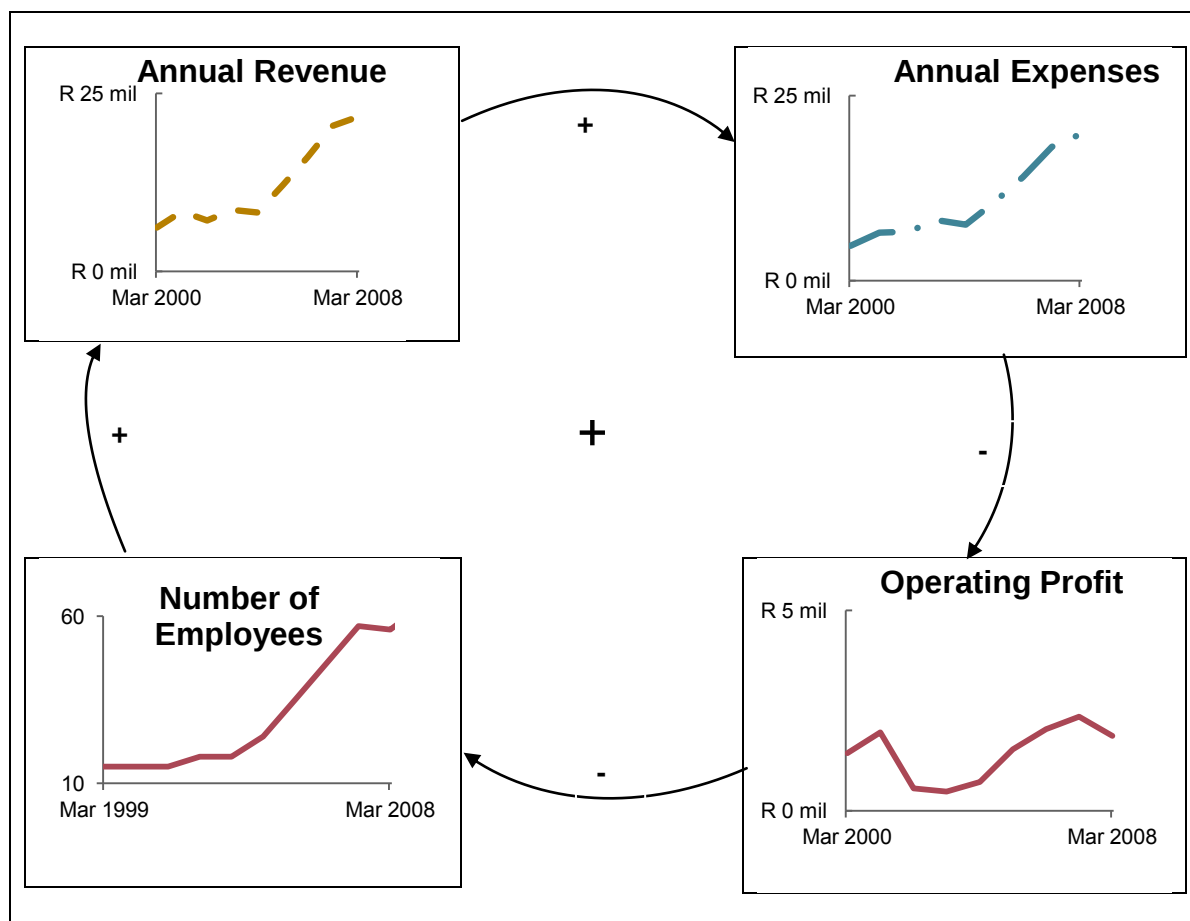


Figure 4: EbiTec's: behaviour over time graphs.

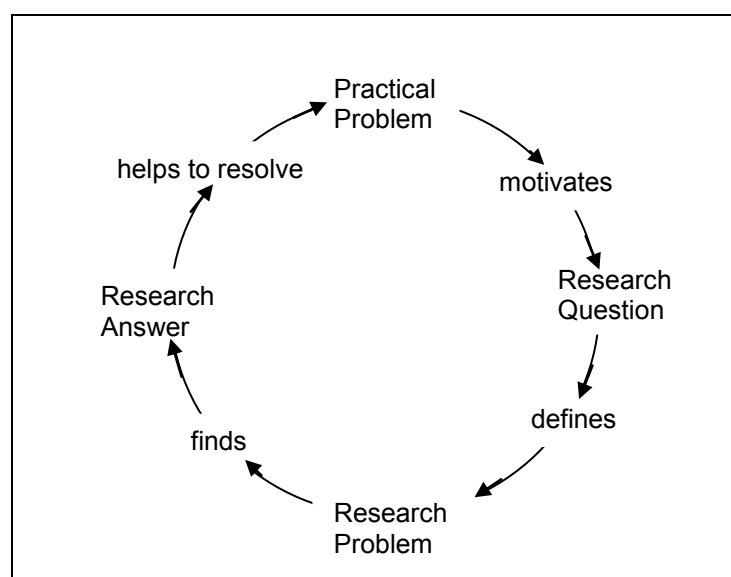
The business model of EbiTec is based on the number of staff members who are providing services to clients, and if profitability is solely a percentage of income then it is expected that the more staff members there are, the more services that can be provided, therefore the profitability should increase in parallel. However, as shown in the Behaviour over Time graph, in reality this was not the case. This highlighted the area of concern and the need to further investigate the causes of this unexpected behaviour.

The problem facing the organisation was that there is consistently an increased demand to grow the size of EbiTec, however, if profitability decreases as suggested in the diagram above then growth is not an option of viability for the organisation. What then is the cause of this dilemma?

So the problem that presented itself is:

**Even though EbiTec is employing more people why is the profitability of the organisation stagnating and not improving?**

This presents itself as the practical problem, where the practical problem is defined as an event or condition that has actually occurred; where the practical problem informs the research problem that is to be investigated and resolved; and the research problem is something that is not totally known or understood, (Booth, *et al.*, 2003). Figure 5 is a representation of the relationships between the practical problem, the research question, the research problem and the research question.

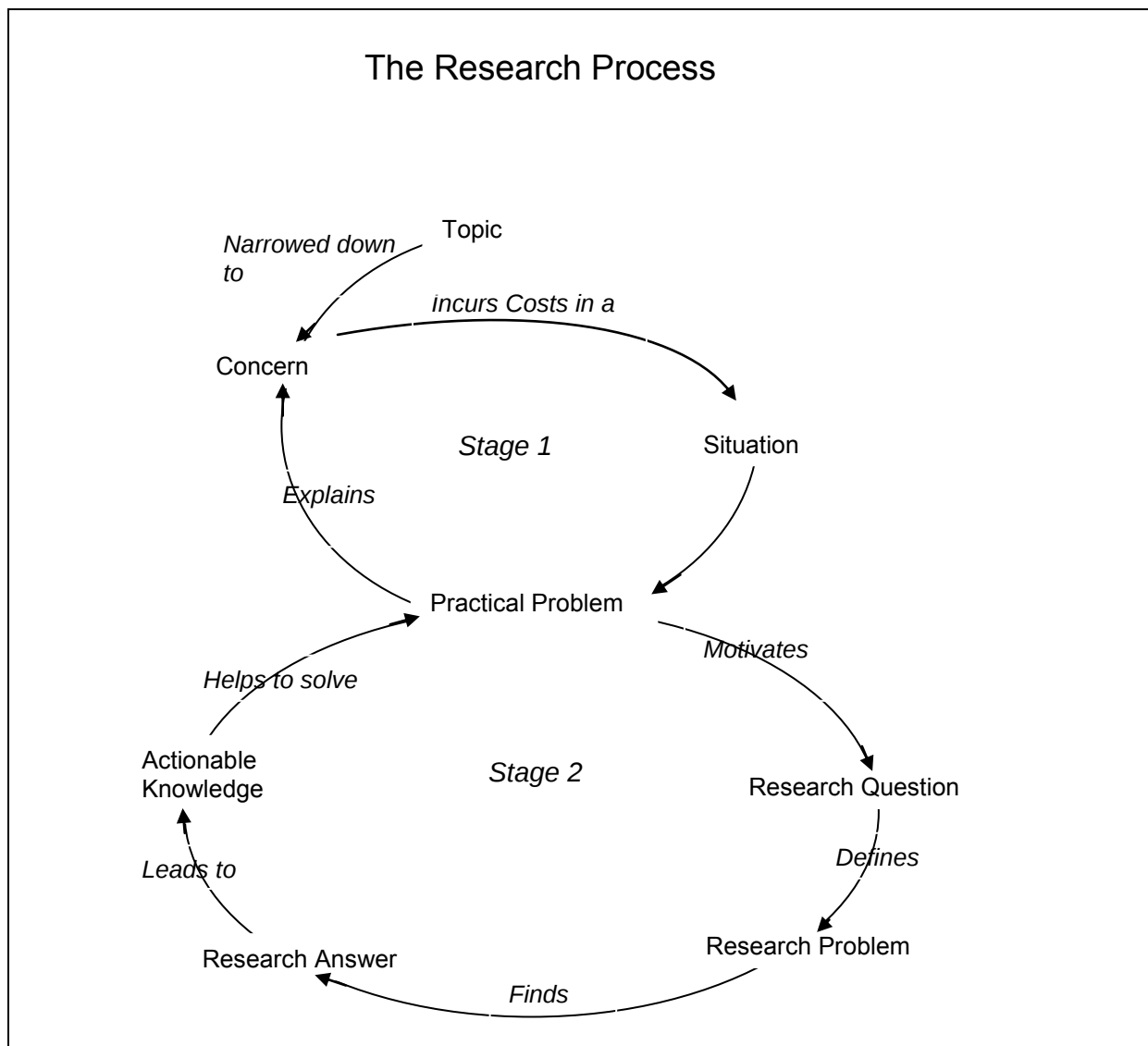


**Figure 5: Relationship between the practical problem and the research problem,**  
**(Booth, et al., 2003 p. 58)**

This practical problem can thus be reframed into the following questions:

- 1. What is the viability of the business?**
- 2. What has to be done to ensure that the organisation becomes viable and remains viable?**

So what does this mean in terms of changing the situation within EbiTec?



**Figure 6: The stages of the research process,  
(Ryan, 2005)**

The research framework (Booth, *et al.*, 2003) in Figure 5 can be extended to the action learning framework that is shown in Figure 6, (Ryan, 2005). In stage 1 of the action learning framework, the topic of the research is refined so that it focuses on the concern that exists within the situation, it is this concern that can be defined as the practical problem, and in turn, this practical problem must be able to explain the concern raised in the research, (Ryan, 2005). Figure 4 is a representation of what concerns the organisation in its situation that correlates to stage 1 of this framework, and in this the practical problem has been defined. Stage 2 of the action learning framework must follow in which the research question and research problem needs to be motivated so that the actionable knowledge can be incorporated to solve the practical problem.

To understand the viability of the organisation and to frame the research question the Viable System Model (VSM), as developed by Stafford Beer (Beer, 1984), was used. This model gives a measure of an organisation and its interaction within its environment.

A brief description of the Viable System Model is can be found in Chapter 2. In the section following, this model is used as a mechanism to inform the research problem.

### **1.2.5 The problem under investigation**

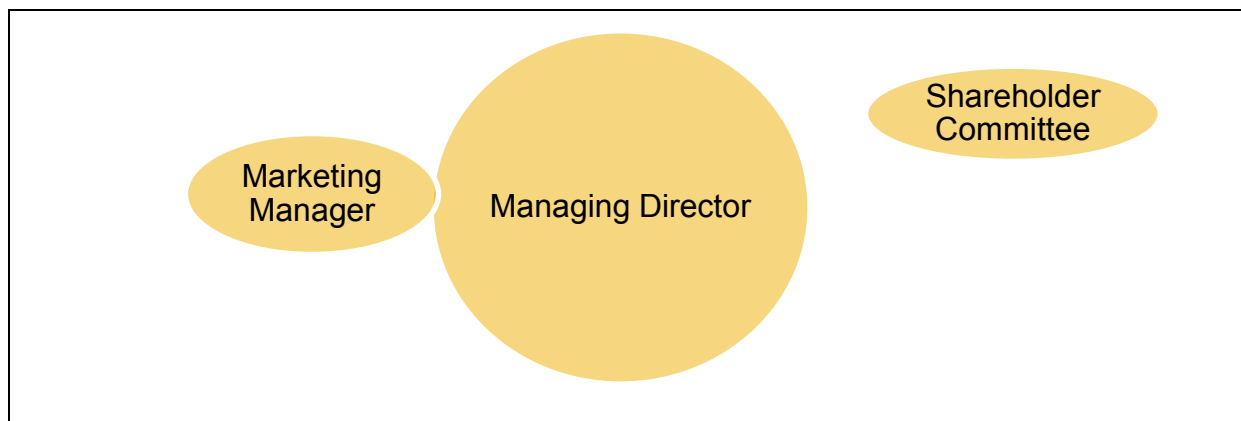
The VSM is used to help managers design organisations so that they can be viable in a rapidly changing environment, (Jackson, 2003) and by using VSM, managers can diagnose problems and respond so that viability and goal seeking is possible.

The EbiTec organisation is described in terms of the VSM model, i.e. by its three elements (Walker, 1991), which are operation, the meta-system and the environment, where the operation is described as the organisational structure and the internal operations, the meta-system which consists of three parts is defined as (i) the internal regulation which is also known as the here and now, (ii) the adaption which is the forward planning and strategy and (iii) the policy which is the ultimate authority and identity and the third element, the environment, is also described.

### 1.2.5.1 The underlying management structure

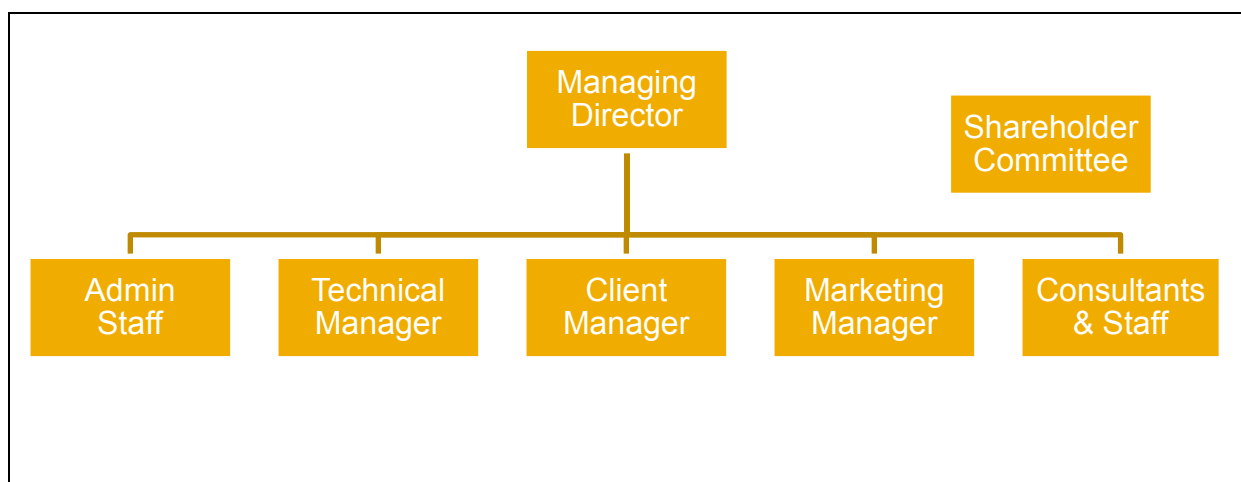
EbiTec's organisation structure at the initial point of concern is represented in the following diagram. It is not depicted as being hierarchical but rather as three independent spheres.

In 2005, the board was made up of the managing director (MD), the marketing manager and the three founding members who made up the shareholders' committee. The MD was primarily responsible for all operational activities. The marketing manager reported to the MD and the shareholder committee consisted of three elected shareholders who didn't hold



**Figure 7: Management structure of EbiTec in 2005.**

any managerial portfolio. The role of the shareholder committee was to ensure good governance; to oversee that all business dealings were ethical and in the best interest of the shareholders. They were a consultative body and not a decision making body and had no direct responsibility for any of the business dealings.



**Figure 8: Organisation structure in 2005 of EbiTec.**

Figure 8 shows that all persons in the organisation reported to the MD and that there were no other management structures in the organisation. At this point in time, the MD was the only person responsible for all the business activities in the organisation. The function of the MD was to ensure that the entire operation remained viable.

The marketing manager was purely that of marketing and selling the service offering, the client manager met and liaised with the clients, and the technical manager provided technical advice to the MD. The administrative staff consisted solely of the finance clerk and the receptionist and the consultants were the staff members who provided services to the clients. The MD managed all other administrative tasks that were necessary.

If the organisation was to remain viable then **the variety of responses displayed by management should at least equal that of the organisation, which in turn should at least equal that of its environment**, (Clemson, 1984). To control the situation the manager had to at least match the variety of response actions to the variety of disturbances of the situation, taking into account that the variety in the situation to be controlled would always be greater than the manager's variety alone (Espejo, 1997). For a balance to be achieved the manager cannot control the variety by himself, but needs to find a balance and must develop strategies that are supported by others to attenuate (reduce) the variety observed of situation being managed while amplifying variety when taking action (Espejo, 1997)

In the organisational structure, the MD was solely responsible for the responses to all of the variety in the operations, as well as in the environment. As the environment grew so did the variety being observed in the environment increase exponentially. For the MD to attenuate the variety being observed, the organisational management capacity, amongst other things, needed to expand to deal with the increasing demand of the environment.

#### **1.2.5.2 The organisation as a system**

For an organisation to be viable it needs to address the variety in all three elements: environment, operation and meta-system, (Walker, 1991), which is further broken down into the five functions of operation, co-ordination, control, intelligence and policy (Clemson, 1984). If one or more of these functions are either missing or has inadequate capacity then the viability of the system is in question. Any imbalances in the variety will mean that the organisation cannot cope adequately, (Espejo, 1997).

The three elements (or five functions) can be described for EbiTec as follows. The information presented here is data that was collected for the study.

The first element, the environment, is where the primary activities of an organisation operate. The environment can be shown in terms of the four influential factors that include regulation, social influence, political influence and economic influence.

The **regulation** factors are external influences by which the organisation has to comply. EbiTec provides services to the financial services industry and organisations that practice in this industry have to comply with stringent regulations that are required by the Financial Services Board (FSB). Although EbiTec is not regulated by the FSB, the clients of EbiTec need to comply and EbiTec needs to have an in-depth knowledge and understanding of these legal requirements. As a private company, EbiTec has to comply with the various legal requirements of the South African industry. These include the companies act and company law as required by the company and intellectual property registration office (CIPRO), the Constitution of South Africa, the employment equity act (EEA), the labour relations act (LRA), the basic conditions of employment act (BCEA) and the Code of Good Practice on the Protection of Employees, amongst other laws as required by the Department of Labour (DoL), the income tax act as required by the South African Revenue Services (SARS) and compliance with the Broad-based Black Economic Empowerment (B-BBEE) regulations. New regulations that are planned were also expected to affect the industry, such as the pension fund reform that is currently tabled, and the laws on labour broking, the national credit act and the protection of information act will also affect the industry.

The **social influences** are those external factors that affect the organisation, and these are mostly felt with the shortage of skills. This is partly caused by a number of South African skilled staff leaving South Africa for opportunities in other wealthier countries, creating a loss of skills in the South African economy to the international market and negatively affecting the general availability of skills in the South African market. The shortage of skills is experienced world-wide, so the international demand will draw skills to the more affluent countries. This also increases the cost of the skills in the industry, as the demand increases and the supply of skills diminish. Another social influence is the influx of other African nationals into the economy which should help relieve the skills shortage but bring in a variety of cultural differences that need to be addressed.

The **political influences** are those that are affected by politics and are also outside of the control of the organisation. One influence would be a change in the political parties during the

lifetime of the organisation. South Africa is in the beginning of its democracy and changes in political parties could see changes in policies and law affecting the country. Another influence is the effects of the Black Economic Empowerment (BEE) and Broad-based Black Economic Empowerment (B-BBEE) policies on business.

There were also some pertinent **economic influences** that affected EbiTec. One such influence was the fluctuations in the exchange rate, the effects this had on the clients of EbiTec and the amount of money that these clients were willing to spend on IT procurement. Another economic influence is the effects that the redistribution of wealth has on the South African economy and effects that these changes have in terms of uncertainty and stability. Another effect is that of surviving through a world-wide recession.

The second element to be described is the **operation**; these are the primary activities of an organisation that are carried out. This consisted of the functioning of the administration within EbiTec as well as the functioning of all the resources that existed within the organisation. The operation of EbiTec was made up of consultants that work at client sites who generated income for the company. The operation also includes the organisational structure of the company.

The third element, the **meta-system** comprises of three elements of management, called intelligence, policy and cohesion; these show the coordination of the interaction between the operation and its environment.

The **policy** of the organisation defines its purpose, direction and values. In EbiTec, minimal policy existed, with the policy recorded in one document that was kept on the internal network of the company. A copy of this policy document can be found in Appendix 5:. In addition, most staff members did not have direct access to the document and some did not even know that it existed. The policy was not strictly monitored nor adhered to and it was left up to individuals to comply with policy.

The **control and intelligence** of an organisation is achieved by understanding the interaction of the 'inside and now' of the environment with the 'outside and then'. In EbiTec there were no formal monitoring or control mechanisms of any of the policy and procedures. If a problem became apparent the MD would use his judgement to deal with the issues at hand. The MD managed the entire organisation, both from an operational and environmental perspective, which included all anomalies that may have existed. The

intelligence was the prerogative of the MD who was the only one who had sufficient knowledge of the entire operation.

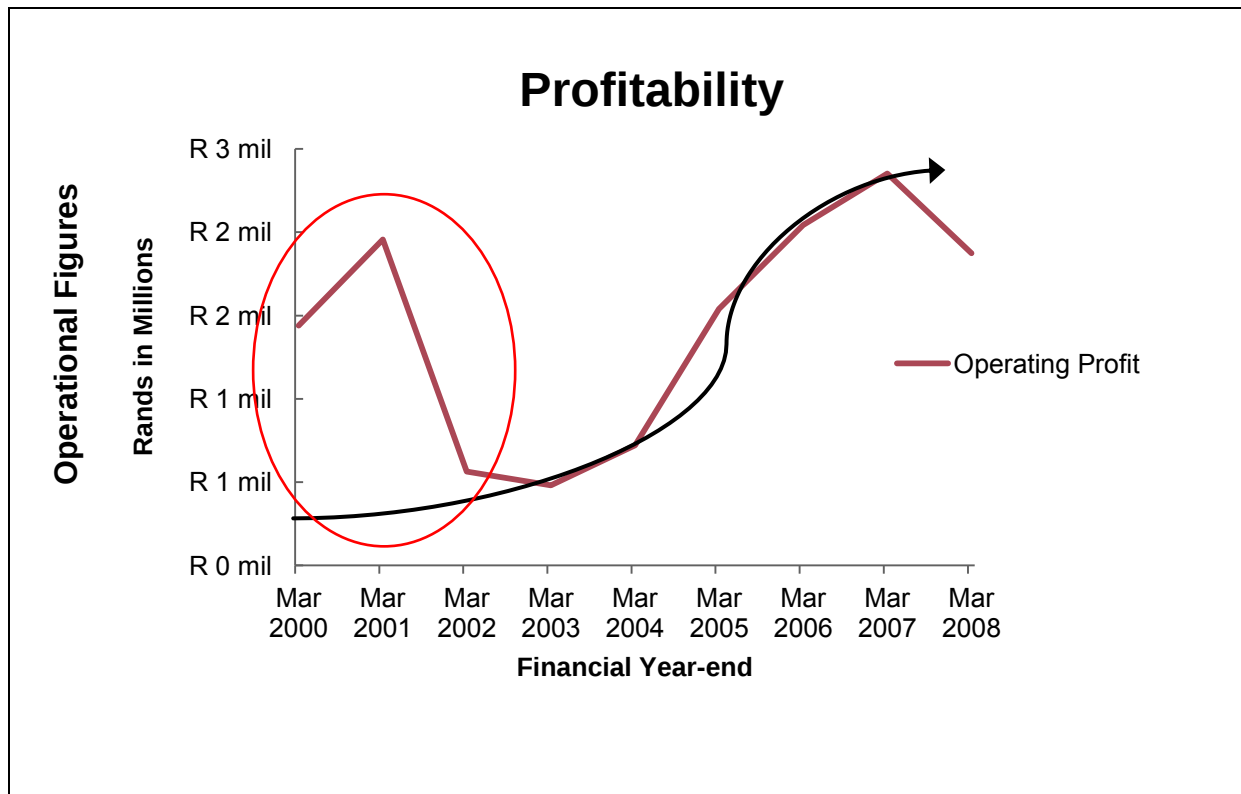
Understanding the variety that was experienced in EbiTec would lead to the understanding of the problems that were being experienced which should ultimately lead to a design to respond to the influences in the environment. The VSM was used to diagnose the problem and respond so that viability is possible.

### **1.2.5.3      The research problem**

All business management functions of EbiTec were the responsibility of the MD. As long as both the operational factors and the environmental factors remained small, the requisite variety would remain in balance. However, the data shows that the residual variety was ever increasing and that the organisation needed to transform to adapt to the increasing environmental and organisational factors. The organisation needed to identify these inadequacies so that it could recommend and apply the appropriate action.

This leads to the research problem of needing to identify what action needed to be taken to address the additional requisite variety that was facing the organisation. What changes did the organisation need to adapt to the new environment, the growing target market as well as the increase in number of employees in the organisation?

It is the research question that defines this research problem.



**Figure 9: Audited profitability figures of EbiTec.**  
**(Data collated from Annual Audit Reports.)**

To understand the dynamics of maintaining the profitability of EbiTec it became apparent that the underlying support structures within the organisation was experiencing strain, as the variety experienced were ever-increasing in the increasing growth demand on the organisation.

The profitability of EbiTec is shown in the diagram above. The management of EbiTec used this method as a basis to assess the viability of the organisation. The diagram shows a surge in profitability from 1999 to 2003 that can be accounted for as an exception rather than the norm in a start-up company. This growth is an influx of money from the company's initial maintenance contract, and the sharp drop is at a point when the income of this contract reduced. This point could probably be defined as the true starting point of the organisation. Profitability since 2003 has shown a steady increase until 2007 after which a downturn in profitability is shown. Considering the trends of the business vitality curve it is expected that if the "*requisite variety*" as discussed above is not addressed then the growth of the organisation will increase the variety that needs to be addressed and the profitability will vanish, causing stagnation and possible death.

It is therefore identified that the underlying support structures or functions as defined in the meta-system in the viable system model is what frames the area of concern and ultimately the question that this study endeavours to answer.

This research in this study is aimed at building theory to address the causes that underpin the concern of profitability and growth of EbiTec. It focuses on the organisation's operational infrastructure as the bases of the support needed to facilitate the growth of the organisation. It aims to answer the research question through the use of Grounded Theory in three Action Learning cycles.

The research question that was addressed is:

**How does the EbiTec organisational infrastructure need to change to support its growth so that it continually increases its profitability as it grows from a small enterprise to a medium sized enterprise?**

## 1.3 Conclusion

In this chapter the organisation was introduced and discussed in terms of its life cycle. A brief background of the company was presented and then its growth cycles were discussed. It was shown that EbiTec's growth in staff has not been in correlation to its growth in profit. It is this experience that has brought about the concern with the organisation's continued viability. In the chapters that follow the research is discussed.

This document has been arranged into five chapters to present the study and the findings.

In this chapter, Chapter 1, the study was introduced and an overview of the problem experienced by the organisation is brought into focus.

In the next chapter, Chapter 2, the literature that underpins the research is described. First the business viability is discussed and then the concept of theory triangulation.

The next point of discussion, in Chapter 3, is the methodology used. In this chapter philosophy of the research is discussed, with action research and grounded theory explored as the methodologies of choice.

After the methodology the research the actual research process is discussed in Chapter 4, covering each of the action research and learning cycles that were undertaken.

In Chapters 5 the research is evaluated and a conclusion is presented.

Following this, various appendices have been included.

## Chapter 2: Literature Review

In the previous chapters the concerns that surround a growing organisation were discussed. It is evident in the organisation under study that there are real concerns within the organisation of the viability of its existence. There is an underlying inherent understanding that the organisation in its current form is not sustainable into the future. There are also growing concerns in the organisation that future growth could cause the demise of the organisation. Whether these fears are well-founded has to be answered by the research study.

In reviewing the literature it was discovered that there are many topics written around organisational life-cycles, life stages of an organisation, problems encountered during the life of an organisation and organisational development with minimal consensus on what constitutes the grow patterns of an organisation. There is also an absence of a coherent framework within the literature that addresses the needs associated with a growing organisation and the concerns raised by the organisation, as discussed in the previous chapter. The literature discusses the phenomena that occur in organisations, with mechanisms of identifying and diagnosing the difficulties that are experienced, but fails to discuss ideas or methods of rectifying these difficulties to facilitate a positive change within the organisation. This literature review covers the underlying concepts associated with the theory that will be developed. In the absence of a framework, these concepts will be used in the research as a basis on which to develop and build theory to address the organisational problems in an effort to find solutions that will facilitate the continued viability of the business. First the Viable System Model is discussed as this is used in the previous chapter to define the problems faced by the organisation and then the concepts of business vitality with its relation to organisational life cycles, organisational viability and organisational mortality are discussed.

The philosophical position underpinning the research framework will be discussed in the next chapter, along with discussion on the models used to support this position. These models include a discussion on the viable system model, grounded theory and action research.

## 2.1 Viable System Model

The Viable System Model (VSM) is a model that assists in determining the effectiveness of an organisation by breaking down the complexity of the organisation in terms of the control and communication processes within the organisation, (Espejo, *et al.*, 1989). It is a method that assists in the simultaneous development of the cohesion of the organisation as a whole and the autonomy of the individuals or the parts.

The viability of an organisation is measured by its predicted continued independent existence over time and its capacity to adapt to the environmental changes within which it operates, (Jackson, 2003). To determine this viability the complexity of the interrelationships and the structures – not just the traditional hierarchical structure but the network of structures – that exist and interrelate with each other are assessed and measured.

For an organisation to be viable it has to have the ability to adapt to a changing environment, (Clemson, 1984). Clemson explains that Beer, who is credited with developing the viable system model, was concerned with the complexity, rate of change and interdependencies inherent with the 20<sup>th</sup> Century; that through self-organisation and self-regulation, an organisation must have the capacity to respond not only to previously experienced disturbances, but also to the unique occurrences that it faces. Through self-regulation, the organisation will adapt and remove, over time, the influences that create the complexity in its environment. The organisation will evolve so that it develops its own identity through the relationships of people, and it will create its own stability over time. There are three laws on which self-regulation are based: a self organising system, feedback and the law of requisite variety (Clemson, 1984). The law of requisite variety is the differences in the environment and the ability of the organisation to respond to the variety, the feedback consists of the messages that the organisation accepts about these differences and the self organisation will be as a result of this feedback.

The VSM looks at the interaction of an organisation with its environment, and how the organisation responds to the environmental changes (Walker, 1991). Walker (1991 p. 8) stresses that *“it is crucial to bear in mind that the VSM considers an organisation as a whole system which must be in balance with its environment”*.

The VSM can be described by three elements, (Walker, 1991), being operation, meta-system and environment; the operation is the part that completes the primary activities, the

meta-system ensures that the operational units are integrated and the environment is the external sphere that are of direct relevance to the system. The model is further broken down into five systems that must be carried out (Clemson, 1984); system 1 is defined as the collection of the operational elements, the coordinating function as system 2, and systems 3 to 5 are the internal and now management function, the external and future management function and the closure and identity management function.

## **2.2 Business viability**

In this section business vitality is explored as a means of measuring the business viability of the organisation to ensure its continued existence.

A new business can be developed, as a result of many different reasons, (Costanza, *et al.*, 2007), and behind the birth of most companies is usually an idea that has developed in the mind of an individual or a small group of individuals. A business idea could include start-ups which are as result of a perceived need or business opportunity or even spin-offs which are formed from a part of an existing business. However, it is usually an entrepreneur or an entrepreneurial team who can take this idea and turn it into a business proposition. The idea for the new business may be in the form of either a service or a product and it will be through dedication and perseverance that the entrepreneur creates a viable business out of this idea.

In the early years of a business, the driving focus of the entrepreneur is to make the business idea work through the creation of a market for the idea; where the emphasis is on creating the product or service offering and creating the market, (Greiner, 1972; Greiner, 1998). It is the entrepreneur who takes the financial risk with the intention of making a return on the investment, and this return is usually in the form of profit. The new venture is driven by the entrepreneur. During this stage, the idea is usually not generating huge amounts of income, if any, and is more than likely not generating any profit. The entrepreneur is entirely responsible for all of the business functioning; the tasks that are needed include the strategy, the sales and marketing, the operations, the people management and every other aspect of the business functioning. It is also probable that the entrepreneur will be doing most of the work. In an organisation, business infancy is a distinct period that lasts for roughly the first five years of its existence, (Boswell, 1973).

As the demand for business grows, the demands on the entrepreneur increase steadily until the demand is beyond the capacity of the person. The person's performance becomes more

inefficient until he or she can no longer perform all of these tasks and remain efficient. This person needs increase the management capacity by taking on other people to assist in the various aspects of managing the business.

In a new venture it is usual that all the persons are known to each other and all have a good understanding of the roles each other are playing. When a company is small, the level of interaction is simple and the entrepreneur will have direct access to everyone; and the communication among all employees is frequent and informal, (Greiner, 1972; Greiner, 1998). It is also possible for the entrepreneur to have the full knowledge and understanding of every aspect of the business, i.e. to know exactly what each person is doing at any point in time. The entrepreneur will be able to define all the requirements of the business, and control and monitor every aspect that is needed and that is actually performed through direct interaction and instruction to each person in the business. Through this interaction the dynamics and culture of the organisation is that of connectivity and knowledge at all times.

However, as the business venture grows so will the demand for business and this will result in the business growing further. Through growth the organisation will need to employ more people to meet the demands of the market. As a result, direct contact between staff members becomes diluted and the control and communication with each other are less efficient. The entrepreneur will no longer have direct influence over every aspect of the business; it is the dynamics of the interactions between the individuals in the business that now take control over the functioning of the business. It is during the years of growth that the business feels the pressure and is at risk of failure.

The behaviour that prevails in an organisation is what is defined as the culture of the business (Drennan, 1992) and is evident in the way that things are done in the business. These behaviours in the organisation are *“the habits that have grown up over time and become part of the organisation’s personality”*, (Drennan, 1992 p. 1), where the personality of the organisation is defined by the attitude that the organisation has in the way that it handles its business. These cultural influences are largely affected by the direct access that employees have to the entrepreneur, the senior management or leaders of the organisation, and as the company grows the influences become diluted by the complexity of the increased interaction within the organisation.

All companies begin to feel some organisational stress as it grows, (Flamhotz, *et al.*, 1990), as a normal part of organisational development. A significant number of organisations experience problems and fail as they develop beyond the new venture stage and past the

first stages of growth, (Flamhotz, *et al.*, 1990). This period of stress is referred to as “*growing pains*” (Flamhotz, *et al.*, 1990 p. XVI), and is defined as a time when a “*company has outgrown its infrastructure*”. It becomes necessary to change the infrastructure by creating new systems, processes and structures to support the business growth, so that the organisation is profitable through the support of the business idea without needing the direct control of the entrepreneur, (Flamhotz, *et al.*, 1990) – the organisation has to become a living entity and not just an extension of the entrepreneur. All business has to develop beyond the control of the entrepreneur if it is to survive past this stage of its growth, and through doing this the dynamics and functioning of the organisation changes. If companies do not take cognisance of these indicators then it will experience significant problems and can ultimately result in failure, (Flamhotz, *et al.*, 1990).

## 2.2.1 Organisational life cycle

Organisations have often been compared to the biological life cycles of organisms, and it is considered that organisations have a life cycle of its own, (Phelps, *et al.*, 2007). The organisational life cycle is based on ideas that have been developed in the biological and ecological models, with the stages of the organisations often being described in organismic terms such as birth, growth, maturity decline, reinvention or revitalisation and ultimately death, (Costanza, *et al.*, 2007). The activities, structures and leadership demands in an organisation characterise the stage of its life cycle, (Costanza, *et al.*, 2007). This view is commonly accepted by managers and owners alike where the growth in organisations is often referred to as “*this stage of the business*” or, similarly, it is referred to as “*moving the business to the next level*”, (Phelps, *et al.*, 2007 p. 1).

There are several contributions to the theory of organisation growth, with the ‘stage model’ of growth being the dominant theme, (Stanworth, *et al.*, 1976). There are many views of how many stages there are in an organisational life cycle and what exactly characterises each of these stages. Various models exist, most of which define between three and five stages of growth with some having as few as two stages and others as many as ten stages (Lester, *et al.*, 2008; Stanworth, *et al.*, 1976), but regardless of the number of stages, the different models display many similarities, (Stanworth, *et al.*, 1976). Research in this field has been largely empirical and no one model has been created that clearly defines the overall organisational development process (Greiner, 1998).

In Table 5 five different organisational life cycle models are shown, including two five-stage models, one being Greiner's Evolution and Revolution model (Greiner, 1972) and the other is the life cycle stages by Lester (Lester, *et al.*, 2008), a six-stage model of Life Cycles by Costanza (Costanza, *et al.*, 2007), a seven-stage model defined by Flamholtz, (Flamholtz, *et al.*, 1990) and a ten-stage model as defined by Adizes (Adizes, 1996). Further comparisons of the Organisational Life Cycles as presented in a paper by Phelps (Phelps, *et al.*, 2007) can be found in the Appendices,

| ORGANISATIONAL STAGES OF GROWTH                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                                                                                  | Stages                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Summary / Overview                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>5 Stage Model</b><br><br>Evolution and Revolution<br>(Greiner, 1972; Greiner, 1998) | Stages of growth / stages of crisis<br>1. Creativity – in its birth phase the emphasis is on products and markets. As the company grows a crisis of leadership occurs.<br>2. Direction – management and formal systems are introduced which eventually lead to a lack of autonomy.<br>3. Delegation – delegation and decentralisation occur which lead to top management feeling a lack of control.<br>4. Co-ordination – processes are further entrenched and control is centralised leading to a crisis of red-tape.<br>5. Collaboration takes precedence. Teams, solving problems and matrix structures are evident.                                                                                                                                                                                                                             | Greiner calls it five phases of growth rather than five stages of growth.<br><br>Each phase of growth is characterised by a particular predictable set of problems / series of crises that are called revolutions. Addressing these in a phase are the evolutions that will eventually lead to the next set of problems or the revolutions of its subsequent phase.<br><br>The crisis experiences are largely path-dependent and are indicative of the organisational phase. |
| <b>5Stage Model</b><br><br>Life Cycle Stages<br>(Lester, <i>et al.</i> , 2008)         | 1. Existence – focus is on viability or, simply, identifying the number of customers needed to support its existence. Decision making belongs to a central one (or few) and structure is basic.<br>2. Survival – organisation seeks to grow and structure is formalised. Organisations become functional and decision-making is decentralised.<br>3. Success – Control through bureaucracy is the norm. Organisation strive to maintain what they have rather than innovate.<br>4. Renewal – Have to return to a leaner time where teamwork and collaboration foster innovation and creativity. Matrix structures are used and decision making remain decentralised.<br>5. Decline – where politics and power no longer meet the external demands which lead to a lack of profit and loss of market share and the organisation is no longer viable. | The model provides stages that can be applied to both small and large enterprises, recognising the importance of the decline stage.<br><br>It is based on the empirical support of a five-stage model, regardless of the labels used.<br><br>Determinants of life-cycle stage is based on five dimensions:<br>Structure, specialisation / differentiation, information processing, decision making and participation.                                                        |

| ORGANISATIONAL STAGES OF GROWTH                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>6 Stage Model</b><br><br>Life Cycles<br>(Costanza, <i>et al.</i> , 2007)    | <ol style="list-style-type: none"> <li>1. Founding – the creation of the organisation with a prime concern to ensure survival.</li> <li>2. Growth – establish rules and procedures to manage growth for success and expansion.</li> <li>3. Maturity – organisation is established but needs to remain flexible enough to respond to change but formal enough to allow for governance. Diversification will mean that the decision making has to move to lower levels in the organisation.</li> <li>4. Renewal – based on the response to changes in the environment, e.g. to new competition, new legislation, availability of resources, level/kind of output is produced, etc.</li> <li>5. Decline – inappropriate response to change will lead to decline.</li> <li>6. Death – where the environment will no longer provide the resources or demand for output.</li> </ol>                      | <p>Uses a combination of two literatures, organizational life cycles and decline and death to create a common set of life cycle stages.</p> <p>Organisations cannot be modelled purely on organismic life cycles and in future organisational life cycles will have to include organisational phenomena such as leadership, group processes, decision making and strategic planning.</p>                                                                                                                                                                                                                                                                                 |
| <b>7 Stage Model</b><br><br>Growing Pains<br>(Flamholtz, <i>et al.</i> , 1990) | <ol style="list-style-type: none"> <li>1. New Venture - defining markets and developing products / services.</li> <li>2. Expansion - growth and the need for resources such as people, finance, equipment, space, etc.</li> <li>3. Professionalism – management systems such as planning, control, organisation, management development have to be implemented.</li> <li>4. Consolidation – managing the corporate culture of values, beliefs and norms.</li> <li>5. Diversification – bring in new products/services for the existing market or new markets for the existing product /service or both.</li> <li>6. Integration – developing an infrastructure to support the new business</li> <li>7. Decline – this comes with increased competition or market saturation, erosion of leadership and entrepreneurial management and complacency. Revitalisation is needed to survive.</li> </ol> | <p>Growing pains are symptoms of an organisational development gap between the infrastructure (operational support systems and management systems) required by the organisation to enable it to function profitably and the infrastructure it actually has.</p> <p>Operational support systems are day-to-day systems required to produce a product or deliver a service and to function on a day-to-day basis.</p> <p>Management systems consist of the firm's planning system, organization structure, management development system, and control and performance management systems - the systems required to manage the overall enterprise on a long-term basis.</p> |

| ORGANISATIONAL STAGES OF GROWTH                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>10 Stage Model</b><br><br>The 10 stages Of Corporate Life Cycles (Adizes, 1996) | <ol style="list-style-type: none"> <li>1. Courtship, a focus on ideas and possibilities</li> <li>2. Infancy, a focus on results</li> <li>3. Go-go is a rapid growth stage with a focus on sales</li> <li>4. Adolescence sees internal conflict as management structures emerge</li> <li>5. Prime is when the company is in balance with a clarity of vision, control and flexibility</li> <li>6. Stability is as prime but when eagerness wanes</li> <li>7. Aristocracy is a time when things are done according to tradition and not why. It is also a time of acquisitions.</li> <li>8. Recrimination is the start of decay with a focus on who did what wrong and not why and how</li> <li>9. Bureaucracy sees paperwork thicken</li> <li>10. Death occurs when a company cannot generate the cash it needs</li> </ol> | <p>Companies only achieve change with growth, and problems come with change and change come with growth.</p> <p>Life cycles are defined by the interrelationship of flexibility and control and not by age, sales, assets or number of employees.</p> <p>At each defining stage there is a set of problems that occurs that require a set actions for an organisation to stay at its prime.</p> |

**Table 5: Summaries of organisational growth stages.**

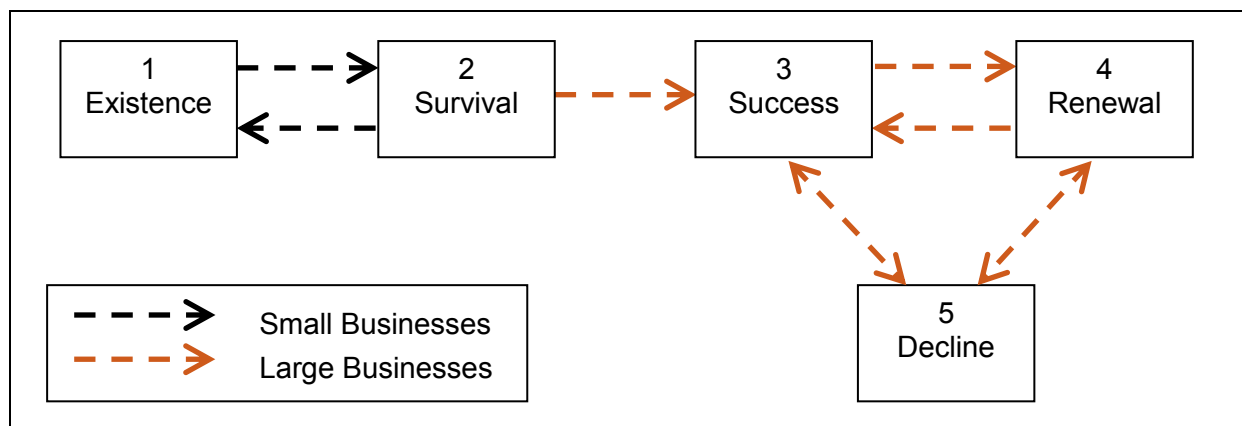
In earlier studies, organisations have been compared to the birth, growth and death stages of organisms, but since it is considered that organisations, hypothetically, can maintain themselves into perpetuity, later studies focus more on birth, growth and development and less on decline and death, and only more recently have processes emerged on decline and death, (Costanza, *et al.*, 2007). Also, models with fewer stages are ones that tend to consolidate the stages and those with more stages provide more comprehensive details and break the stages into more specific time-frames, (Lester, *et al.*, 2008).

Examining the literature on the stages of organisational growth provides diverse models and theories of what constitutes these stages. What is demonstrated is that organisations do not grow equally at any specific given pace but that problems experienced are similar even though it does not occur at a specific pre-determined stage of the organisation, (Phelps, *et al.*, 2007). It is evident, however, that change is required over time, and that important problems need to be addressed at the various stages in order for the organisation to survive, (Levie, *et al.*, 1998).

Combining the literatures the stages could be defined as the six-stages of founding, growth, maturity, renewal, decline and death, (Costanza, *et al.*, 2007) or the five stage model of Lester, *et al.* (2008), that defines the stages as start-up, expansion, consolidation, diversification and decline. The model as defined by of Lester, *et al.* (2008), is described here to illustrate the stages.

An organisational life cycle can be defined as “a loose set of activities” that includes the power distribution in the company, the decision making structures, the reporting relationships and the operational procedures that change over time, (Lester, *et al.*, 2008), where each of these stages can be recognised by the specific characteristics in the activities, the structures and the leadership that are prevalent to the particular stages of its development and growth, (Costanza, *et al.*, 2007; Lester, *et al.*, 2008).

The model of Lester, *et al.* (2008), is shown in Figure 10.



**Figure 10: Five-stage life-cycle model,  
(Lester, *et al.*, 2008 p. 542)**

The first stage in a life cycle is when an organisation is formed in response to a need in the environment, (Costanza, *et al.*, 2007). Lester, *et al.* (2008) calls the first stage **existence** and defines it as the stage in which decision making is typically in hands of one or a few with the primary focus on viability and creating a sufficient client base to support the existence of the organisation. The greatest emphasis when an organisation is formed is on defining markets and developing products or services, (Flamhotz, *et al.*, 1990).

The next stage is called **survival** by Lester, *et al.* (2008), and is the stage in which the competencies of the organisation are established, with the primary goal of generating a revenue stream to sustain the operations as well as to create growth opportunities for the organisation. There is a rapid increase in sales and revenue, thereby generating an increase in the need for more employees, financing, equipment, space and other resources, (Flamhotz, *et al.*, 1990). Flamholtz, *et al.* (1990) see this stage as one in which growth in the primary concern rather than survival. Rules, systems and procedures begin to emerge, (Costanza, *et al.*, 2007).

The organisation will then reach the third stage of success or maturity where structures and control are formalised and established – Lester, *et al.* (2008) and Costanza, *et al.*, (2007) call this stage **maturity**. Infrastructure and professional management capabilities are required to continue to grow growth successfully, (Flamhotz, *et al.*, 1990). Rules, policies and procedures are formalised, along with job descriptions and reporting relationships, (Lester, *et al.*, 2008; Costanza, *et al.*, 2007). It is vital that management now focuses on planning and strategy and that the operations are separated and passed onto a middle management layer, (Lester, *et al.*, 2008).

The fourth stage is a stage of **renewal** where organisations have to return to leaner times, and through collaboration and teamwork it has to innovate to survive, (Lester, *et al.*, 2008). It is a stage where organisations face environmental changes that it needs to respond to in order to survive, (Costanza, *et al.*, 2007).

**Decline** is a final stage that can trigger demise, this stage is characterised by politics and power and the inability to meet external demands, (Lester, *et al.*, 2008) where cost-cutting and efficiency strategies are common as opposed to the innovation and growth that were typical of the earlier stages.

Organisations are born and grow with the probability that they will eventually die, but the organisational life stages differ from its organismic comparisons in that progress through the stages is not linear and organisations may move back into previous stages and avoid decline with the possibility that it can maintain itself into perpetuity, (Lester, *et al.*, 2008).

Lester, *et al.* (2008) do not define death in their model, even though it is mentioned in the literature. Costanza, *et al.* (2007), on the other hand, explains that once an organisation starts its decline it is necessary for the leadership to recognise this decline and take corrective action, and if the decline is not recognised then the organisation may reach a point where its resources, the demand for its output and the organisational support are no longer available and the organisation will die. Death may mean that the organisation disappears completely where it no longer exists; or it may mean that the organisation is bought out by another entity, (Costanza, *et al.*, 2007). In both instances, the culture and structure of the organisation ceases to exist and the organisation as it was known dies.

In addition to the growth stages there are five key dimensions that affect the growth of an organisation, (Greiner, 1972; Greiner, 1998), and these are defined as the age of the organisation, the size of an organisation, stages of evolution where calm period are

experienced, stages of revolution where period of turmoil and turbulence are experienced and the growth rate of the industry in which the organisation operates.

An organisation has to know in which stage it is in and to recognise when the time has come for change, and even though solutions that are appropriate for a specific phase will inevitably create problems for the future, organisations have to progress through all the stages and cannot skip or rush a phase, (Greiner, 1972; Greiner, 1998) – organisations gain strengths and learning experiences in each phase that are essential for its success and development. The implication for managers of SME's is that they need to understand the changes required of them and act accordingly in order to grow, and ultimately, to survive, (Lester, *et al.*, 2008).

Parallel to the life cycle model another theory exists related to the growth of an organisation. Although similarities exist, the growth stages can be extended to define the organisational growth curve with an underlying focus on the growth stages of an organisation rather than on its life stages. In the next section the organisation growth curve is discussed.

## 2.2.2 Organisational growth curve

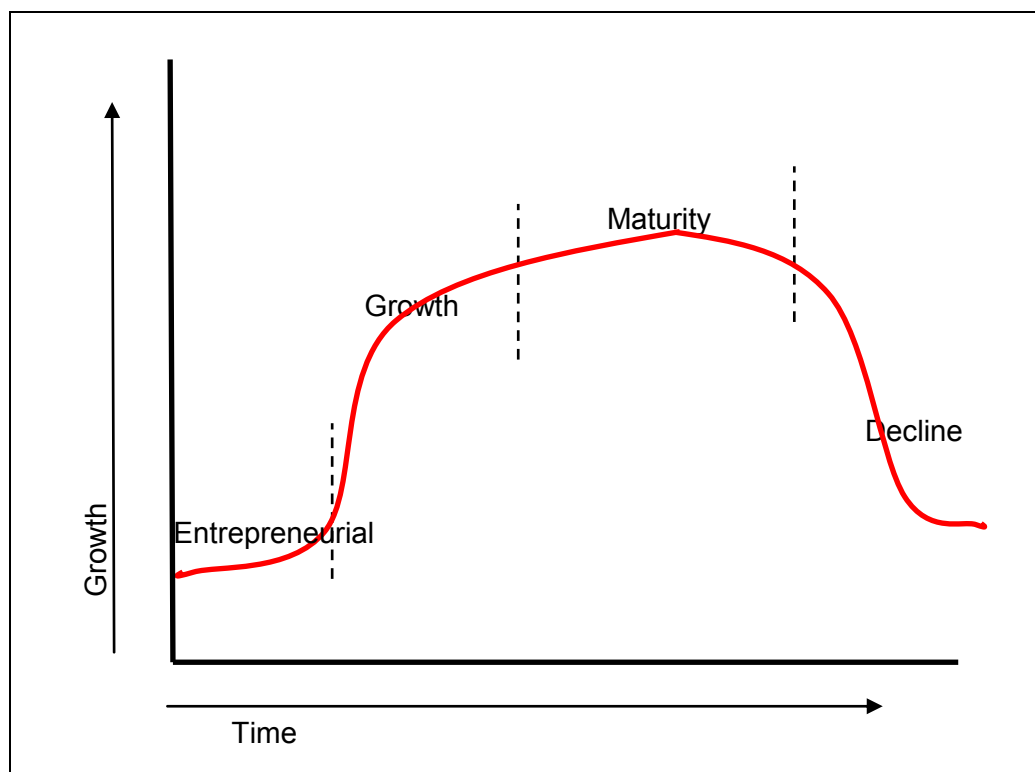


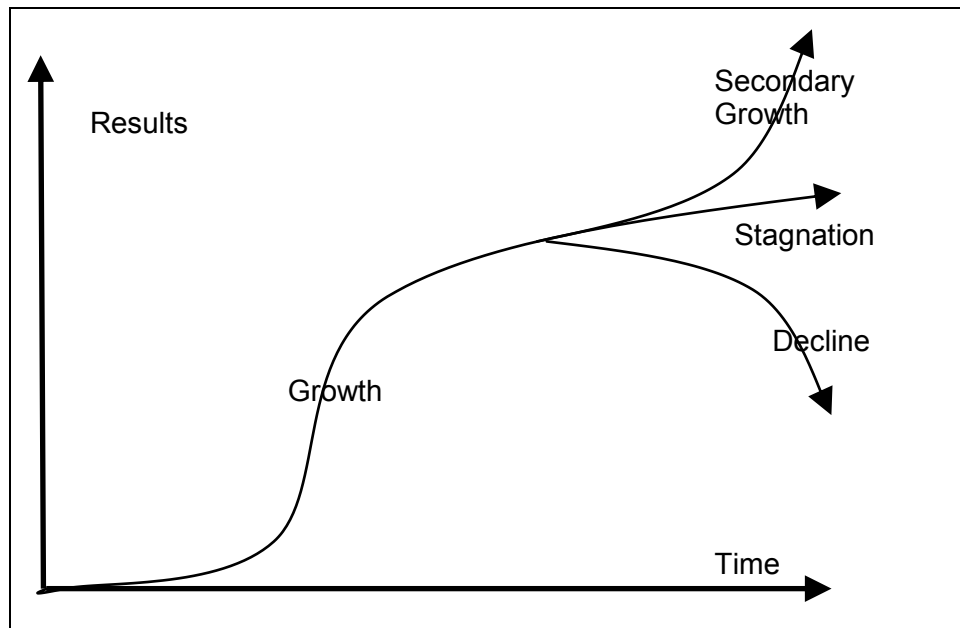
Figure 11: S-curve chart,  
(Dwyer, 2007)

A model known as the s-curve is used to understand organisational business growth, (Dwyer, 2007). The model consists of four phases: the entrepreneurial phase, the growth phase, the maturity phase and the declining phase (Dwyer, 2007) and all businesses will ultimately experience all of the phases.

In the entrepreneurial phase, the business owner, or a small close team, will wear multiple hats to get things done and it is in this phase that it typical for the key players to know almost everything that is going on in the business, (Dwyer, 2007). The business will then enter the next phase, the growth phase, in which it becomes apparent that many systems are either not in place or are inadequate to support the organisational growth. This phase is a challenging time that needs to be managed to avoid premature failure due to the growth, (Dwyer, 2007), forcing the organisation into the declining phase. As the systems grow and mature the organisation will enter the maturity phase in which the company will show strong margins, (Dwyer, 2007). It is during this phase that the organisation needs to maximise its resources to reinvent itself to avoid entering into the next phase. The next phase, the declining stage, has to be avoided for the organisation to remain successful – an organisation needs to reinvent itself before entering this phase.

### **2.2.3 Organisational vitality**

Strümpfer (1998) takes the theory of the s-curve and extends it to develop models that assist in ensuring the viability of an organisation and recognising ways to avoid the declining phase. He extends this principle with his Business Vitality Curve or Inflection Curve as seen in Figure 12, in which he displays the natural growth of any organisation. In his discussion of the concepts he shows that a business is only viable if it remains successful despite the adverse changes in the environment in which it operates. A new business initially experiences a slow growth with the up-take of its business. If the business concept is sound and the market accepts the concept then growth accelerates. The organisation has to respond to the environmental changes and experience a period of stagnation. Depending on its response to the ability to change, the organisation will stagnate, decline or start a new cycle of growth, the secondary growth.

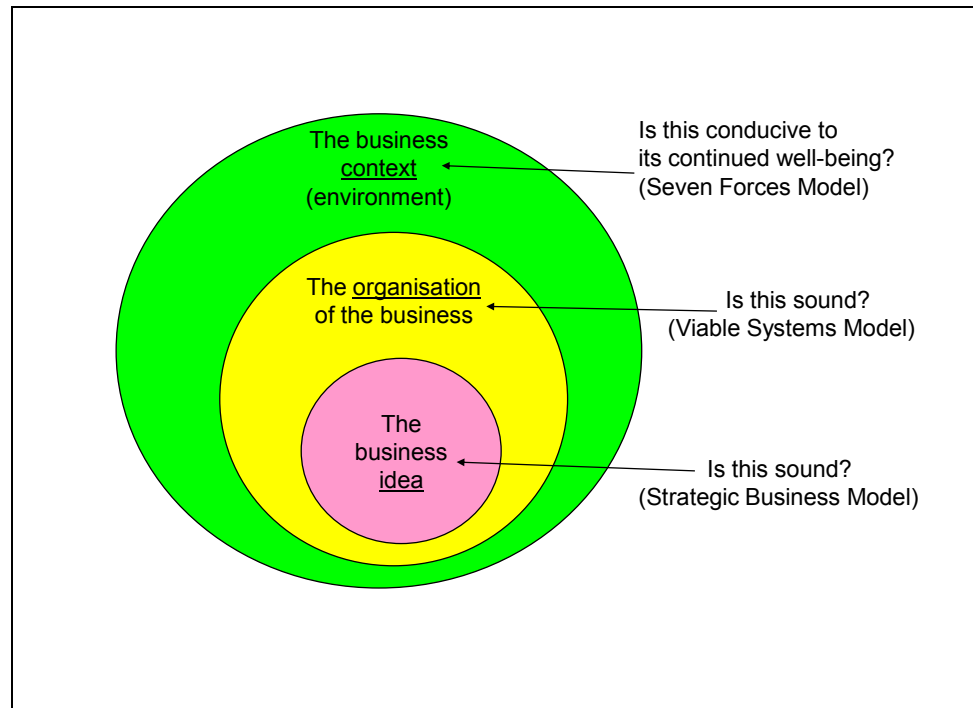


**Figure 12: The Business Vitality Curve,**  
(Strümpfer, *et al.*, 1998)

With the growth of a firm there comes a time when the organisation inevitably reaches a critical point where the organisational structures will no longer be sufficient to support the organisation, (Penrose, 1959, 1980). Due to the increasing size of the organisation, both the managerial function and the administrative structure have to undergo changes that will ultimately affect the fundamental nature of the organisation, (Penrose, 1959, 1980). The problems encountered are due to the differences between the organisational need and what exists, it is the gap in the required infrastructure, the operational support systems and the management systems that are needed to enable the organisation to function profitably on a short-term and long-term basis, (Flamhotz, *et al.*, 1990 p. 10). The operational support systems are the internal systems required to deliver a service or to produce a product and the management systems are the organisations planning mechanisms, its organisation structure, its human resource management, encompassing all the internal operations required to support the functioning of the organisation.

In the framework described by Strümpfer, (1998) there are three key aspects that are identified to assess the viability of an organisation in the context of The Business Vitality Curve that is shown above. Each aspect is aimed at answering a specific question that contributes to the assessment. In turn, each question is associated with a specific model that, together, is used to assess the soundness of these business areas. Strümpfer defines these questions as:

1. Is the basic business idea sound?
2. Is the organisation of the business sound?
3. Is the business environment conducive to its continued well-being?



**Figure 13: Business viability,**  
**(Strümpfer, *et al.*, 1998)**

The three different models that are used to evaluate each of these questions are each models in its own right. These are defined by Strumpfer as:

1. The Business Idea as measured by the Strategic Business Model (SBM), Strümpfer, (1998)
2. The Organisation of the Business as measured by the Viable system model (VSM), Beer (1984)
3. The Business Context as measured by the Seven Forces Model (SFM), Strümpfer, (1998)

The SBM measures the Soundness of the Business Idea by assessing an organisation's profit, both the existing profitability and future profitability or potential profit of the organisation. The VSM measures the growth potential of the business by assessing the workings or functions of the organisation to determine the potential of a secondary growth

spurt as defined in the Business Vitality Curve above. The SFM measures the sustainability of the business idea by measuring and assessing seven environmental factors: these being the existing and potential competitors, the customers, the suppliers, the complementors, ways of doing things differently and the socio-political factors affecting the operation.

## 2.2.4 States framework

In this section a model that combines the life cycle stages and the growth stages is considered. Although this may be seen as an alternative to the life stages model, it is not vastly different; it is based on an alternative approach to the various states over the life of the organisation. It focuses on the movement through the stages and the challenges that organisations face in defining its life state, rather than on the actual size and structure of the organisation in defining its life stage.

Understanding the typical stages of the life of an organisation is a mechanism to support the development and growth of the organisation in terms of accessing its policy and practice, but designing interventions that may be needed to impact on the effectiveness of the organisation is not as clearly supported in the life stages and organisational growth model, (Phelps, *et al.*, 2007). Phelps, *et al.* (2007) expand on the life stages models and defines a framework in which the key issues of growing firms are central to identifying the appropriate management activities required for each growth stage, and also identifies the organisations ability to absorb and use the knowledge available to it.

The organic growth stages are characteristic of smaller and younger organisations where merger, acquisition and franchises are more typical of the older and larger organisations; the growth strategies required of these organisations differ since the needs of the organisations are markedly different, (Penrose, 1959, 1980). Organismic life cycles imply that organisations have pre-determined and predictable life cycles where maturation is inherent in the organisation, but in reality, organisations do not grow linearly at a pre-determined pace through the life cycle stages, instead the life of an organisation is evolutionary and is a result of the interaction between internal and external factors, (Phelps, *et al.*, 2007), however, change over time is necessary in which the problems encountered need to be addressed in order to grow. Growth occurs as an organisation passes through a series of stable and unstable states that are related to specific managerial problems, rather than passing through a pre-defined sequence of stages, (Levie, *et al.*, 1998). In the states framework there are two dimensions in each stage; the first is identified by relative stability that is followed by a

large change and the second is evident by the organisation's ability to assimilate information and is not defined by the size or age of the organisation, (Phelps, *et al.*, 2007).

In the states framework, (Phelps, *et al.*, 2007) there are six major areas of change that an organisation will encounter in its growth, that are referred to as "*tipping points*" (Gladwell, 2000). These areas of change are identified as:

1. People Management
2. Strategic Orientation
3. Formulization of Systems
4. New Market Entry
5. Obtaining Finance
6. Operational Improvement.

A brief description of each of these areas as defined by Phelps is explained below.

**People Management** usually receives marginal attention in small organisations and people-management skills need to be developed and incorporated into the management of the organisation. The types of human resource (HR) issues that need to be addressed include delegation (participation and empowerment), leadership, recruitment and training, compensation and workloads. Further challenges are encountered when the number of people to be managed directly by the founder / owner increases or when different offices are set up geographically. Delegation, communication and teamwork are primary to make a transition in growth from owner managed to expanding management structures. More formalised practices in terms of performance appraisals, compensation practices and training practices also need to be managed.

**Strategic Orientation** has to change as an organisation grows. In the early stages of an organisation the entrepreneur is ad-hoc, sporadic, opportunistic and reactive. As the organisation grows the strategy needs to become more deliberate and considered with a structured approach to organising the business objectives with articulated strategic goals across a range of business possibilities. It is not important as to whether these strategies will be effective or not, but rather a case of having a strategy as opposed to being strategy-free. It is a move from being opportunistic to being focused on targets with a defined brand and market position.

**Formalised Systems** are as a response to expansion or growth, Phelps, *et al.* (2007) explains as noted by Aldrich, *et al.* (1997) and corroborated by Scott, *et al.* (1987). The control and coordination of systems (or rationalisation of business practices) are required as existing systems fail to cope adequately with the changing environment. Limited resources and concentrated efforts have to promote effectiveness and increase innovation. They also explain that Underdown, *et al.* (1998) report the lack of formal systems is the most prevalent issue in preventing the growth and transformation of small businesses.

**New Market Entry** is about adapting or replicating the existing business model to take to a new market where the awareness of customer and customer needs are well understood.

Growing organisations have to move from reliance on initial funders to **Obtaining Finance** outside of the organisation.

**Operational Improvement** is the seventh phenomenon that encompasses the implementation of best practices oriented towards efficiency and avoidance of errors.

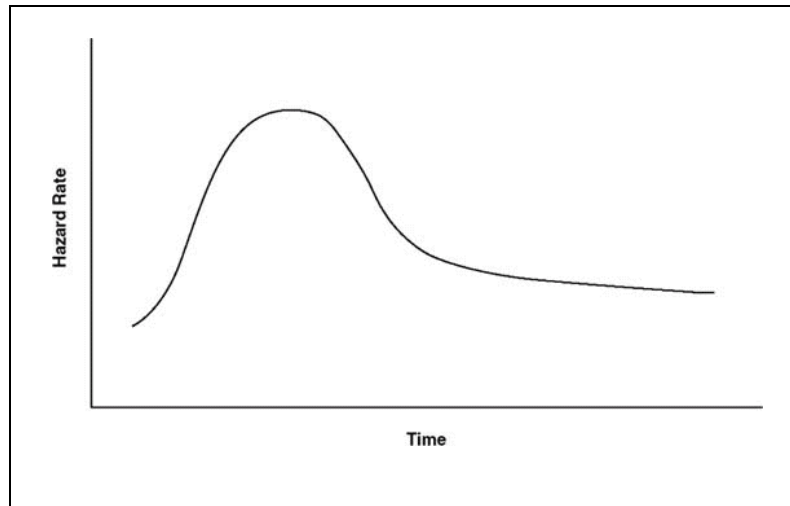
## 2.2.5 Organisational mortality

In the previous section the states of six functional areas of an organisation are defined as an alternative mechanism of diagnosing and addressing areas that, if left unattended, would lead to the demise of an organisation. In this section organisational mortality is considered to understand what is meant by the demise of an organisation.

Organisational mortality is the study of organisational survival and failure, including the emergence and extinction of organisational forms, the rate, frequency, causes and consequences of exit, (Thornhill, 2007). Organisations face their greatest risk to mortality when they are young or small, known as the *Liabilities of Newness and Smallness*, (Thornhill, 2007), in which the main factors underlying this risk are a lack of routines, social relationships, lack of structure and the external connectivity with customers and clients. However, when an organisation is first formed there is a period of relative safety when the organisation has its initial stock of assets that it can rely on in the first stages of development.

Paradoxically, the longer a company is in existence, the greater its chances of survival, mainly because larger organisations have more resources to rely on in the event of internal

or external changes, (Thornhill, 2007). However, as companies grow and enter the next phase it actually reaches a point where the mortality risk is at its greatest, and this point is known as the *Liability of Adolescence*, (Thornhill, 2007). The risk of mortality, or hazard rate, then roughly declines until the death of the organisation.



**Figure 14: Typical Hazard Function, (Thornhill, 2007)**

Figure 14 illustrates the hazard rate or probability of existence over time. The exit rate never drops to zero as organisations can exit at any age of its life cycle. Where organisations fail or cease because of advanced age is it know as the *liability of obsolescence or the liability of senescence*.

It is believed that in the same way that the autopsy has lead to advances in medicine, so too can the study of organisational mortality lead to the survival of future organisation, (Thornhill, 2007)

## 2.3 Theory triangulation

The three aspects of organisational growth that has been considered in this section are related to organisational life stages, organisations growth stages and organisational states that exist in an organisation. These three aspects are measures of different angles of the same phenomena.

In research this is termed triangulation, and is a technique used in the social sciences to understand the complexity in human behaviour and to provide a richness that demonstrates

validity, particularly in qualitative research, (Cohen, *et al.*, 2000). It is through multiple diverse methods, theories, data sources and measurements that a degree of agreement can be obtained in the results to increase the validity of the study, (Ma, *et al.*, 2007), however, triangulation as a validation strategy is inappropriate, it is as an alternative to validation, it as a way to reveal differences in the outcomes rather than to focus on convergence., (Ma, *et al.*, 2007), it is a move away from triangulation as a procedural concept but focuses on its systematic use of multiple and diverse methods to gain fuller understanding of the outcomes.

Broadly speaking, research can be defined in two ways. One is where theory is established and the concepts are applied to interpret the data, and where the set of assumptions that underpin the theory provides guidance about the kind to data it considers meaningful. The other means of research is through emerging theory where the concepts are generated from a data set and interlinked to form an emergent theory resulting theory that is underpinned by the empirical data.

Ma, *et al.* (2007) espouses that empirical evidence could equally support different theory but that it is theory triangulation that shows that the chosen theory is able to bring out the different understandings that are embedded in the data.

## 2.4 Conclusion

In this chapter the literature relating to the growth of an organisation is explored in terms of organisational life stages, organisational growth models and the challenges facing organisations in the various stages. An alternative approach was also discussed in which states rather than stages are discussed. These states are measures of six specific areas within an organisation.

All three areas in the literature address phenomena that can lead to the decline and demise of an organisation if left unnoticed and unaddressed. The life stages and growth models focus on the phenomena experienced in the different stages whereas the states model highlights specific areas that could be considered as areas of concern that need to be addressed.

All of the models address the recognition of areas of concern based on empirical data, but none address the underlying phenomena that occur that bring an organisation to each of these stages. Due to the lack of evidence of what causes these areas of concern, this

research is will use the emergence of theory from the data based on the phenomena that have been described in this section.

## Chapter 3: Research Methodology

Research is a means by which to discover truth, (Cohen, *et al.*, 2000). It is an investigation of phenomena that occur in the world with the intention of attempting to understand the phenomena, (Easterby-Smith, *et al.*, 1991), and its primary purpose is to produce new knowledge. This understanding may be an interpretation of phenomena based on existing theory or a development of new theory, where the research takes the form of either defining a hypothesis up-front and proving this or allowing the data to present the theory, (Easterby-Smith, *et al.*, 1991).

Three kinds of research can be used to make sense of the world: pure research, applied research and action research (Easterby-Smith, *et al.*, 1991). Taking empirical data and discovering theory through this data so that a new invention takes place is known as pure research; applied research is the use of existing knowledge and applying it to a situation to explain what is happening so as to find a solution to deal with the concern or problems that are being faced; whereas action research is based on action from the point of view that the research should lead to change and that the change should be part of the research process, (Easterby-Smith, *et al.*, 1991).

The terms quantitative or qualitative research have often been used to distinguish between research approaches. Quantitative research is primarily aimed at research that can be quantified by specific research items and that should produce the same results each time that the same methods of research are auctioned, whereas qualitative research, on the other hand, is required when the same methods of research do not necessarily produce the same set of results each time it is undertaken and is therefore influenced by factors beyond the methods of research. Quantitative and qualitative research have different strengths and the researchers tend to ask different kinds of causal questions i.e. “*qualitative researchers tend to be interested in whether and to what extent variance in x causes variance in y*” whereas “*qualitative researchers...tend to ask how x plays a role in causing y, what the process is that connect x and y*”, (Maxwell, 2005, p. 23) Quantitative research is used predominantly in the social sciences, (Easterby-Smith, *et al.*, 1991).

## 3.1 Philosophy

Behind all research there is a philosophy that underpins the thinking. This philosophy informs the inquiry process through which the assumptions are made. Through these assumptions the research framework is developed.

The philosophy that defines the framework will define the way in which the research is developed and form the lens through which the phenomena are examined. Underlying the research philosophy are the ontological assumptions that inform the epistemological assumptions (Crotty, 1998). Ontology can be described as a study or the way of being, (Crotty, 1998) it is the understanding of what there is and what makes up reality, (Hofweber, 2005), whereas epistemology involves knowledge, and is the understanding of what it means to know, (Crotty, 1998). They fall alongside of each other and together they inform the theoretical perspective which gives rise to the methodological considerations that governs the methods of data collection, (Crotty, 1998).

In this section the underlying theory of the philosophical framework is explained and the specific framework used in this study is discussed.

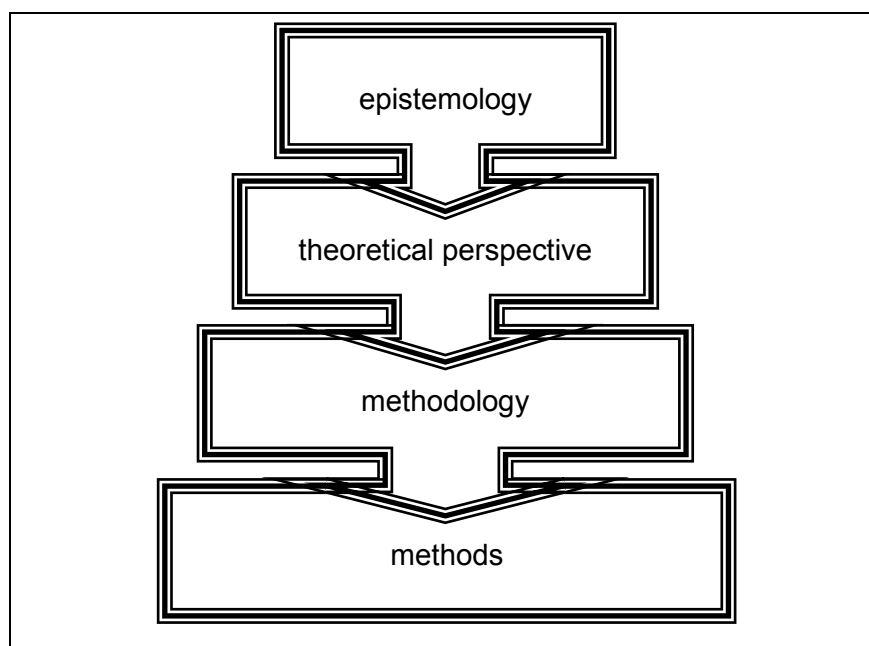
### 3.1.1 The philosophical framework

Underlying research are the assumptions or views of social science that affect the way in which social reality is constructed. While there are different theories of ontology, there are two distinct ontological views that form the essence of social phenomena, one view is that social reality is external to the individual and is imposed on the mind or consciousness of the individual, and the other view is that it is internal and is a product of the mind or consciousness, (Cohen, *et al.*, 2000). When social reality is external and objects exist independently of the individual, (Cohen, *et al.*, 2000) then the research has a positivist paradigm. Positivism views the world as being objective and independent of the observer or researcher, making it value-free; it focuses on fact and is based on reduction of phenomena to formulate and test hypothesis through the use of a large sample set, (Easterby-Smith, *et al.*, 1991). When research is regarded as being internal, where objects of thought are words that exist in the mind and are inaccessible without the meaning of the words associated to it, then research is based on a phenomenological paradigm, (Cohen, *et al.*, 2000).

Phenomenology views the world as being socially constructed and subjective, where the

observer or researcher is part of the observed and cannot be separated from the meaning; and meaning is created by developing ideas through induction based on the phenomena observed, usually based on small samples investigated over time, (Easterby-Smith, *et al.*, 1991).

These ontological views give rise to the epistemological assumptions that form the basis of knowledge, defining how it is acquired and communicated to others – it is the philosophy that underpins the science, (Pesqueux, 2007). The positivistic view has an objectivist epistemology, (Crotty, 1998) that has the assumptions that knowledge is tangible and can be passed on, (Cohen, *et al.*, 2000), whereas the phenomenological view has a constructivist epistemology, (Crotty, 1998), and has the assumptions that knowledge is something that has to be experienced, (Cohen, *et al.*, 2000). The objectivist view is that knowledge holds meaning and exists apart from the consciousness whereas the constructivist view is that knowledge comes into existence through engagement with the world and that it does not exist without the consciousness, (Crotty, 1998).

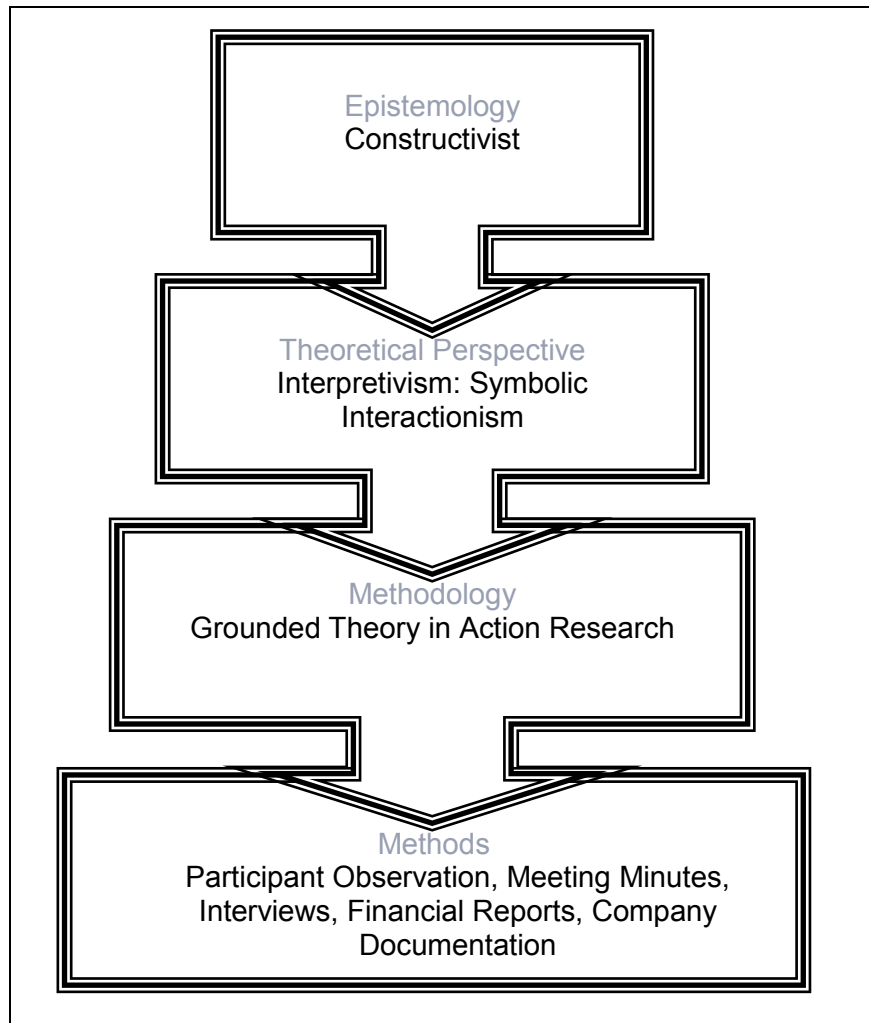


**Figure 15: The four elements of research.**

**(Crotty, 1998 p. 4)**

Crotty brings these four basic elements into the definition of the research process, (Crotty, 1998 pp. 2-3); he specifies the four basic elements in its constitution as methods, methodology, theoretical perspective and the epistemology. Epistemology is described as the theory of knowledge that encapsulates the theoretical perspective, it is the way of

understanding and explaining what is known; the theoretical perspective is the philosophical standpoint that the researcher takes that informs the methodology; the methodology is the process that defines the methods used in linking the theoretical perspective with the data and hypothesis; and the methods are the actual techniques used in gathering and analysing the data, (Crotty, 1998).



**Figure 16: The research in perspective.**

In doing research, the choices of methods, methodology, theoretical perspective and epistemology would be guided by the research question. To justify the choice of framework Crotty proposes that it is necessary to answer the four questions, (Crotty, 1998 p. 2).

What *methods* do we propose to use?

- What *methodology* governs our choice and use of methods?
- What *theoretical perspective* lies behind the methodology in question?
- What *epistemology* informs this theoretical perspective?

In this research the constructivist epistemology has been chosen, with an interpretivist theoretical framework, using a methodology of grounded theory in action research. A variety of data collection methods have been used including participant observation, interviews and company documentation such as meeting minutes, workshop notes and financial reports. These choices are shown in Figure 16. The questions as proposed by Crotty as justification for these choices will be used to describe these elements in relation to this study, (Crotty, 1998).

### **What *epistemology* informs this theoretical perspective?**

Epistemology is the theory of knowledge that underpins this study. It is about *"how we know what we know"*, (Crotty, 1998). For this research the epistemology that has been chosen is based on the constructivist thinking. In constructivism there is no objective truth; truth is not an external reality, it based on the human mind, (Costantino, 2008). It is through human experiences and human interaction that the world is constructed, and since people all have different experiences throughout their lives, different people will construct meanings in different ways through their social interactions, even relating to the same phenomena (Costantino, 2008). Crotty (1998 p. 42) on the other hand, describes constructionism as *"all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context"*, and he goes on to distinguish constructionism from constructivism by describing constructionism as obtaining knowledge where the *social dimension of meaning is at the centre stage*, (Crotty, 1998 p. 57), compared to constructivism where the social of meaning is not but where the position is one of individualist understanding. What this means is that in constructivism meaning is not discovered but constructed through the individual mind whereas constructionism is constructed through a collective generation of meaning, (Crotty, 1998). In this truth, it is not objective but neither is it subjective, rather, it constructs itself through interaction with its environment, whether through the individual mind or collectively. In this research the constructivist epistemology has been chosen.

The research problem that EbiTec faces is that profitability of the organisation stagnating even though it is employing more people. The research study aims to address this problem through the understanding of what exists in the organisation. The epistemological view is that knowledge has to be constructed from the organisation's environment and the social interactions that exist inside and outside of the organisation, that there is no truth outside of the experiences of those that exist in the organisation. It is through this reality that the

theory will be built on perspectives that differ for each individual. The researcher is part of this reality and it is through the individual mind of the researcher that the knowledge will be constructed. This research study aims to address the specific concern with the intention of determining the changes required of the organisation, changes that will be implemented with the purpose of solving the concerns of the organisation.

### **What *theoretical perspective* lies behind the methodology in question?**

The theoretical perspective is informed by the epistemology of the research, and is the philosophical stance that lies behind the methodology used, where the assumptions inherent in the methodology constitute the view of the world and the way in which knowledge is constructed – it provides a context for the process and grounds its logic and criteria (Crotty, 1998). In this research the theoretical perspective that has been selected is one of interpretivism from a symbolic interaction point of view. Crotty (1998 p. 67) defines the interpretivist approach as one that “*looks for culturally derived and historically situated interpretations of the social life-world*”, that comes with the tradition of symbolic interaction that explores the culture, (Crotty, 1998), where individuals rely on the culture to create meaning and to make sense of their social experiences so as to provide a framework for anticipated experiences aimed at achieving particular outcomes, (Stanworth, *et al.*, 1986), and it is through these socio-cultural aspects of the experiences that the methodology will be defined. Through interaction in relation to each other, people are constantly undergoing change resulting in a changing society, (Cohen, *et al.*, 2000).

To research the problem that EbiTec faces, the perspectives or meanings of stakeholders are considered as important sources of data. In the organisation the stakeholders act according to the meaning that they have created, and through this meaning they enact change. This meaning is derived from the relationships and in extending and modifying these relationships change will be enabled.

### **What *methodology* governs our choice and use of methods?**

The research methodology defines the research strategy or the plan of action, (Crotty, 1998). The research methodology chosen for this research is grounded theory in the paradigm of action research. This methodology brings with it assumptions that the phenomena that is experienced will present new meanings to address the underlying concerns, and that this new meaning will lend itself to purposeful action to elicit change in the environment. In social science research, grounded theory is a form of field research, it is

a method of qualitative research that explores phenomena and is a process of systematically collecting and analysing data to produce a theoretically complete explanation through a process of induction, (Struebert, *et al.*, 1999). In grounded theory, one begins with the area of study with an aim to discover theory in order to understand particular phenomena, (Struebert, *et al.*, 1999). Grounded theory is a form of ethnographic inquiry that through a carefully planned process, theoretical ideas can be developed, (Crotty, 1998), it is a form of enquiry where theory emerges from the data and not from some other source, (Crotty, 1998). Strauss, *et al* (1990 p. 18) explains that to use this approach allows one to “*step back and critically analyse situations, to recognize and avoid bias to obtain valid and reliable data, and to think abstractly*”. Grounded theory has been chosen as a methodology since inadequate literature could be found on defining the interventions that need to be taken to achieve change in the states or life stages of an organisation. Grounded theory also allows for theory to emerge and complements the action research approach, where the planned action is based on theory that is built through the empirical data that exists.

Action research, on the other hand, is an approach to research that is used to provide knowledge in a situation that requires action, where theory is generated through practice and is only useful if it can achieve a positive change, (Brydon-Miller, *et al.*, 2003). Action research will produce emergent theory through exploration rather than data collection, in an incremental manner through phases of reflection, data collection and action, so as to provide a solution or improvement to the key issues of the organisational problem, (Eden, *et al.*, 1996). By its nature the research itself is not repeatable and each intervention will produce a different experience, but over time theory will emerge (Eden, *et al.*, 1996). In its makeup, it is concerned with systemic relationships as opposed to single theories, (Eden, *et al.*, 1996) and to determine the validity of action research the designed action must address the key issues and the theory must be grounded in action and not simply grounded in data as in grounded theory, (Eden, *et al.*, 1996). In action research the change in itself should bring about new phenomena that will occur in the environment and this again will bring about new meaning. It is through this process of deriving new meaning and change that it is envisaged that EbiTec will overcome the problem that it faces.

In this research study the concerns that EbiTec faces of waning profitability, even though there is an increase of staff, is a specific concern that is not found in the literature. The methods available to understand the concern is of exploring and examining the phenomena that are occurring in the organization with an intention of providing a prescription for action. It is through these phenomena that knowledge is expected to emerge. The intention of this research is to provide a plan of action and through action research this can be achieved. To

understand what knowledge each of these iterations or cycles will allow to emerge the methodology of grounded theory has been used. Grounded theory is used to achieve valid and unbiased ideas in each of these cycles.

Because action research and grounded theory have been chosen as the methodologies for this research, a more detailed description of each of these are described further in this chapter.

### **What *methods* do we propose to use?**

Qualitative methods are described by Easterby-Smith, *et al.* (1991) as a collection of various techniques that are used to interpret the data through describing, decoding and translating the data to provide a meaning to the phenomena that are occurring. It describes the meaning and not the frequency of the phenomena that is seen as being naturally occurring in the social world.

Various methods of data collection have been used in this study, including that of participant observation, company documentation, unstructured interviews and workshops. EbiTec documentation that has been used includes formal meeting minutes, financial reports and extracted system data. The interviews were used as a means of extrapolating the individual perspectives of the problems that were being experienced to get a rich picture of the occurring phenomena. The experiences were voiced particularly by the senior management team who consisted of five individuals and the researcher. The data attained from these interviews consisted of the perspectives of the problem and additional information was gathered from the company documentation. The researcher was part of the senior management team and all company documentation was available to the researcher as being a member of this team as well as being available for the purposes of the research. The research needed to make a choice of the many documents available, and based the choice of use of documents on the phenomena that were voiced through the unstructured interviews. This formed the basis of the problem definition. As input to the data required for the different cycles of action research, the researcher used meeting minutes, workshop notes, participant observation and conversations to understand the phenomena experienced. (Examples of these can be found in the appendices.) This data was gathered over time as input to the action research cycles. In each of the cycles the principles proposed by grounded theory was used to determine the plan of action for the cycle under consideration. The plan of action in each cycle consisted of considerable design developed over time. Action would be implemented at the end of the cycle and then reviewed as input

for the next cycle. The reviews were informal and data was taken from meeting minutes, workshop notes, participant observation and conversations for the following cycles.

The combination of methods was used to obtain greater understanding of the phenomena. Combining methods is what (Ma, *et al.*, 2007) refer to as method triangulation, and it is the “*degree of agreement in the investigation outcome from the use of multiple methods*” that increase the validity of the study, (Ma, *et al.*, 2007 p. 211), where methods are the methods of choice that are often used in acquiring data in social research, where the majority of the methods are based on qualitative research methods although there are some instances of quantitative data that has been used in a qualitative analysis.

## 3.2 Viable System Model (VSM)

The Viable System Model (VSM) was used in the initial analysis to understand the research problem underlying the research. The VSM is explained here to understand how it was used in the preliminary research.

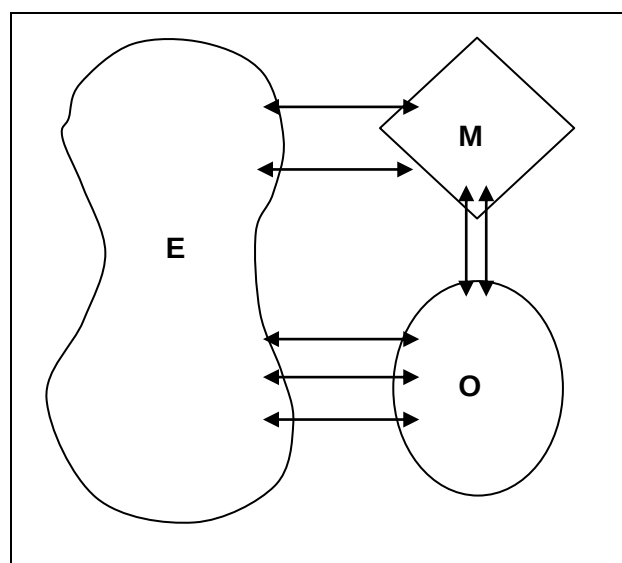
The VSM was created by Stafford Beer in an endeavour to create an understanding of why organisations behave as they do. It is based on the perspective of recognising and managing the complexity of an organisation. An organisation does not exist in and of itself, in isolation of everything else, rather, it is part of a greater picture. An organisation has no inherent purpose of its own; it is the people with their interactions with each other that ascribe a purpose to the organisation. In doing so it is the interrelationships of the people that define the identity of the organisation. According to Clemson (1984) it is due to this degree of complexity, the rate of change experienced and the interdependency of organisations, people and other systems that Beer was concerned with.

The structure of an organisation is defined by the various roles that people perform in the organisation, the working units that exist, the way groups of people are organised in these working units, the reporting structures that exist, the resources that are available, as well as the interactions between all of these elements. To be viable the organisation has to create effectiveness by achieving both the cohesion of the whole, the way things are interconnected, and the autonomy of the individuals in it, (Espejo, *et al.*, 1989).

The theory behind all of this is what is known as the law of requisite variety, which Espejo, *et al.* (1989) define broadly as “a ‘controller’ has requisite variety—that is, the capacity to

*maintain the outcomes of a situation within a target set of desirable states – if and only if he has the capacity to produce responses to all those disturbances that are likely to take the outcomes out of its target set.”* What this means is that the ‘controller’ must be able to respond to all of the various states that can occur within its environment. Clemson (1984) frames the law of requisite variety from a different angle by explaining that the complexity of the regulator limits the degree of regulation that can be achieved compared to the amount of complexity that exists in the system that is to be regulated. What this means is that no part of the system can completely control the complexity within which it exists.

Underlying this law of requisite variety is that for an organisation to be viable it needs to be able to maintain a separate or independent existence over time, with its own ability to respond and adapt to meet the changing demands of the environment. To extend this to an organisation, management must have a variety of responses at least equal to the amount of variety in an organisation, and that the organisation must have a variety of responses at least equal to its environment.



**Figure 17: The three basic elements of VSM,**  
(Walker, 1991 p. 9)

The viable system model helps to understand the influences of this variety and the ways in which to deal with it within the organisation. The diagram above shows that the system consists of three basic elements:

O = the Operation;

M = the Metasystem (policy, control and intelligence); and

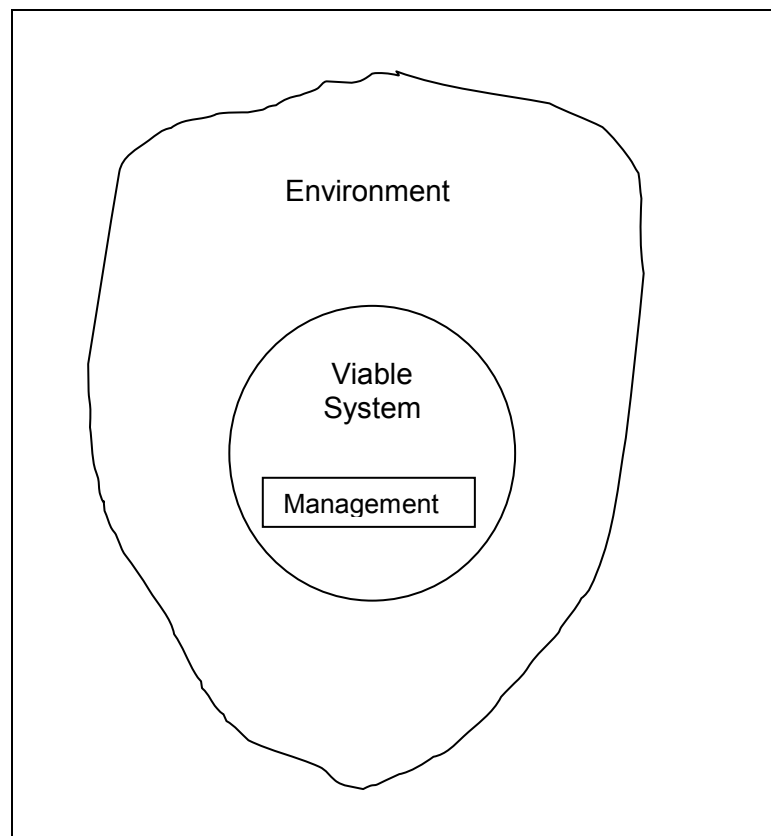
E = the Environment.

The primary activities of an organisation operate within the Environment. Examples of these include regulation such as the insurance industry regulations as required by the Financial Services Boards (FSB), employment equity compliance and reporting, labour law compliance and basic conditions of employment regulations as required by the Department of Labour (DoL), as well as social influences, political influences and economic influences. The external factors include conditions such as the fluctuations in the exchange rate, the effects this has on clients and the amount of money they are willing to spend on IT procurement, in addition it would include a loss of skills in the South African economy to the international market, the lack of trained and experienced skills in South Africa, the short supply of IT entrants and graduates in tertiary education and the general availability and cost of skills in the South African market. The primary activities are carried out by the Operation and that is primarily the functioning of the administration within EbiTec.

The Meta-system comprises of three elements of management: Intelligence, Policy and Cohesion – it is the coordination of the interaction between the Operation and its Environment. The policy of the organisation defines its direction, purpose and values, understanding the 'inside and now' through the control and intelligence with the interaction of the environment by understanding the 'outside and then'. The control and intelligence is about managing the information through the organisation.

In Figure 18, management is shown to exist within the system or organisation and, in turn, the organisation exists within the environment. Therefore, the complexity of the environment is greater than that of the organisation, and the complexity of the organisation is greater than that of the management. In recognising this it is evident that the variety between management and the organisation is not equal, and similarly so for the variety between the organisation and the environment.

The management can only partially control the operation or organisation according to Clemson (1984) and that in turn can only partially control the environment, since management is embedded in the operation which in turn is embedded in the environment. In each aspect, Clemson (1984) goes on to explain, there is ever only partial control as it will always only be part of a greater system, and that in this it creates the opportunities for development, learning and growth. Since the controller lacks the ability to address the full variety, the system in itself will have a way of regulating itself; the variety that is not absorbed through these processes of self-organisation and self-regulation within the organisation is known as the residual variety and it is this residual variety that needs to be absorbed by management.



**Figure 18: The system in its environment,  
(Espejo, *et al.*, 1989)**

The VSM works on a principle of recursion in that systems are composed of sub-systems, each of which has its own self-organising and self-regulating mechanisms. These sub-systems will be composed of further sub-systems, as so forth. The primary activities of the organisation which are its product or service offering are established and then the lower levels of recursion are modelled.

For an organisation to be viable it needs to have the five functions of operation, co-ordination, control, intelligence and policy. If one or more is either missing or has inadequate capacity then the viability of the system is in question. Furthermore, the primary activities of the organisation have to be recursive; both the subsystems and super-systems must obey the same structural principles of operation, co-ordination, control, intelligence and policy.

It is the viable system model that brings these definitions into perspective in an organisation. This model helps one to:

- To understand the structure of an organisational, in particular to identify the structural weaknesses of an organisation;
- To design new organisational structures, or to redesign existing structures;
- To access the structural weaknesses underlying specific problem situations. More often than not, organisational problems can be attributed to its organisational structure.

It is through the VSM that one can attempt to understand the viability of an organisation by identifying if the management in an organisation can address the variety by assessing whether the management responses are at least equal that of the organisation, and similarly whether the responses of the organisation are at least equal that of its environment. Any imbalances in the variety will mean that the organisation cannot adequately cope. Through identifying these inadequacies an organisation can recommend and apply the appropriate action.

To examine the organisation there are five steps to apply:

- Establish the organisation's identity
- Model the organisation in terms of its smaller tasks
- Model the structural levels
- Study of distribution of discretion
- Model the organisational structure, its adaptation and monitoring-control

The mnemonic TASCOI is used by Espejo (1993) to describe a method that can be a useful aid in determining the identity of an organisation. TASCOI can be described as follows:

Transformation: *Converting input to output.*

EbiTec uses the intellectual property (IP) of its individual employees to provide a service to the EB IT market. The employees need to have the necessary skills to function in the target market.

Actors: *Who is involved in the activities of transformation?*

These are the employees and the shareholders.

Suppliers: *Who provides the service?*

The employee provides the service directly to the client.

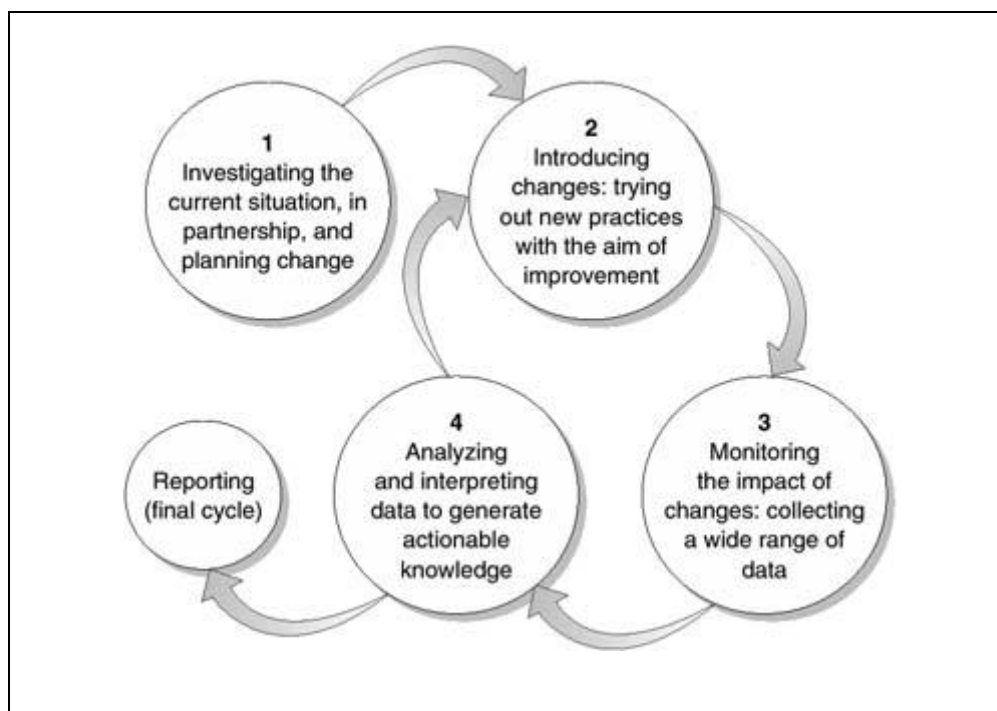
|              |                                                                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Customers:   | <i>Who receives the service?</i><br>These are the large insurance companies in Cape Town that have an EB IT division.                                |
| Owners:      | <i>Who owns the transformation?</i><br>The entire responsibility lies with the Managing Director.                                                    |
| Interveners: | <i>Who influences the transformation from the outside?</i><br>The competitors are other vendors, and the internal IT departments of the EB division. |

It this study the VSM was used to understand the problem under review. It was used in assessing the organisation's identity and understanding the environment in which the organisation operates and to identify the viability of the organisation. The various elements were used in the problem definition of the research. To address the research problem the process of action research with grounded theory is used to understand the phenomena occurring. First Action Research will be described and then Grounded Theory will be discussed to understand the research process that was undertaken.

### 3.3 Action research

Action research was used in this study to allow for iterations of implementation to be processed and evaluated with each set of interventions that were identified in the research study. Action research was chosen particularly since the organisation required that a plan of action was needed to address the concerns. With the researcher being part of the organisation, it was felt that this created a unique opportunity to combine the need for action with the research. Action research is collaborative and is grounded in action, (Eden, *et al.*, 1996). It is a way of generating knowledge that is socially constructed and is embedded in a system of values for the promotion of change, (Brydon-Miller, *et al.*, 2003). Some action researchers refer to action research and organisation development as synonymous, (Eden, *et al.*, 1996). It is largely because action research places an emphasis on providing a plan of action synonymous with organisational change with the opportunities to review and refine the action that action research was chosen. In addition, in recent years the focus of action research has been on the individual undertaking research in their own practice to seek to use the research, (Eden, *et al.*, 1996) which speaks specifically to the organisational research of this study. To understand action research, it is described further in this section.

Action research is a research paradigm or an approach to problem solving that involves iterative cycles of research, test and evaluation. As the name suggests, it is a combination of action and research. The action is intended as part of the research to bring about change to a situation and through the effected change the situation is assessed for its effectiveness. This change will create a greater understanding of the situation that can be used in further research to improve or change the situation. The theory that emerges through these iterations is grounded in the action, and although each intervention will be different from last, the interventions are intended to continually improve the situation.

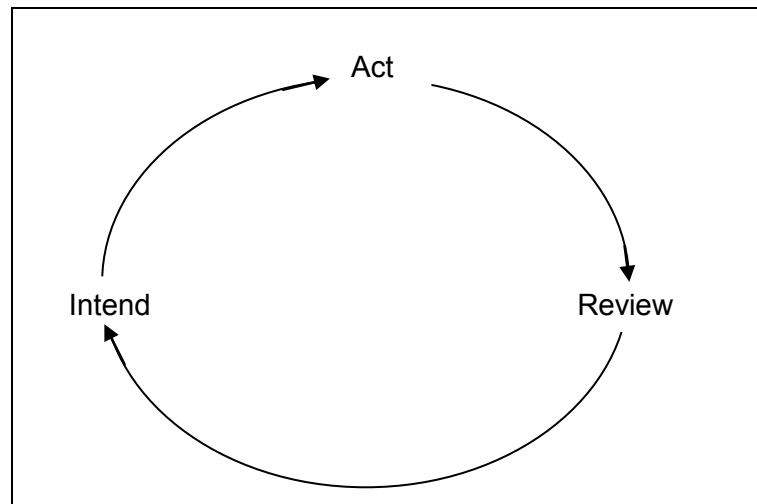


**Figure 19: Model of action research,**  
(Somekh, 2008)

Somekh (2008) describes action research as a research methodology that is flexible and well suited to supporting change by integrating social research with exploratory action in overlapping cycles of investigation, planning, implementing new practices and evaluating outcomes in generating knowledge. It is often used in practice where there are difficulties in applying pure research knowledge to change behaviours in practice, and it is a combination of this knowledge and that of the practitioners as researcher that action is achieved.

Somekh's (2008) model of action research is presented in the Figure 19, in which she describes 5 stages. In stage 1 the initial investigation is undertaken and the change is planned. In stages 2, 3 and 4 the change is implemented, monitored and then analysed,

and depending on the outcomes these 3 stages may be repeated with the next batch of interventions. The last process in the diagram shows a reporting of the research, although this point is not explicitly numbered as a stage in the process. Somekh (2008) explains that the participants and the researcher are in “partnership” with access to “insider knowledge”; and that practitioners, through reflection and action, can make explicit the tacit knowledge that guides their practice. Action research provides a link between practitioner understanding and the generation of theoretical knowledge that together informs action.



**Figure 20: Action Research,**  
(Dick, 2004 p. 7)

Dick (2004 p. 4) describes action research as having both the effect of action and of research. He states that: *“the action research cycle consists at least of intention or planning before action, and reviews or critique after.”* He goes on to say that one of the main reasons that action research can be chosen is for its responsiveness, and that his preferences for action research are because of its cyclic, qualitative and participative nature.

It is a research paradigm that subsumes a variety of research approaches. There are various other methodologies that can be used to evaluating the research within this paradigm. It is also a cyclic process that involves collecting data and then acting on the data. In this the question and methodology may be somewhat fuzzy but with each cycle clarity is added to the research.

Action research is primarily chosen when responsiveness to the area of concern is required. However, it is imperative that in each cycle it is the data that decides on the action that needs to be taken. It is the information that determines the next step. Once the action is

taken it is necessary to review the action and through this learning to determine what the next action step is going to be.

Brief accounts of four methodologies in action research are described by Dick (2004) as:

- participatory action research, which he refers to as the '*critical action research*' of Kemmis and his colleagues,
- action science as developed by Argyris and his colleagues,
- soft systems methodology as described by Checkland, and
- the fourth, evaluation, is described as a large family of methodologies

In this research, grounded theory is the methodology used for the analysis of the data in the action research paradigm, to achieve change in the states or life stages of an organisation. Through ground theory the planned action is based on theory that is built through the empirical data that exists. Before grounded theory is described, three perspectives on the action research paradigm is covered, action science, participatory action research and co-operative inquiry, to give a perspective of how these are covered in the research, following which grounded theory will be discussed in detail.

### 3.3.1 Action research perspectives

In the 1970s and 80s there was considerable dissatisfaction around the assumptions that Lewin made with regards to action research, (Midgley, 2000). The action researchers felt that action research was an applied science in that the researchers defined the theory through experimentation, rather than through pure science as in the traditional scientific methods. It appears that the emphasis on action research moved from the design and communication of methods to a more structured approach that relied on the methodological principles of participation and reflection. In this description of action research there are three types of research that are defined: Action Science, Participatory Action Research and Co-operative Inquiry.

Action Science, says Midgley, (2000 p. 198), "*focuses attention on the attitude of the individual to relationships with others, particularly in the situation where the relationships are being confronted with new ideas, bad news, or different points of view.*" In this situation people would only bring in their own assumptions and dismiss the unwelcome information. This becomes a defensive routine and, in an organisation, it typically does not take cognisance of the knowledge of its employees. This often occurs at a subliminal level where

the people involved are not aware of nor can they identify their defensives. Often the same people espouse openness and encourage participation but at the same time limit the theories through their own filters. This creates a gap between their espoused theories and their theories in use. In these instances it is the job of the action researcher to bridge these gaps, to create greater self-awareness and to define objective ways of working together as a detached observer.

Participatory Action Research, on the other hand, is about working with the members of an organisation so that everyone is involved from the beginning and throughout the whole process; they collaborate on issues and collectively develop the knowledge in the organisation, in identifying the findings as well as in providing suggestions and recommendations for implementation, (Midgley, 2000).

Co-operative Inquiry is somewhat different to participatory action research in that the participants can work with a common interest without the need of a facilitator, (Midgley, 2000). The participants work with a common interest in cycles of collaborative inquiry. In this process many emotional issues will come to the fore that have to be dealt with by the group and it is through this process that the people learn through the awareness of the group dynamics and develop through the process in itself. Through each cycle of collaborative inquiry the individuals learn through the ideas and explorations of the each other and the group as a whole, and in doing so they develop agreed process, outcomes and actions which deepens the process of enquiry which ultimately breaks the barriers of the individuals and enables and develops new ideas and new ways of learning. In doing so it creates new paths for developing further learning cycles.

Although action research has been described here as three different types of research, it's methods are not mutually exclusive, it is just different ways in which interactions within the organisation and throughout the research is undertaken. In this study, participatory action research and co-operative inquiry has been used extensively and action has been defined based on a grounded theory approach. What this approach entails is explained in the next section.

### **3.4 Grounded theory**

Grounded theory was used in association with the action research cycles to decide on the types of intervention that was needed to sufficiently affect the viability of the organisation.

Grounded theory was chosen as a methodology to examine the phenomena that were experienced in each of these cycles. In action research cycles the theory is inductively derived and is allowed to emerge, although grounded in the data generated in action. Action research uses a systemic approach to the research and grounded theory complements the emergent nature of action research where the phenomena give rise to the theory, through a strict process of data analysis. Both action research and grounded theory are based on participatory research where the researcher is a participant in the research, both of these are also used intensively in organisational research and the nature of allowing the theory to emerge through the phenomena of the participants is complementary to the nature in which organisations operate. For this reason grounded theory has been chosen as the methodology to allow the emergence of the action required by the organisation. To understand grounded theory, it is described in detail in this section.

Through collaboration, grounded theory was originally developed by Barney Glaser and Anselm Strauss (Strauss, *et al.*, 1990). The grounded theory research methodology is used extensively in the research of management practice, and is considered to be one of the most comprehensive research methodologies available, (Haig, 1995). It is a methodology that explores social processes to develop theory, a means of defining theory from reality rather than applying theory to a situation, one in which theory is inductively derived from the phenomena in which the study is based (Strauss, *et al.*, 1990). In grounded theory the area of study is defined and the theory is allowed to emerge from the data collected in the study, rather than having theory imposed onto the data (Esteves, *et al.*, 2000). Grounded theory is a qualitative research methodology that is used to explore and understand the processes that present through human interactions. Through systematic data collection and data analysis the theory is discovered, developed and verified, the theory is allowed to emerge from the area that is being studied rather than starting with a theory that needs to be proven.

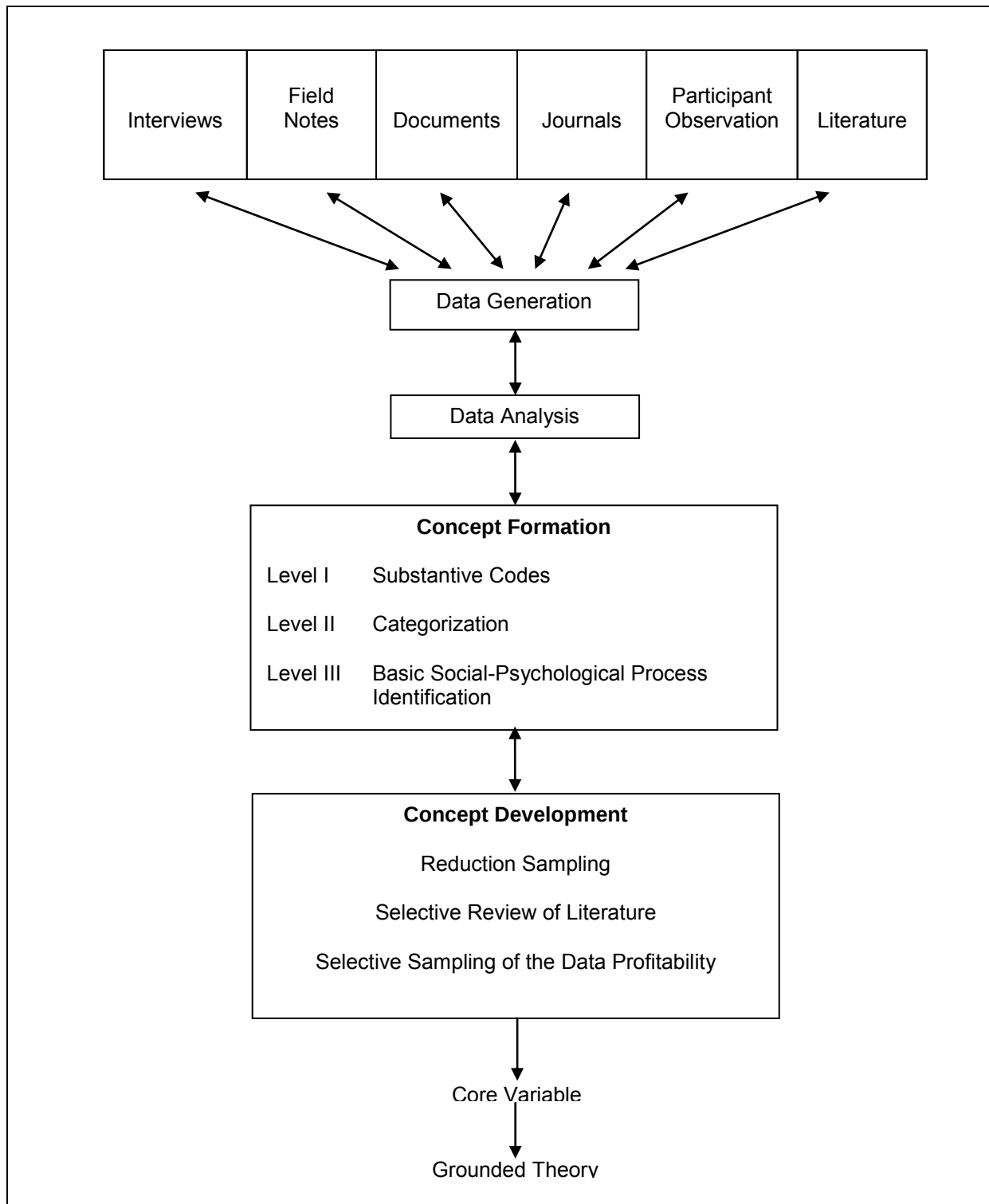
Strauss, *et al* (1990 p. 17) explains qualitative research as “*any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification*”. They propose that there are three major components of qualitative research, the first being the data, the second the analytic or interpretive procedures and the third are the written and verbal reports. The data can be obtained from any source, the procedures are systematic so as to produce an inductively derived theory and the reports are what is presented, whether by journal, report, conference or whatever form. Through exploring and defining complexity, grounded theory creates an understanding of the data that presents itself. It is an approach that will create a structure and define a theory to a complex situation.

It is an inductive theory building methodology that provides guidelines for the data collection and analysis of the data (Esteves, *et al.*, 2000).

This methodology applies specific procedural steps to explain the theory behind the data that been collected. These specific procedural steps are applied to the data to develop a theoretically-complete perspective. It provides a theoretical explanation of the phenomena that is being experienced. In a report by Esteves, *et al.* (2000 p. 129) they explain that it is a method in which data is gathered and analysed in a systemic manner so that it can be used to “*develop theoretically comprehensive explanations about a particular phenomenon.*” Struebert, *et al.* (1999) support this definition and discuss how specific procedural steps are applied to develop an explanation to a particular phenomenon so that is considered to be theoretically complete. Struebert, *et al.* (1999) cite Strauss and Corbin as describing grounded theory as one that has been “*discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon.*”

The systematic techniques and procedures of analysis of grounded theory allow a substantive theory to develop that meets the criteria of “*significance, theory-observation compatibility, generalisability, reproducibility, precision, rigour, and verification*” that is required of “*good science*”. (Strauss, *et al.*, 1990 p. 31). In its structured approach the four central criteria of fit, understanding, generality and control are met.

It is through the data analysis of the phenomenon that the theoretical explanations are defined. In grounded theory there are different kinds of theory that can be defined, such as substantive theory or formal theory, (Struebert, *et al.*, 1999). Substantive theory is based on empirical data whereas formal theory is based on conceptual data. These are considered as middle-range theories since it encompasses limited concepts of the real world. Grand theories cover broad areas of discipline and partial theories cover a limited scope, (Struebert, *et al.*, 1999), and are not suited to empirical testing, and therefore not used in this research. In this study the research is undertaken with a middle-range theory.



**Figure 21: Grounded theory and connections among data generation, treatment and analysis, (Struebert, *et al.*, 1999 p. 2)**

An important concept of grounded theory is that the theory is developed from the generated data so that the theory emerges, (Struebert, *et al.*, 1999). However, this does not mean that

a haphazard approach is followed; on the contrary, grounded theory is embedded in specific procedural steps as depicted in diagram in Figure 21, (Struebert, *et al.*, 1999). The first step in the process is the data generation in which the data is gathered and recorded. Data may be collected through various mediums such as interviews, field notes, documents, journals, participant observations and literature, amongst others. The next step is the data analysis where data is examined and through constant comparisons until the hypothesis are formed. This is the process in which the theory is generated. Next is the concept formalisation through three levels of coding, called open coding, axial coding and selective coding. (Esteves, *et al.*, 2000). First the phenomena are labelled, then the connections are made and thirdly the core categories are identified and related to each other. From this the theoretical concept is developed, through sampling of data and the review of literature. The core variables are identified as the foundation of the theory generation. Through this inductive perspective the grounded theory emerges.

In summation of the steps defined above, grounded theory can be defined to consist of two main features which are the theoretical sampling and the constant comparison, (MacLean, *et al.*, 2002), where theoretical sampling is the data collection that is guided by the emerging theory and the constant comparison effects the constant interaction between the data coding and analysis. Because the theory is defined from the data, it is defined as being grounded in the data. Grounded theory can be distinguished from other research methods in that the resultant theories are explicitly emergent where the theory is developed from the data rather than the data being used to test a hypothesis, (Esteves, *et al.*, 2000). Glaser (1992) says that grounded theory is to discover the theory implicit in the data and defines it as the difference between emerging and forcing the theory, (Esteves, *et al.*, 2000)

The five differentiators that Stern (1980) defined between grounded theory and other qualitative methodologies are, (Struebert, *et al.*, 1999) :

1. Grounded theory is generated from data
2. Dominant process are discovered from the data
3. Data is compared to all other data
4. Data may be modified according to the advancing theory
5. Data is examined right from the beginning – through coding, categorising, conceptualising and recording.

In this research the theory needs to be discovered and it is these differentiators that inform the choice of a grounded theory approach. Since no other satisfactory theory exists that fulfils the requirements of the topic under investigation, the grounded theory approach has

been chosen to develop the theory. The problem that EbiTec faces is one of growth without the associated profitability could not be addressed satisfactory through existing literature. All the data pertaining to the problem also exists in within EbiTec. It is considered that the data that exists in the organisation should be allowed to generate the theory to explain the phenomena. In studying the data available, and discovering the dominant features that exist in the EbiTec data allows the theory to be grounded in the data, hence the grounded theory. It is through the thorough examination of this data that theory and action will be determined in each of the life cycles of the action research paradigm.

In both action research and grounded theory, the researcher has the role of participant observer and forms part of the research process, as has been the case in this research. Before concluding this section on research philosophy, the role of participant observer is described.

### **3.5 Participant observation**

Participant observation is a particular method in research by which data is collected, and is an integral feature of action research, (Vinten, 1994). If the researcher is a participant in a situation that reflects and improves the work situation, is part of the data is gathering, the decision-making, imposing action and the reflection then researcher is a participant observer in action research, (Vinten, 1994).

In this research, the researcher can be defined as a participative observer since the researcher is part of the organisation, has undertaken the research and has been part of the change process. The researcher has been part of this organisation since its inception in 1998. In addition, the researcher has been a member of the senior management team since 2001, first in the role of shareholder representative to the board, and, later, in 2005, has been appointed as an executive board member with specific strategic duties. The initial responsibilities of this role included both operations and human resources (HRM), but in 2007 this role was divided into two separate executive portfolios due to the sheer capacity requirements of both the HRM role and that of the operations role. As from 2007 the researcher assumed the responsibilities of the HRM role only and the operations portfolio became the responsibility of another executive director.

The dangers of being a participant observer is that the observer cannot always be objective since the observer is part of the situation and has to be aware of bias. As an observer,

participation and experiences influence the research, and absolute research rigour is not always maintained in data collection, but an observer who is knowledgeable of these shortcomings will be able to compensate for this, (Vinten, 1994). Another danger of participant observation, is that observer is part of the situation at all times, yet there are instances where the observed forget or are unaware that they are being observed, as in general conversation, (Vinten, 1994), and, again it is for the researcher to be discerning in the information that is allowed to be used in the research.

To address these problems, the researcher had discussed the intention of using the problems encountered in the situation as part of this research with the management team. In the interviews that were held the intention was again stated. The researcher had also been given permission by the MD to use the documentation that the researcher had access to. Formal documents used were ones that were presented to the participants for comment and for accuracy, e.g. the agreement of meeting minutes and workshop minutes. In these meeting or workshops the participants invariably were unaware that the data would be used for the research. In some instances the documents were accessed after the event, and although the MD had granted permission of use, the participants in these instances would have been unaware at the time that the data would be used in this research. Cognisance was taken of this, and all personal or confidential references have been removed.

Being a participant observer, however, does provide opportunities to create a much fuller picture and accurate understanding of the situation can be obtained. (Vinten, 1994), which is an integral part of action research and grounded theory.

To further understand the effects of being a participant observer the ethics in research is also considered.

## **3.6 Ethics in research**

Ethics in research focuses on protecting the human subjects in the research, and considers the implications that this has on the research. Consideration is given to four ethical frameworks in qualitative research: Utilitarian ethics, deontological ethics, relational ethics and ecological ethics.

|             | UTILITARIAN          | DEONTOLOGICAL         | RELATIONAL                 | ECOLOGICAL                  |
|-------------|----------------------|-----------------------|----------------------------|-----------------------------|
| RECRUITMENT | 1. Informed Consent  | 1. Reciprocity        | 1. Collaboration           | 1. Cultural Sensitivity     |
| FIELDWORK   | 2. Avoidance of Harm | 2. Avoidance of Wrong | 2. Avoidance of Imposition | 2. Avoidance of Detachment  |
| REPORTING   | 3. Confidentiality   | 3. Fairness           | 3. Confirmation            | 3. Responsive Communication |

**Figure 22: Ethical Framework, (Flinders, 1992)**

In Figure 22 three concepts are considered in each of the four ethical frameworks, with each associated to a particular stage in the research process; the first is mainly considered when recruiting participants for the research, the second is a consideration when collecting data or in the conduct of the fieldwork and the third concept in each framework is associated with the writing of the report, (Flinders, 1992)

In Utilitarian ethics the standards are based on a premise that *“an action or decision is moral if it produces the greatest good for the greatest number”*, (Flinders, 1992 p. 102).

Participants have to understand before entering the research what they are participating in and need to provide their consent, which means that the researcher has to reasonably predict the scope and focus of the research. In the collection of data the researcher has to consider avoidance of harm so that the participant is not adversely affected, and confidentiality is to protect the identity participants to avoid any unnecessary risk associated with the identity. *“Utilitarian ethics appraises moral reasoning on the basis of its positive and negative consequences”*, (Flinders, 1992 p. 101).

Deontological ethics differ from Utilitarian ethics in that it asserts that moral conduct is validated both on its consequences and on its underlying ethical standards, or accepted codes of behaviour. Participation in the research is based on reciprocity in which agreement is on the premise that information is exchanged for gain; and that the exchange of this information is assessed on ethical grounds to ensure that its participants are not wronged in

any way, and the third element of reporting considers fairness to the participants, (Flinders, 1992).

Relational ethics are based on a caring attitude towards others with a primary focus on respect and consideration for our participants. The research must provide mutual benefit for both the researcher and its participants. The collaborative aspect of this framework denotes an interdependence of researcher and participants with the researcher fully immersed in the community. In reporting researchers take a non-judgemental stance with consideration of what the participants are striving to achieve, (Flinders, 1992).

Ecological ethics places an emphasis on a set in interdependent relationships, and has drawn particular interest in the field of education, (Flinders, 1992). The relationships are largely affected by the interrelationships of roles, status, culture and language, amongst other things, and the researcher is to avoid detachment from external aspects of the research as it could lead to potential areas of harm. Emphasis in this framework is placed on communication and an avoidance of biased language but recognising that the researcher does not have unilateral control over the use of language, (Flinders, 1992).

It could be argued that in this research the researcher has included aspects from each of the four ethics frameworks described above. However, the dominant ethical framework that is used in this research is one that is Utilitarian in nature, in which the *"action or decision is moral if it produces the greatest good for the greatest number"*, (Flinders, 1992 p. 102). Participants in the research have fully understood the research and the meaning that it would have on the organisation with the primary objective of improving the profitability of the organisation. It is considered that an increased profitability would provide sustainability and viability of the organisation thus being for the greatest good for the greatest number. The data collected and used in the study was mostly verified data that consisted of agreed minutes and official documents. It has been considered that publication of these documents could potentially harm individuals so due consideration has been given to the confidentiality of individuals and that of groups within the organisation. Although names have been withheld the data in the research is reflected accurately and there remains the risk that individuals and groups are recognisable through the data and the reporting. The risk of this has been considered and the potential negative effects are regarded as being negligible in the light of the greater good of achieving the profitability and viability of the organisation.

The researcher was in a position of power in the organisation which raises some ethical dilemmas in the research. The researcher was aware and conscious of the ethical

considerations throughout the research and care was taken to ensure that the participants were aware that they were part of the research and that they were not affected in any way by the research.

To conclude the organisational problem is considered in terms of the methodologies that have been described.

### **3.7 Conclusion**

The problem being investigated is one that needs an understanding of what needs to be addressed for an organisation to be viable as it experiences growth. It has been discussed that there are many theories on identifying the life stages of an organisation and its specific characteristics at each of these stages. These are extended to theories on the growth stages of an organisation and the characteristics of these stages. Another approach that has been investigated is looking at what is called the tipping points in the growth of an organisation. All of these theories define the characteristics that are typical in the different states that are identified. However, satisfactory substantive theory could not be found on defining exactly what it is that is needed to provide those specific characteristics.

In addition, each organisation is unique. Although there are generalisable theories it is still necessary to identify the specific phenomenon that is being experienced in the organisation and to design an intervention that will assist in providing an answer to the problems that are being experienced.

In the organisation that is being studied, it has been recognised that the phenomenon experienced may need to be addressed through varying stages of intervention. This has led to the choice of using an action learning paradigm to addressing the problems. Since substantial theory does not exist the grounded theory approach has been chosen as the methodology for the research. Qualitative, empirical, research methods have been used to gain an understanding of the phenomenon occurring in the organisation. Empirical data has been used in the research and the concepts and theories have been allowed to emerge.

The researcher as the participant observer has also been considered with consideration given to the ethics of research.

# Chapter 4: Analysis of Data

## 4.1 Introduction

The data collection, analysis and findings of the study are presented in this chapter using the methodology and methods described in the previous chapter. This data presentation and analysis is divided into three parts with each part presenting the findings, the intervention and outcomes of each of the three cycles of the action learning process.

### 4.1.1 The methodology in context

The action research paradigm has been adopted as the primary medium in the change analysis of this organisation since its flexibility makes action research suitable to researching change in organisations, (Somekh, 2008). Action research, as the name suggests, promotes development through exploratory action, and can provide outcomes that are both practical and theoretical (Somekh, 2008). Through repeating cycles of investigation, learning, implementing intentions and assessing, knowledge is created, (Somekh, 2008) with the intention of creating actionable knowledge, (David, *et al.*, 2008). It has a deductive nature through which theory that grounded in action emerges to provide improvement of the key issues facing the organisation, (Eden, *et al.*, 1996). Actionable knowledge is defined by David, *et al.* (2008 pp. 2-3) as “*knowledge that allows the implementation of a singular solution to a contextual problem*” and in this way allows managers to design singular solutions to their critical management problems and distinguishes this from “*everyday knowledge used to solve routine problems*”. Action research is designed to bridge the gap between research and practice, (Cohen, *et al.*, 2000), (Somekh, 2008), and is considered to be one of the most comprehensive research methodologies available, (Haig, 1995).

Three action learning cycles were used to refine the issues that pertain to the management problems, specifically looking at the infrastructure problems that were underlying the management problems that were raised. By infrastructure it is meant that the operational processes and procedures and the human resource systems amongst others are included, infrastructure is not deemed as being synonymous with organisational structure although organisational structure may form part of the infrastructure as defined. The three action

learning cycles took place over four years. Three cycles were selected based on the time taken to complete each cycle, where further iterations of the action learning process would extend the length of study. It could be argued that continual improvement would always be needed in an organisation and that the number of cycles could be indefinite. The ideal would be that the learning cycles continue until the problem identified in this research is considered resolved, however, in this case, a constraint existed in that there was a limited time frame in which the study would be taken.

In each of these cycles, the grounded theory methods were used to analyse and code the data so as to identify the relationship between the variables in the process of developing the theory. At the end of each cycle propositions were formed that would be evaluated in subsequent cycles.

## **4.2 Data collection**

### **4.2.1 The setting**

At the inception of the study the organisational board structure consisted of the managing director (MD) and three shareholder representatives. In addition, there were three managers who occupied management positions in the organisation but did not hold specific board portfolios. These roles were the marketing manager and two client managers. All business decision making and veto power rested with the MD. The shareholders' representatives' prime responsibility was to monitor the activities of the MD to ensure that there was no reckless trading and that business decisions were in the best interests of the shareholders. They had an auditing function but no operational decision making power. The members of management each had management level responsibilities, provided input to the strategic process but ultimately did not have strategic decision making power or strategic accountability.

Prior to the first cycle of data collection, the organisation experienced a surge in demand for its services which created a demand for additional staff, resulting in a recruitment drive to complement the founding members. The growth placed strain on the infrastructure and in response to this growth in staff numbers the management decided that it was necessary to change the structure and operational model of the organisation to meet the demands of the

growth as well as the potential growth going forward. The board was then reconstituted and five executive directors were duly appointed into specific portfolios.

This part of the study started after the reconstruction of the board and defines the starting point of the first cycle of action learning research.

## **4.2.2 Data collection**

Data collection consisted of collecting empirical data through various mediums, as described below.

Initial structured interviews were held with each of three of the senior personnel to determine the problems they perceived. There was access to board meeting documentation, including board minutes and additional written documentation that existed since 2005. These were analysed for data pertaining to problems that were identified. Not all documentation of the board minutes were relevant to the situation being investigated, so the data had to be sifted for relevance to the situation.

Available financial documentation was analysed to identify the sustainability of the organisation. Eight audited annual financial reports for the years ending March 2000 to March 2008 were obtained for analysis; these reports were for eight years of the company's existence prior to this part of the study. The financial report for the period prior to April 1999 was not used as the time period between the company's registration and the first reporting was four months and could not be compared to the latter annual reports.

Personnel data was analysed to identify the changes in the number of staff members during the organisation first nine years of its existence, i.e. from November 1998 to March 2008. Specifically the employee start dates and end dates of employment have been recorded to identify the growth in employee numbers over the same time-frame.

Interviews were held with each member of the middle management layer that was introduced in the ninth year of the organisation's existence. The members of the management team were interviewed to identify what they perceived to be the problems being experienced in the organisation at the time of their appointment.

### 4.3 The inception of the study

In the early stages of the organisation the executive team consisted of two managing directors and the three shareholder representatives (the shareholder chair and two shareholder committee members). Through a learning process this evolved into a structure consisting of only one of these managing directors and the three shareholder representatives. This was later extended to be the managing director, the shareholder chair, the marketing manager and the two client managers.

Although the executive consisted of five individuals, the responsibility of the organisational functionality and wellbeing remained the sole responsibility of the managing director. As EbiTec grew in response to business demand, it became evident that the managing director could no longer be entirely required to bear sole responsibility for the organisation's wellbeing. After numerous discussions at board level it was decided that a proper executive team would be elected to the board.

This process consisted of creating a constitution for the shareholders to officially re-elect the managing director and for the managing director to appoint an executive team in which the board members would have strategic portfolios. In this process, four executive directors were selected: the marketing director, the operations and HR director, the technical director and the client liaison director. Two non-executive directors were also appointed to the board, being the shareholder representative and one other senior manager. It is during this election process that the researcher was selected to perform the role of operations and HR director.

The first cycle in the research followed this restructure as part of the process in addressing the problem of demand in growth without the associated profitability.

### 4.4 The action research process

The research consisted of three cycles that follow the principles of action research. In action research it is expected that small iterations of change will lead to improvement of the situation bringing the organisation closer to solving the problem or addressing the problem in its entirety, (Eden, *et al.*, 1996).

As an outcome of this study the actions that were identified as part of each of these cycles were:

- Cycle 1: Implementing a Time Management system
- Cycle 2: Providing a Policy to Support the system
- Cycle 3: Introducing an Overtime Allowance Policy

The action research process for each of these cycles will be described in the following sections.

## **4.4.1 Cycle 1: Implementing a time management system**

A workshop was held with the expanded board members on the 11 April 2005 with the purpose of identifying the various operational issues that the organisation was facing. The board members noted that the operational processes of the organisation were under strain and that action needed to be taken. The operation seemed to be experiencing problems such as inaccurate invoicing, late payments and staff having to manage their own performance. It was experiencing a many problems that needed to be investigated properly for the necessary action to be taken.

These problems were the underlying reasons for shifting responsibility within the organisation and allocating responsibility to each of the specific executive board members.

### **4.4.1.1 Data Collection**

In this cycle, the first point of data collection to identify the specific problems that were been felt was at a workshop in which time was set aside to discuss the problems that were being experienced. The attendees at this meeting were the board members at the time of that meeting: the Managing Director, the Technical Director, the Operations and HR Director, the Client Liaison Director, the Marketing Director and the Non-Executive Director. The researcher held the position of Operations and HR Director and took the role of participant observer for this research. The minutes of the workshop can be found in Appendix 3: on [“Minutes of Workshop Session held on 15 April 2005”](#).

The next source of data was collected through formal unstructured interviews. The intention of the researcher was to understand in more detail the concerns that were raised in the workshop that is discussed above. Three employees were chosen by the researcher as

potential sources of information because of their roles in the organisation, that of working as the client liaison and also because of their operational roles of responsibilities that they held in EbiTec. The researcher was the interviewer in all three of the interviews. The interviews were recorded on paper and were not digitally recorded. The interview notes that were taken were written up as interview minutes. One of the recordings of the interview data can be found in Appendix 4: on [“Initial Interviews on Perceived Difficulties”](#)

Additional sources of information were used such as the information that pertains to the regular monthly board meetings. This information was obtained in the form of formal meeting minutes. Participant observation was also relevant through knowledge and understanding gained by being involved in the day-to-day running of the organisation, in which it became evident as to the dynamics and events of the organisation. As a participant the researcher also had access to all EbiTec documentation that existed in the organisation.

A summary of the concerns that were raised in the data is listed below:

- “The projects cannot be measured”: No measurements were kept of any of the projects, so it was uncertain as to whether the projects were efficient, profitable, cost-effective, how long it took to complete a task, what resources were required, etc.
- “The time recording system was inadequate”: Staff recorded their working hours into a spreadsheet that was submitted to the secretary at the end of the month. This data was used for invoicing. This data was filed and used for no other purposes.
- “Recruitment needs to be centralised and should not be part of the team function”: Each team did their own recruitment, negotiating with the recruitment agents and the candidates, there was duplication of duty, no transfer of knowledge between the teams, and the process was time consuming.
- “Contract management should be centralised with HR”: Individual staff member would draw up contracts for potential staff, these contracts would differ from person to person and the contracts were dispersed and usually kept by the person who employed the new staff member. Also, contractual agreements differed with the recruitment agents depending on who setup the original agreement.

- “HR should manage the staff recruitment interviews”: All staff recruitment was handled by the team who needed new staff, including screening and interviews. This was time consuming.
- “Leave was not being managed properly”: Leave was recorded on the manual timesheets and any leave taken was communicated with the secretary. There was no reconciliation of the data or checking of accuracy of the data resulting in inaccurate leave records. There was no way of identifying accurate how much leave had been taken.
- “The project managers were spending too much time on the HR processes”: Each of the project managers had to deal with recruitment, staffing problems, performance management, reviews, salary-related queries, amongst other HR related duties, and since there was no common process in the organisation it meant that each person would manage the process as he or she felt best.
- “Proper planning and resourcing needed to be implemented”: Each team would employ when the need arose. Also, the nature of the business is where staff were placed on projects or at a client site that would be for a limited period. There was no resource plan indicating which resources were available when resulting in inefficient allocation of resources with period where resources were not billable thereby affecting the potential for income.
- “Consistent and accurate time keeping needs to be incorporated”: Staff recorded their working hours into a spreadsheet that was submitted to the secretary at the end of the month. All the spreadsheets were not uniform and data was not consistent. There was also no method of determining the accuracy of the data.
- “Time needs to be recorded against correct work units”: Time recorded on the spreadsheets was basic, with daily start times and end times and lunch periods recorded. There was no way of determining how much time was spent on each project and how much time was spent as overhead to the organisation.
- “Flexi-time must be actively managed”: Staff were allowed to work variable hours with an average of 7.5 hours per day. If a staff member worked for less than the required hours for the month then the shortfall would be referred to as negative time. This negative time would be carried over into the following month. In the same way

staff were allowed to accumulate positive time. The rules were that the staff were not allowed to carry more than 15 hours negative time from one month to the next. However, the time was not being monitored and it was perceived that many staff members were working far fewer hours than they should be, but since time records were not monitored it was difficult to assess if this was truly the case.

- “Invoices must be generated from the time captured to ensure accuracy, integrity and timeliness”: Invoices were generated from the time sheets were possible, but also from word of mouth where project managers were involved in projects. This resulted in accuracies creeping into the data.
- “Time must be managed so that excesses amount of flexitime is not taken at any specific time”: Some staff members were accumulating large amounts of positive flexitime and then taking it as leave that amounted to as much as ten working days at a time. This results in the company ’s continual increase in leave liability both from a legislative perspective, where companies are required to ensure that staff take a certain amount of leave per year, and from a financial perspective, as the company owes the staff member the leave and cannot generate income during that time. It seemed that there were some staff members who accumulated an additional half hour per day, for example, with the prime intention of taking extended leave. This was not the purpose of allowing staff members flexible working hours.
- “Time recorded should feed into project management”: There was no way of determining the accuracy of the estimates used in projects nor the profitability of the projects and this could only be achieved if time worked against the projects were recorded and fed into the project management process.
- “An induction programme is needed”. There was no induction process. New staff members arrived on their first day and were introduced to the company by the project manager to whom they would report.
- “Accounting turnaround needs be improved – it is delayed due to incorrect time allocations and incorrect invoicing”: There were constant corrections made to timesheets and to invoicing, resulting in monthly company figures being two months in arrears.

- “There are too many manual processes, e.g. the Excel time keeping system”: Individual time keeping was kept on spreadsheets and submitted to the secretary each month.
- “The policy and procedure needs to be looked at”: There was a very basic policy and procedure document that sufficed for all the rules of the organisation. This was inadequate for the needs of a growing organisation.
- “Time keeping should be automated since the manual spreadsheets each month is leading to time delays and inaccuracy in the invoices”: Inaccurate and incomplete time keeping leads to delays and inaccuracy in the invoices.

#### **4.4.1.2 Data Analysis**

Grounded theory was used as a research methodology to explore the phenomena that was occurring in this social process. From the data collected a process of open coding was applied to the data. All the data was recorded into a spreadsheet and words and phrases in each line were coded. These marked data items were named and then compared to each other. From these the variables were identified. The variables that were defined and the connectivity between these variable are described in the form of a causal loop diagram. Although grounded theory is a means through which the theory emerges, it has to also provide a basis on which to inform the action learning cycle as to the interventions that need to be actioned. It also allows the generation of propositions that will be evaluated going forward, where these propositions will feed into the next cycle of the action research process.

To discover these variables, the following characteristics were assessed in the data. These questions are based on the essential characteristics as defined by Struebert, *et al.* (Struebert, *et al.*, 1999).

- Which of these variables occur frequently in the data?
- How do these variables link to the other data?
- Do these variables explain much of what is happening in the data? Does it explain the variation that is appearing?
- Can we develop a theory with this data? Is there a pattern appearing?

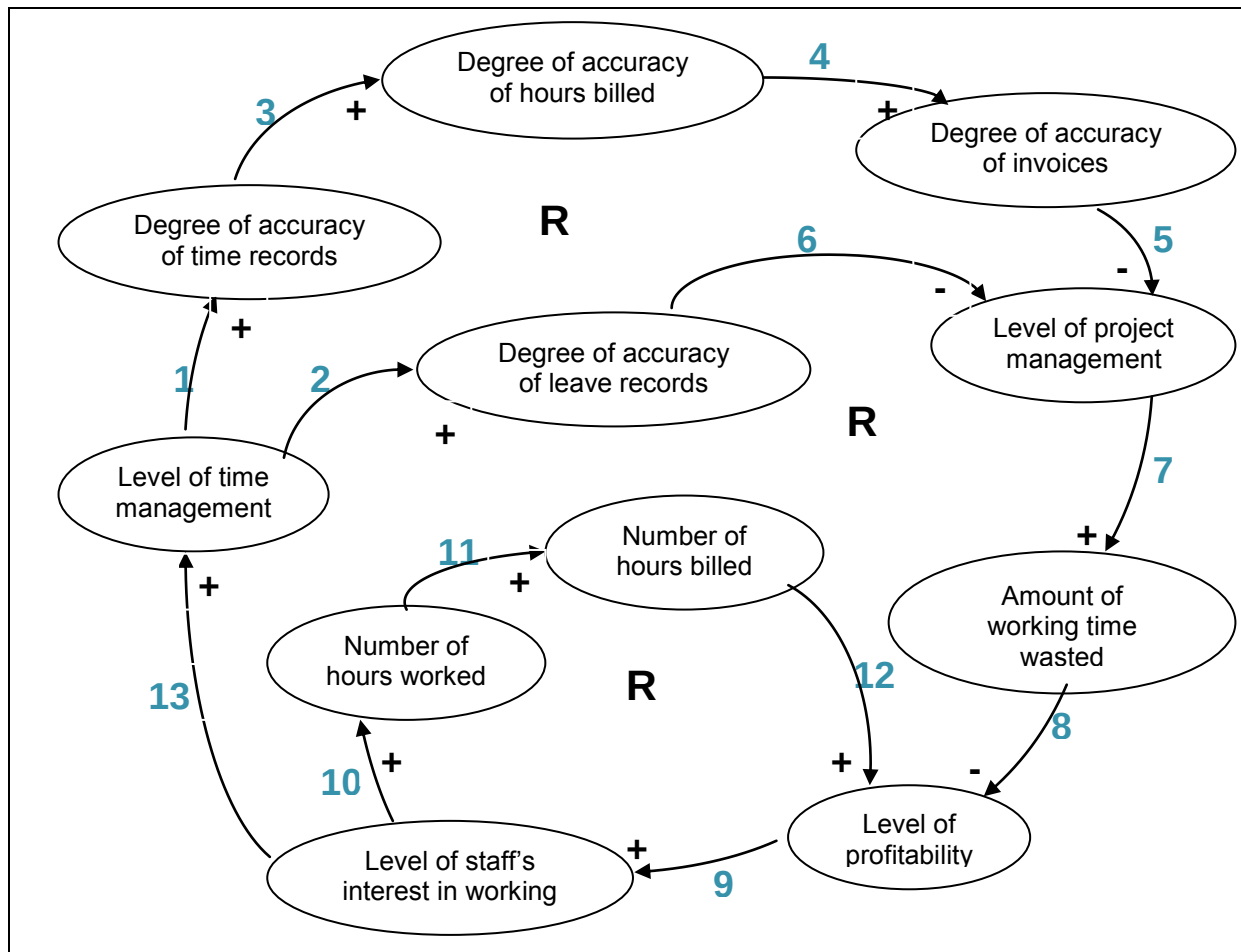
The variables that emerged from the data were:

- Degree of accuracy of time records
- Degree of accuracy of hours billed
- Degree of accuracy of invoices
- Level of time management
- Degree of accuracy of leave records
- Level of project management
- Amount of flexi-time wasted
- Number of hours worked
- Number of hours billed
- Level of staff's interest in working
- Level of profitability

Additional items that presented in the data that were eliminated due to the selective sampling were:

- The quality of the induction process
- The appropriateness of the Policy and Procedures
- The level of Training and Resourcing
- The impact on Project Management
- The cost of manual process
- The amount of time spent performing HR functions

Once the variables were recognised in the data analysis, the causal relationships were recorded as shown in Figure 23. These factors are then tied to the original concern of lack of profitability and recognising how the infrastructure affects the profitability of the organisation. It then serves as a mechanism to answer the research question.



**Figure 23: The relationships in time management.**

In Figure 23, the relationships are shown, which in turn can be further divided into three loops: the hours billed loop, the leave accuracy loop and accuracy of invoices loop. However, there are common variables in each of these creating a linkage between the three loops. The relationships in the diagram above are described below.

### **1. Relationship between the “Level of time management” and the “Degree of accuracy of time records”**

The *level of time management* refers to the policy and procedure that was in place to ensure that time was recorded consistently over the organisation. This includes the verification of the data recorded.

The *degree of accuracy of time records* reflects the actual work performed and the accuracy of its recording. If, for instance, time against a particular task was double recorded or missed then the accuracy of the record is suspect.

The relationship is that the greater the verification and checking mechanisms, i.e. the greater the checks and balances the greater the degree of accuracy of the records.

## **2. Relationship between the “Level of time management” and the “Degree of accuracy of leave records”**

The *level of time management* refers to the policy and procedure that guides leave, and also involves the verification that leave that was taken was actually leave that had been accumulated.

The *degree of accuracy of leave records* was a function of the recording of the leave approval process and records that pertained to the calculation of leave. If leave was taken that should not be granted then the time was time lost to the organisation. This was particularly so for sick leave and other leave but may pertain to annual leave as well.

The relationship is that the greater the verification and checking mechanisms, i.e. the greater the checks and balances the greater the degree of accuracy of the records.

## **3. Relationship between the “Degree of accuracy of time records” and the “Degree of accuracy of hours billed”**

The *degree of accuracy of time records* was a function of the recording of actual hours worked for the client recorded accurately against the work units for which the work is completed. It is ensuring that all work is recorded once only where tasks are not double recorded or missed.

The *degree of accuracy of the hours billed* arose from ensuring that the correct amount of time worked was billed to the correct client.

The greater the degree of accuracy of the records the greater the accuracy of the time billed to the client. If a person records time incorrectly then the correct time cannot be billed to the client

#### **4. Relationship between the “Degree of accuracy of hours billed” and the “Degree of accuracy of invoices”**

The *degree of accuracy of the hours billed* was determined by ensuring that the correct amount of time worked was billed to the correct client.

The *degree of accuracy of invoices* was obtained by ensuring that the clients were invoiced correctly. Where inaccurate billing occurred, it created an embarrassment for EbiTec and a great deal of rework in terms of reconciliations and processing.

The degree of accuracy of hours billed generates a greater degree of accuracy in the invoices.

#### **5. Relationship between the “Degree of accuracy of invoices” and the “Level of project management”**

The *degree of accuracy of invoices* reflects the hours that were billed to the client. Inaccurate billing generated rework and embarrassment.

The *level of project management* refers to the amount of time and energy a project manager had to dedicate to the amount of work associated with a particular task.

The greater the degree of accuracy of the time records the less time the project management needs to verify data and to rectify errors that have occurred.

#### **6. Relationship between the “Degree of accuracy of leave records” and the “Level of project management”**

The *degree of accuracy of leave records* refers to the recording of all kinds of leave taken.

The *level of project management* refers to the amount of time and energy a project manager had to dedicate to the amount of work associated with a particular task.

The greater the degree of accuracy of the leave records the less time the project management needs to verify data and to rectify errors that have occurred.

#### **7. Relationship between the “Level of project management” and the “Amount of working time wasted”**

The *level of project management* refers to the amount of time and energy a project manager had to dedicate to the amount of work associated with a particular task.

The *amount of working time wasted* was the amount of time that was allocated or spent on a task that did not generate revenue. All non revenue generating tasks were not time wasters, only the ones that were associated with tasks that could have been avoided.

The greater level of project management associated with unnecessary rework the greater the amount of working time wasted that could otherwise have been used in value added tasks that generate revenue directly or indirectly for EbiTec.

#### **8. Relationship between the “Amount of working time wasted” and the “Level of profitability”**

The *amount of working time wasted* refers to the amount of work that was spent on tasks that were created due to inefficiencies in the system. These were non business generating time that was effected by tasks such as rework.

The *level of profitability* was specifically the difference between the operating revenue of an organisation and its operating expenses. This was the actual money that was made out of the service or product offering of the organisation. The profitability was the amount of money generated in the organisation that could be distributed as profits or dividend to its stakeholders.

The greater the amount of time wasted, the more time is allocated to operating expenses therefore the lower the level of profitability of the organisation.

#### **9. Relationship between the “Level of profitability” and the “Level of staff moral”**

The *level of profitability* was directly related to the amount of money that the organisation had over after reducing its revenue by all of its expenses.

The *level of staff's interest in working* was the amount of interest that a staff member would have in being productive in the working environment.

The greater the level of profitability in EbiTec, the greater the level of interest that the staff member would have in being productive so that they would be more inclined to act in the best interested of EbiTec.

#### **10. Relationship between the “Level of staff’s interest in working” and the “Number of hours worked”**

The *level of staff's interest in working* was the amount of interest that a staff member would have in being productive in the working environment.

The *number of hours worked* was the actual number of hours worked relative to the number of overhead hours that was wasted in a day. If an employee worked an eight hour day but only five of those hours have been productive then the true number of hours worked is only five hours. The number of hours refers to the productive hours of the employee.

The greater the level of interest of the staff member in working the greater the number of [productive] hours the employee will work.

#### **11. Relationship between the “Number of hours worked” and the “Number of hours billed”**

The *number of hours worked* was the actual number of productive hours that was worked in the day by each of the members of staff. Most employees were revenue generating and would be billing the client directly for the number of hours worked. Some of these hours may have equated to overhead costs but for the simplicity of the diagram this has not been included here.

The *number of hours billed* is exactly that – the amount of hours that can generate revenue from the client.

The greater the number of productive hours worked in the day, the greater the amount of hours that can be billed to the client.

## **12. Relationship between the “Number of hours billed” and the “Level of profitability”**

The *number of hours billed* was the amount of hours worked that can generate revenue for EbiTec,

The *level of profitability* was specifically the difference between the operating revenue of an organisation and its operating expenses. This is the actual money that the organisation made out of its services or product offering. The profitability was the amount of money generated in the organisation that could have been distributed as profits or dividend to its stakeholders. Once the variables were recognised in the data analysis, the causal relationships were recorded as shown in Figure 23. These factors are then tied to the original concern of lack of profitability and recognising how the infrastructure affects the profitability of the organisation. It then serves as a mechanism to answer the research question.

The greater the number of hours billed the greater the amount of revenue that can be generated. Once the variables were recognised in the data analysis, the causal relationships were recorded as shown in Figure 23. These factors are then tied to the original concern of lack of profitability and recognising how the infrastructure affects the profitability of the organisation. It then serves as a mechanism to answer the research question.

## **13. Relationship between the “Level of profitability” and the “Level of time management”**

The *level of profitability* was specifically the difference between the operating revenue of an organisation and its operating expenses. This is the actual money that it made out of the service or product offering of the organisation.

The *level of time management* refers to the policy and procedure that was in place to ensure that time was recorded consistently over the organisation.

The greater the level of profitability, the more money that can be spent on creating the infrastructure within the organisation and therefore the greater the level of time management will be.

### **Reinforcing causal loops**

There are three loops that are shown in Figure 23, which can be individually defined as the hours billed loop, the leave accuracy loop and accuracy of invoices loop. All three of these loops are reinforcing causal loops, for example, if there is a positive time keeping structure then ultimately it will result in greater value for EbiTec and will generate revenue thereby increasing the profitability of EbiTec. Considering that the concerns in the data all related to negative experiences, these would generate negative profitability for EbiTec. Because all of these are reinforcing loops, if any of the factors are negative then it will generate negative reaction in the other variables, and in itself this will further generate negative results.

A balancing intervention needed to be implemented to ensure that the profitability could be restored to its expected growth potential.

### **The story behind the data**

Each employee was required to record their daily working hours on a spreadsheet. Most of the employees that generate income were based at client sites that were away from the head-office of EbiTec. Each person recorded their daily time, the start time, the end time and lunch breaks, into a spreadsheet in which they calculated their daily flexi balances. Where time had to be billed to the client it was highlighted in the spreadsheet.

At the end of each month, these spreadsheets were submitted to the secretary at EbiTec, who collated and file the spreadsheets. The secretary would account for all the records and manually create the invoices for each of the clients. These invoices were submitted to the various project managers who checked the data for reasonability. However, since the project managers did not have the original spreadsheets the responsibility of accuracy of the time keeping records would lie with the staff members who submitted the records. The project managers only checked for reasonability and could not ensure accuracy – there was no process to ensure for accuracy.

The invoices were sent to the client as a request for payment for services provided by EbiTec staff. In most instances the client had its own version of time keeping records against which the EbiTec invoices would be compared. Invariably the clients' expected billing would not match the invoices that EbiTec was sending to them, and invoices would be queried and returned for verification. It seemed that these queries and identified errors in the billing were occurring more and more frequently. In most cases, the errors would be related to a difference in the time reflected on the invoice and the amount of hours that the client expected to be billed for, and usually this time discrepancy was due to inaccurate time recorded on the staff members' time sheets. The project manager then needed to query the time with the staff member and the staff member would then reaffirm the time or rectify the error. Most of the corrections were due to incorrect time recorded by the staff member. Where the accuracy of the data could not be determined, the client was given the benefit of the doubt and the inaccurate time or unaccounted for time was not billed for.

Each person was responsible for their own time keeping (aka flexitime) records and there was no mechanism for checking this data. It was expected that each person maintained an honest approach to their time keeping. If any person took time off in lieu of accumulated flexitime, again it was the responsibility of the individual to ensure that the recording of this time was accurate. Each person was also required to record their own leave, whether annual, sick, study or any other form of leave. Each person was allocated a certain amount of leave each year and the master leave records were kept by the secretary. However, when leave was taken and approved it was the responsibility of the individual to inform the secretary of the leave approved. The secretary did not reconcile leave records to time sheets and without being specifically informed by the individual staff member the secretary would have no knowledge of the leave taken. It had been noted that when staff members took leave that the secretary was not always informed so the leave balances that was kept on the master leave record was deemed to be inaccurate. As a result of this the leave liability of EbiTec was much higher than should have been and EbiTec was carrying the expense of leave that should not be accumulated to the individual, and the potential loss of income for the unaccounted for leave days.

Another area of concern was where individuals accumulated flexitime for the purpose of creating additional leave days. If an additional 0.5 hours was accumulated each day then an average of slightly more than 10.5 hours is accumulated each month which in turn equates to around 15 additional leave days for the year. The philosophy and intention of flexitime was not to accumulate additional time for leave but to allow staff members to work a flexible day to meet their needs, it was not intended for the accumulation of leave days. However, a

policy in this regard did not exist, nor were there any rules that explicitly disallowed this practice. This practice needed reassessed and explicitly stated and to be managed accordingly so as to control the liability to EbiTec.

#### **4.4.1.3 Intervention**

Through the data it has emerged that an intervention was needed to the time keeping system that was in practice. The intervention would take the form of an action learning process. The action taken was based on the solution as defined by the research; and through the learning of the implementation, further interventions were to be identified and defined.

The theory that evolved through the data analysis was defined; following which the actual intervention was planned and implemented. The intervention involved the following steps.

##### **Identifying the systems requirement for the time keeping system**

In this process, the systems development life cycle as defined in the IT industry was used to define the specific needs of the system. The detail of this is not specified here, since this is a specific project of its own. To achieve this, the various stakeholders were approached and their specific needs around the time keeping system were recorded. These needs were then translated into IT specific terminology to specify the needs of the system.

##### **Obtaining a custom-made solution**

A few custom built systems were identified and the various vendors were approached for demonstration. The demonstrations were attended by the Technical Director and the Client Liaison Director to assess the match of the systems to the requirements of EbiTec. The researcher was not involved in the evaluation due to the limitations on time. However, the observations of the demonstrations were fed-back verbally.

##### **Deciding on a solution**

After deliberation it was decided that the specific requirements for EbiTec's time keeping system was quite simple and since the vendor solutions were all complex in nature that it would be best to get the system developed in-house.

This basic system was built as a web-based system that was available to all staff via the internet. For the staff members (only two) who did not have access to the internet, an Excel facility was provided to load the spreadsheets into the system.

Broadly speaking this system addressed the following areas:

- Daily time keeping was recorded
- Leave was recorded
- Invoices were generated
- Flexitime balances were kept
- Leave balances were kept
- Employees could allocate portions of their day to the different time units
- Each month the monthly timesheets needed to be approved by a project manager
- Basic reporting was available to management

#### **4.4.1.4 Evaluation**

The time keeping system became available to staff members in July of 2005. The evaluation of the solution took place approximately eighteen months after the implementation of the time keeping solution in the first half of 2007. This enabled a sufficient amount of data to be accumulated to attain a reasonable picture of the solution that had been implemented.

To assess the accuracy of the invoices, an informal discussion was held with the Financial Manager and the Client Liaison Manager to understand the occurrence of inaccurate billing records that were experienced in the months after implementation. The qualitative perceptions of these were that the data being recorded was more accurate than before and that the number of errors in the invoices had reduced significantly. This also meant that the invoices were sent to the clients earlier than before and that payment was received earlier than before.

The data was extracted from the electronic time keeping system and various reports were created from this data. On evaluating this data it was noted that on average the number of working hours required for each person was below what was expected by EbiTec, and that the negative hours accumulated by staff members was higher than was allowed by policy.

After all, as (Drennan, 1992 p. 23) said: *"It is also true that what gets measured becomes important."* and getting people to record data is only one aspect of the equation. It is also necessary to ensure that the data is used to achieve the purposes of the organisation.

This led to further quantitative analysis on the data that was recorded on the automated time recording system. The data was extracted from the time keeping system and the researcher ran various reports against this data identify behaviours and trends. The following presented:

- There were a large number of negative flexi balances that existed. This meant that EbiTec had remunerated staff for hours that they had not yet worked. In other words, staff owed EbiTec the working hours.
- There were a large number of negative leave balances. This meant that staff had been allowed to take leave that they had not accrued, and that EbiTec had paid the staff for time that was not rightfully theirs.
- There were months in which staff had taken days of flexitime instead of leave to extend their leave period. This usually happened around Easter or Christmas. This meant that the revenue for those months was rather low.
- Another factor was that there were instances of significant time being accrued by gathering small amounts of flexi time each day, and not due to heavy workloads. The intention of flexi-time was to allow for flexibility and not to gather time to complement leave.

On evaluating the data it was noted that profitability had improved due to overall accuracy of the invoices that were sent out to clients. In addition, the data that was being sent to the clients were significantly more accurate than before and that the invoices were sent timeously each month. Leave records were accurately recorded and the leave balances were kept up to date. In addition, there were available data records that could be evaluated for behaviours and trends. Trends of data could be extracted to evaluate the prime leave periods and trends could also be analysed to assess sick leave records and to identify those individuals that have used over the allowed number of sick days.

However, the issue of tardy time-keeping has evolved as a concern, as well as the need to address the tardiness of some staff members in keeping a positive flexitime balance and leave balance. These would form the propositions to be evaluated in the next cycle. The next cycle in this action research and learning process was then to formalise the flexi-time and leave policies and to create procedures around correcting the negative flexi balances and negative leave balances that existed.

## **4.4.2 Cycle 2: Providing a policy to support the system**

It had become evident at the end of the first action learning and research cycle that there was a need to publish the specific policy around the management of flexi time and possibly incorporate the policy and procedure around leave. In doing so, it meant that the policy and procedure had to be evaluated and assessed as meeting the needs of EbiTec before being incorporated into the structure.

In deciding on a new flexi-time policy the accepted practices of the workplace needed to be taken into account. Changing policies and procedure have a prime role in changing and shaping a company and can be a major source of frustration if it is not aligned with the accepted practices, (Drennan, 1992).

### **4.4.2.1 Data Collection**

The propositions that were formulated in the first cycle were considered as being the first point of data collection for this cycle:

- A large number of staff had negative flexi-balances.
- A large number of staff had negative leave balances.
- Staff took days of flexi-time instead of leave to extend their leave period.
- Time was accrued daily by gathering small amounts of flexi-time each day that were not productive hours.
- Time keeping was tardy.
- Behaviour to time recording was not in line with the philosophy of EbiTec.

Other data collected to investigate the effect of the concerns that were being verbally raised at the time were from (1) the actual data recorded on the time keeping system, (2) the data

from meetings with the staff members who were not complying with the expectations of the data, (3) the portions of different board minutes as well as operational management meetings where the issues relating to time management were discussed, (4) extracts from presentations relating to this negative time and also (5) participant observation from being involved in the discussions around time management. These documents consisted mainly of company documents, recorded company data, calculated data, informal meetings notes, participant observation and parts of the formal meetings.

Five staff members were selected from the group whose time were not recorded according to expectation on the time keeping system. An unstructured interview was held with each of these individuals to assess the reasons for the inaccuracies and their understanding of the time keeping system. Unstructured interviews were also held with each of the same management team that was used in the first cycle to understand their perspective on the situation. Data was also recorded from meetings in which these results were presented and discussed. All of this data was used as input to the data analysis.

The pertinent points that were highlighted in this iteration of the process were:

- “Time keeping needed to be managed more tightly”: The behaviours that presented were not acceptable by management.
- “The understanding of what is acceptable is not clear”. There is an expected unwritten code of behaviour in the organisation but this was not clear. Managers may understand what this is but there is no formal documentation that states what is expected of staff.
- “The inaccurate data has evolved because no corrective action is enforced”: Even though managers are expected to formally approve time each month, a consistent approach was not seen. In addition, there were no written rules of what was allowed so managers used their own discretion as to what they would allow or not.
- “The inaccurate data existed because no-one has insisted that it is not allowed”: No-one ensured that consistent behaviour existed across the organisation.
- “The knowledge of what is acceptable is not obvious”. There was no consistent policy or procedure that was in force.

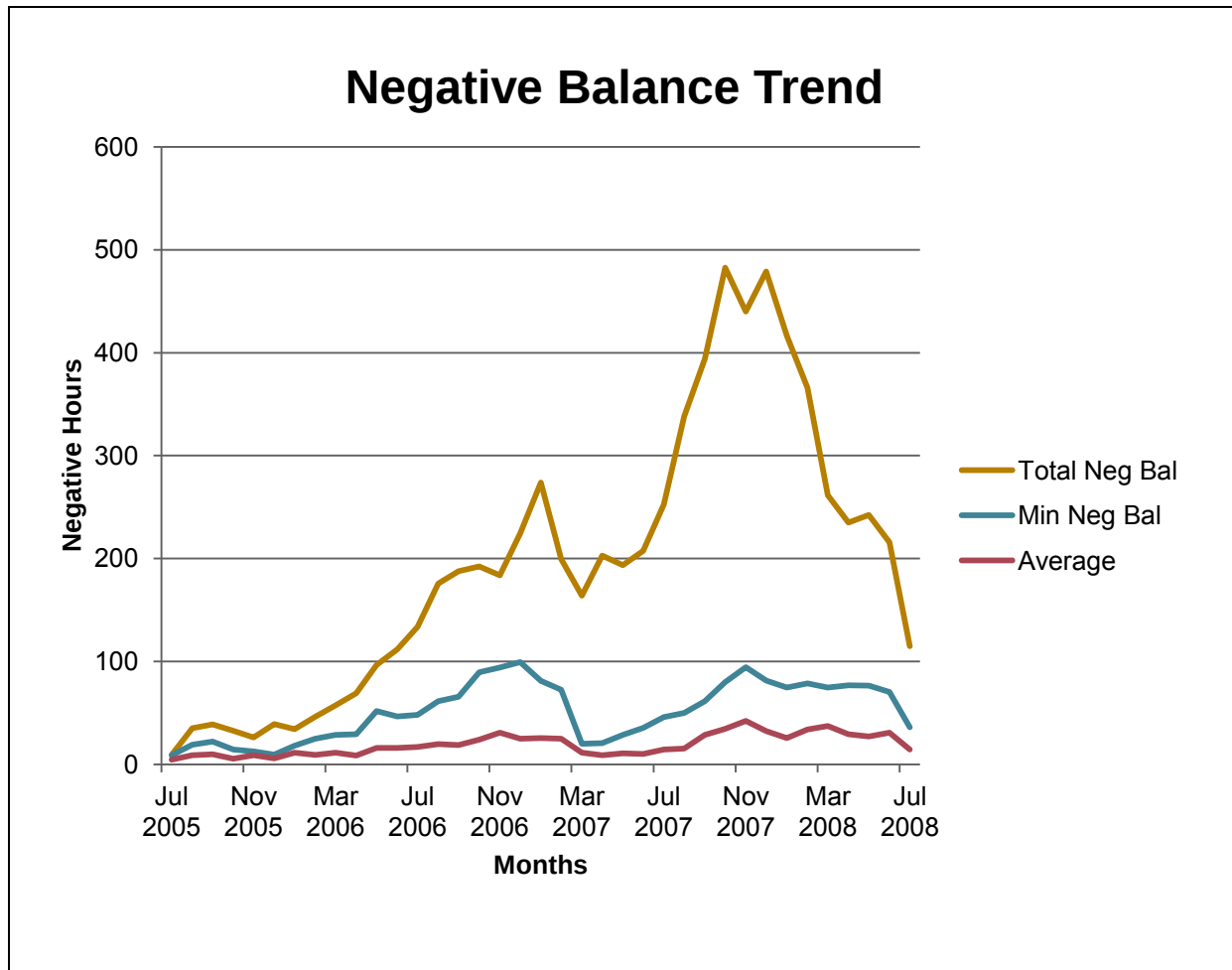
- “There have been no repercussions to having negative flexi balances”: Staff did not feel the need to ensure that negative flexi balances were kept to a minimum as it did not impact them in any way.
- “Managers do not ensure that employees have enough work to fill the hours.” Resource plans were not in place so when staff had no allocated work they reduced their daily hours and subsequently ended in negative time, rather than increasing their workload.
- “Rather not work than waste the hours at the office doing nothing”: The staff believed that they would rather leave early than do nothing rather than be motivated to find more work. Since negative did not have repercussions it made it easier to staff to reduce hours than be more productive.
- “Some hours were just not recorded”: All staff did not understand the importance of accurate time recording and since there were no repercussions there were times when working hours were not recorded or recorded inaccurately.
- “Some managers were not checking time accurately at the end of the month”: Some of the managers felt that the time keeping was an overhead and since there were no fixed policies and no one enforcing the process, they tended to ignore or approve time sheets without checking the accuracy.

#### **4.4.2.2 Data Analysis**

The data from the time keeping system was extracted and summarised to enable quantitative analysis. The results of these were presented to the management team and staff and the discussions were recorded. These discussion provided input to the grounded theory process that was used to explore the phenomena in the data, using the same principles as described in the first cycle.

The data shown below was extracted from the time recording system put in place during the first cycle. The data on this system was first recorded in July 2005, and there was insufficient data to analyse trends prior to that date. Nevertheless, the data available was enough to identify the trends correlating to the concerns raised.

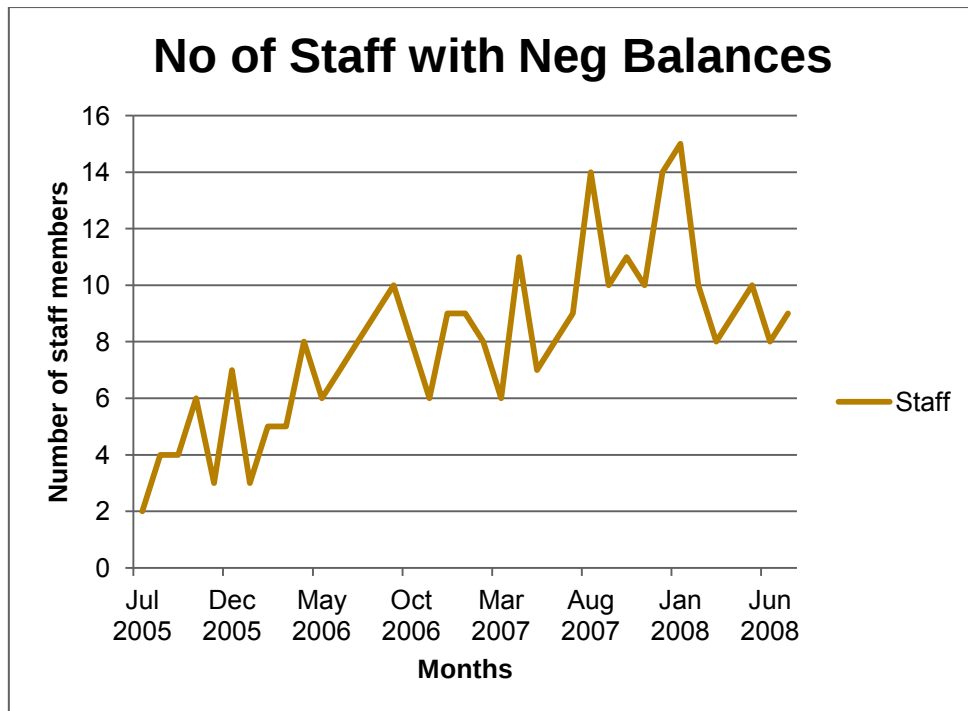
The first diagram shows the data of the actual negative flexi balances, the second diagram shows the number people who affected these negative balances, and those diagrams following shows the relative effects.



**Figure 24: Flexi time records showing negative monthly balance trends.**

Figure 24 shows the trend of the number of negative hours based on the total number of employees that were remunerated on a monthly basis. Hourly paid personnel are excluded from the data since they do not have an expected number of hours to be worked in a day, whether minimum or maximum hours. Number of staff members fluctuated over the time shown but all full-time staff members are included in this calculation. Data is shown to the end of July 2008, but at the time of the second intervention in November 2007 data after this data did not exist.

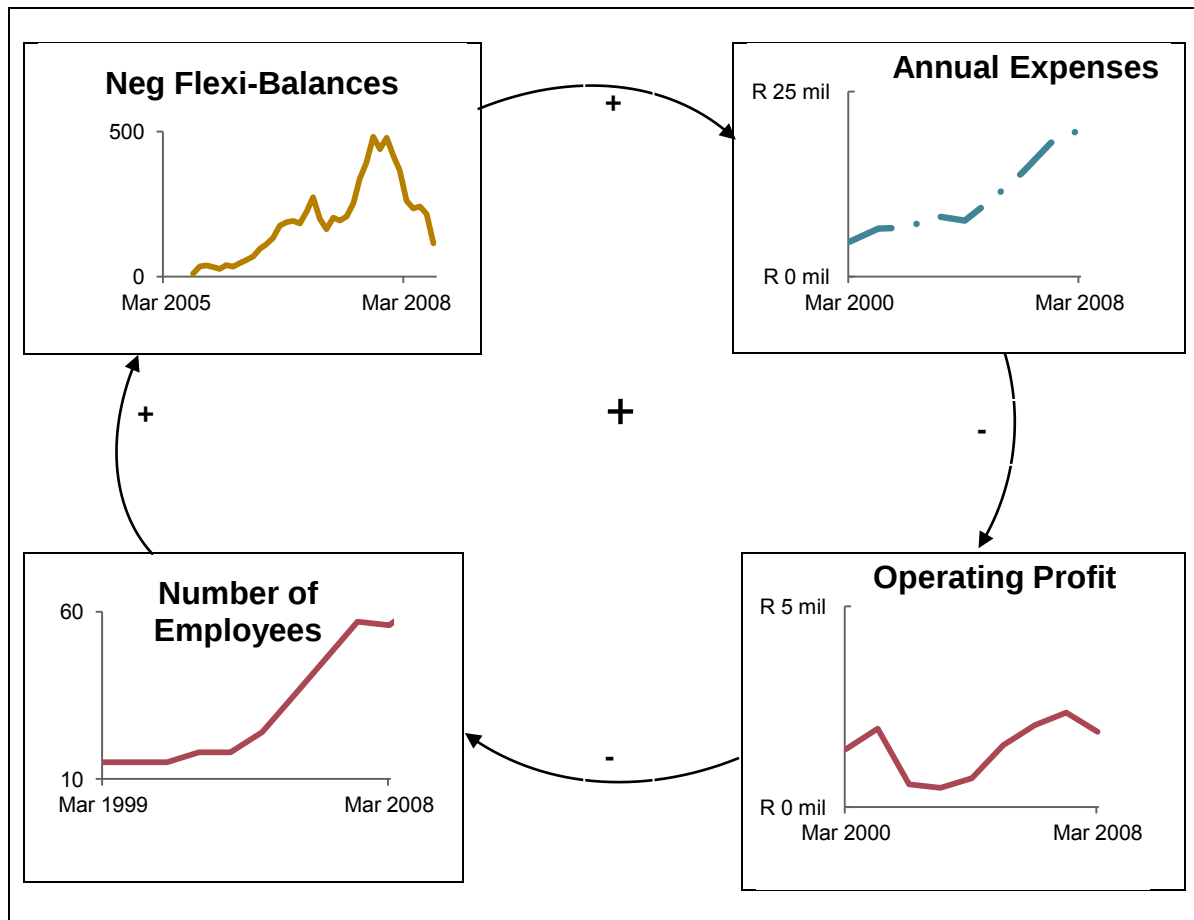
The number of staff members with negative balances was also investigated and the behaviour over the time was recorded.



**Figure 25: Flexi time records showing number of staff.**

In Figure 25 the trend of the number of staff members with a negative balance each month is shown. The trend shows that there are an increasing number of staff members with negative flexi balances as the time passes. It is evident from this data that the trend is for more staff members to have negative balance occurrences as time passes. The second intervention was made in November 2007, which correlates with the turn-around in the trend.

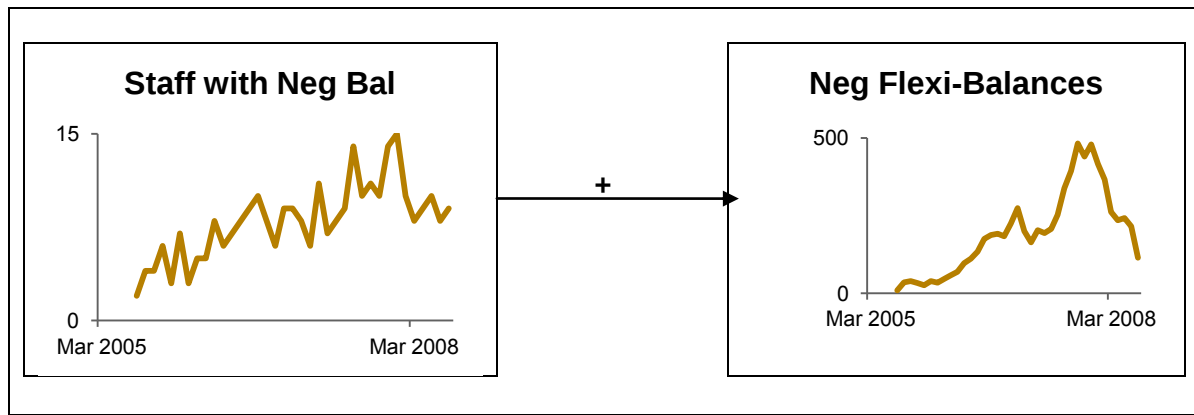
Comparing this to the growth of staff, there is appears to be a relationship between the increase in staff numbers employed and the number of negative hours accruing to the liability of EbiTec, in that the more staff numbers there are, the greater the liability to EbiTec.



**Figure 26: Flexi balance effect on behaviour over time graphs.**

Figure 26 displays how the negative flexi balances can be related to the rise in annual expense. Although the increase in expense is not the only factor that reduces profit, it is a factor nevertheless.

Similarly, the numbers of employees who have attributed to the negative growth of flexi hours have also correlated with the same behaviour over time pattern.



**Figure 27: Number of employees relative to negative flexi balance.**

In Figure 27 the number of employees with negative flexi balances has increased at a similar growth rate as the number of total negative flexi hours.

These data tables were used as input into the unstructured interviews that were held with the individual, where individual personal records were presented. The tables above were also presented at the management meetings and at the company meetings to elicit data.

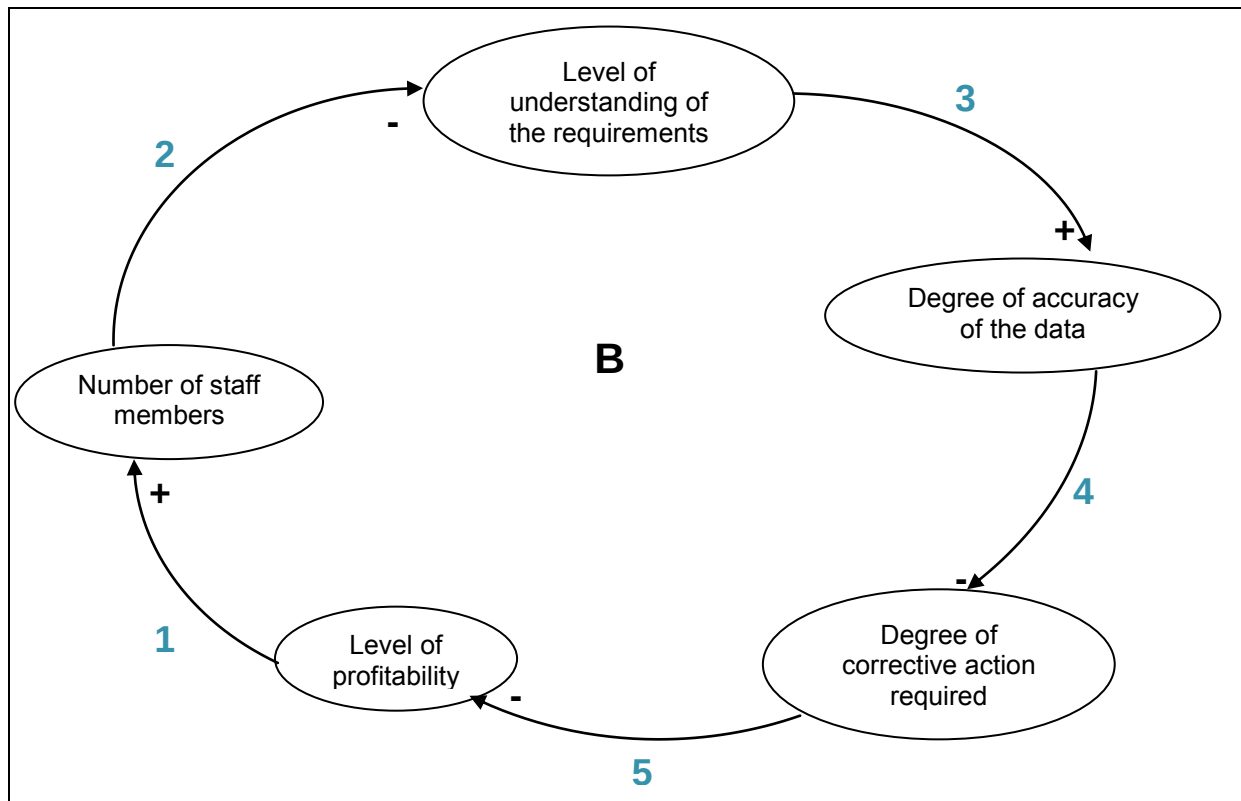
Meetings were recorded in the form of minutes and were used as input to the grounded theory process, from which the following variables emerged.

From all the data analysed, the variables that emerged were:

- Level of profitability
- Number of staff members
- Level of understanding of requirements
- Degree of accuracy of the data
- Degree of corrective action required

The causal relationships were developed from these variables as shown in Figure 28.

These factors are then tied to the original concern of lack of profitability and recognising how the accuracy of the time keeping affects the profitability of the organisation. It then serves as a mechanism to answer the research question.



**Figure 28: The relationships in the time recording system.**

The effect of the relationships between these variables are balancing in that the greater the number of staff members, the less is their understanding of what is required of them which in turn affects the accuracy of the data required. This in turn needs more corrective action which decreases the level of profitability. This shows that an intervention is required to create a reinforcing loop so that profitability improves. Each of these relationships are explained below.

### **1. Relationship between the “Level of profitability” and the “Number of staff members”**

The *level of profitability* was the amount of money that EbiTec made after it deducted all its expenses from the money that it generated, i.e. its operating revenue less its operating expenses.

The *number of staff members* was the number of people employed by EbiTec.

The greater the profitability of EbiTec the more likely it needs to grow further and therefore the greater the need for EbiTec to employ more people.

## **2. Relationship between the “Number of staff members” and the “Level of understanding of the policy”**

The *number of staff members* equate to the actual number of staff members employed for the business of EbiTec.

The *level of understanding of the policy* was the amount of knowledge that the staff member has about the requirements of EbiTec. This includes the knowledge related to the rationale of working the required hours. The knowledge was affected by the availability of the information and the understanding of what was expected of the information and how it was to be carried out in the organisation.

The relationship between these are that the more staff members there are the less likely they are to engage with the senior management that knows and fully understands what is required. In addition the more individuals that are left to interpret information that is not clear, the more likely the information will become distorted and inaccurate. Therefore, the greater the number of staff members the more likely the level of understanding of the policy decreases.

## **3. Relationship between the “Level of understanding of the policy” and the “Degree of accuracy of the data”**

The *level of understanding of the policy* is what was required was related directly to having the information available. The policy document that was in use had little information, and it did not articulate the rationale and requirements of ensuring that the required number of hours was worked.

The *degree of accuracy of the data* was the amount of time recorded compared to the requirements of the time recorded. This could have been for a number of reasons such as: it may have been due to the time being captured incorrectly, it may have been that less than the minimum a number of hours was worked in a month, some staff members were not recording their time on a daily basis and using estimated time instead or more overhead time may have been recorded than should be. It equates to what is recorded compared to what is expected on the time recorded.

The relationship between the two is that if the person doesn't understand the reasons for having to work the required number of hours nor do they realise the repercussion of not working those hours then there was no motivation to ensure that these minimum working hours were being met nor was there motivation to ensure that the time was recorded correctly. This, in turn, affects the motivation to ensuring the minimum hours were met, thereby affecting the actual number of hours worked resulting in fewer hours being worked than required.

#### **4. Relationship between the “Degree of accuracy of the data” and the “Degree of corrective action required”**

The *degree of accuracy of the data* was the difference between what is required of EbiTec and what was actually recorded on the time keeping system.

The *degree of corrective action required* was what needs to be done to ensure that the data was captured correctly. The kind of measures in place to ensure that this process was completed accurately at the end of each month was that the project managers checked each of the records manually to ensure compliance. Since a common understanding was not prevalent, even with the project managers, there was a significant amount of correction that needs to be effected; and even with that, often errors are not recognised, because the requirements are not clearly defined.

The relationship between the two is that the greater the accuracy of the data the less corrective intervention is required. Similarly, the less the accuracy of the data the more the corrective intervention is required.

#### **5. Relationship between the “Degree of corrective action required” and the “Level of profitability”**

The *degree of corrective action required* was the intervention required to ensure that data meet the requirements of EbiTec.

The *level of profitability* is the difference between the amount of money that EbiTec was generating and the expenses that it incurred on resources.

The relationship between the two is that the more corrective action that is required, the more EbiTec spends on its resources which in turn reduce the profitability of EbiTec.

#### **4.4.2.3 Intervention**

From examination of the data it is evident that there was a need for an intervention in providing the necessary information that will enhance the quality of the time keeping. In addition, any intervention not only needed to ensure that the information was freely available but that the expected intervention would be enforced.

The solution that was designed was that of providing policy and procedure to ensure that the time keeping is improved and, ultimately, that the profitability of EbiTec is improved. The intervention also included a proposal of the corrective action required of those members of staff who were not compliant with the current expected principles, i.e. those members of staff who had negative flexi balances.

The original version of the policy document was available on the public network but only staff members that were based at the head office had direct access to the policy document. If anyone else required the document, it had to be requested of someone from head office. A copy of the original policy and a copy of the policy that was implemented can be found in Appendix 5: on [“Flexi Time Policy”](#)

#### **Implementing the Policy**

The researcher compiled a draft policy that covered the requirements as identified by the operations management team and by the project managers. This process is not described here as it is a detailed process on its own.

The draft policy was presented to the project management for comment and approval and was subsequently submitted to the board for approval. Comments and amendments were taken into account. The policy document was published on the internet along with the time keeping system and the intention of enforcing the policy. The researcher presented the policy and the findings to all staff members. Email notification was also sent out of the publication of the policy inviting staff members to discuss any details that they did not understand.

### **Facilitating that flexi balance and leave balances comply**

Various meetings were also setup with each of the project managers of the members of staff that had either a negative flexi balance or a negative leave balance. The rationale for correcting the balances was explained to each of the managers, and they were asked to setup a plan of action with each of their staff members detailing each individual's corrective action. These managers then each met with their staff members and the corrective action plans were presented to the HR Director. Staff members were given a grace period of six month within which to meet compliancy on condition that they produced a plan of action to meet these requirements in the given time frame.

The actual corrective plans that were submitted included the following:

- There were two staff members who agreed to use their annual leave to off-set their negative flexi-time. This was allowed where the staff member had sufficient leave for their leave balance to cover the negative flexi-time.
- Three staff members needed to take unpaid leave to offset the negative flexi-hours, mainly because they did not have enough annual leave to cover the negative flexi-balance.
- One person had claimed to have not recorded specific hours to the client and had stated that the project manager had not checked the flexitime and not advised of corrective action. This time was corrected to the time sheets but was written-off since it could not be billed to and claimed from the client.
- Another person had a significant amount of negative time that had been written off when transferring into a new team. This, too, was claimed as being ineffective management.
- The rest were allowed to correct their flexi-balances over a period of 6 months by working additional hours to compensate for the negative time.

### **Plan of Action**

The policy is now fully incorporated and balances are monitored on a monthly basis. If any negative balances occur corrective action will take place immediately to ensure that the

policy is adhered to. The intention is to incorporate the rules, where possible, into the computer system so that it will reduce the impact on manual validation each month.

Drennan, (1992 p. 73) states that *“The basic rule is very simple: your people pay attention to what you pay attention to. If you are consistent, persistent and insistent they will be too.”*

So, the monthly checking and approval processes remain in place.

#### **4.4.2.4 Evaluation**

The improved time keeping has reduced the leave liability of the organisation and, in doing so, has improved the profitability of the organisation. This is evident from the data that is shown in the data analysis section defined in this cycle.

Linking this to the research question of defining the underlying structures to support the profitability of the organisation, it shows how intervention in an aspect of the operating structure can improve the profitability of the organisation. It also shows that if an operating procedure is not clearly defined, and managed, that it has potential to spiral out of control.

According to (Flamhotz, *et al.*, 1990 p. 35), in order to grow a company it needs to develop its infrastructure and management systems and on the other extreme, if it doesn't, it will experience difficulties where chaos will prevail with grim prospects and, ultimately, bankruptcy.

The corrective action has facilitated a process to determine and maintain that each person works the required number of hours and that a minimum balance of zero hours is maintained. It had taken over six months to ensure that all the data records had become compliant and that a proper procedure was in place to ensure that this remained so for the months going forward.

However, the data showed that staff members were billing fewer hours than expected. On further investigation of the data, it was identified that the trend was to work the minimum number of required hours and that out of these hours the percentage of hours billed against overtime was higher than expected. The number of hours billed as a percentage of hours worked is used in the budgeted figures to determine expected margins. It was then considered necessary to understand the dynamics behind the lower margins that were being

achieved even though the minimum number of working hours that was being encountered. The following presented:

- Staff members felt that overtime worked needed to be paid for
- Overtime is an inconvenience, especially so on weekends
- If someone needed to come in on a weekend, then it would cost in petrol and babysitting
- EbiTec is being billed for the overtime
- Time would be recouped and not lost
- Paying for overtime would change EbiTec culture
- Pay for overtime would encourage excessive working hours
- What is the difference between overtime and flexitime
- What if overtime was a client expectation

The issue of overtime has emerged as a concern which has resulted in reluctance on the part of staff members to work more than the required minimum hours. These would then form the propositions to be evaluated in the next cycle in the action learning process. This cycle would be to address the issues raised by staff members that were underpinning the reluctance to work overtime.

### **4.4.3 Cycle 3: Introducing an overtime allowance**

With the new flexi time policy that had come into place, it became evident that there were other concerns around the flexitime that needed to be addressed. The implementation of the policy and procedure eliminated the negative flexi balances and negative leave that was seen and, thereby, limited the liability that EbiTec had in this regard. However, the amount of money that was being generated as income from clients was still below the amounts that were budgeted for and below the expected amount of income that should have been generated by the number of billable staff members.

On further investigation it became apparent that employees were working the minimum number of hours required and that the amount of billable time compared to the amount of time recorded against overhead was higher than expected, i.e. a greater percentage of

working hours was allocated to overhead than was expected. The time recorded to overheads per person was significantly higher than budgeted for.

Another factor that has come into play was that one of the clients expected EbiTec staff members to work overtime yet it is part of the flexitime policy that overtime hours worked could not be claimed for remuneration but that the time has to be taken at a later stage. This generated dissatisfaction among staff members in that the additional work hours will be billed to the client yet staff members may not be paid for the additional hours, even though they would still be paid for the hours in terms of the time taken off. In this cycle, the third cycle of this process, a solution had to be found and implemented to address the dissatisfaction of the overtime issue.

#### **4.4.3.1 Data Collection**

The data collection in this iteration of the process consisted of analysing the physical data that existed on the time recording system. The analysis was similar to that seen in cycle 2 but with reporting on the number of overtime hours worked and of the comparisons between the number of hours billed for staff at client sites and the number of hours recorded against overhead work units.

The second step in the data collection was to speak to each of the project managers or team leaders and determine the dissatisfaction in the organisation. This took the form of an unstructured conversation with each of three of the managers. Notes were made of these conversations and presented to the management team.

The third step in the data collection process was to present the data at the Operations Management meeting and to record the discussions. The data pertaining to this was recorded as formal meeting minutes. In addition, this topic was raised in two different board meetings, which also produced formal meeting minutes.

The fourth step of the data was attained in a workshop that consisted of operations and HR to design options that could meet the needs of the situation and still meet the needs of EbiTec. The procedures and discussion of this session was recorded.

The propositions that emerged from evaluation of the previous cycle are described below:

- Staff members felt that overtime needs to be paid for

- Staff members felt that overtime was an inconvenience, especially when required to work on weekends
- If a staff member was required to work on a weekend then it would cost the person extra in petrol and babysitting that they would not have otherwise incurred
- Staff members felt that EbiTec would bill the client for the over time that the staff member worked but not pay the staff member
- EbiTec's policy was for staff members to record the overtime to their normal working hours and to take time off during normal working hours as flexitime. The time and payment for the time would not be lost rather compensation would be in terms of having the equivalent time off.
- EbiTec espoused a practice of not expecting staff members to work excess hours. By paying for overtime concern was raised that it would change the EbiTec culture and work ethic.
- Concern was raised the by paying for overtime would encourage staff to work extra hours with the possibility that staff would work unnecessary long hours over long time periods
- What is the difference between overtime and flexitime, and when would working hours be considered as overtime and when would it be considered as flexitime.
- If overtime is an expectation of the client, compensation should encourage staff members to work outside of normal working hours

#### **4.4.3.2 Data Analysis**

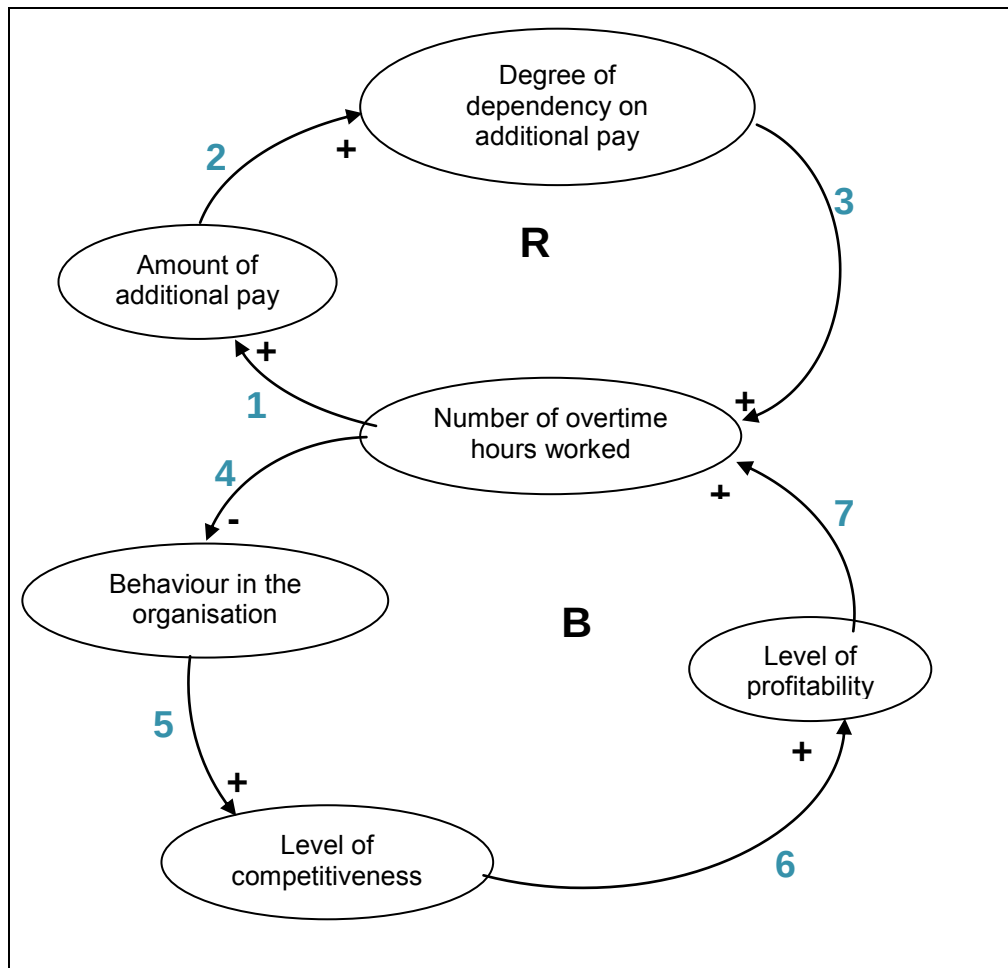
The data on the time keeping system was first recorded in July 2005, and there was insufficient data prior to that for use in any analysis. The actual underlying data is not shown in this section because it does not provide a significant impact on the solution provided. However, since the data was used to link back the variables located in the data, a summary of this data found is as follows:

- The number of hours being billed on average by each billable employee equated to 135 hours per month.
- The number of hours that was budgeted for each employee that was being billed each month is 138.25 hours, taking into account leave, training days, etc.
- An average working month is calculated as 162.525 hours per month (21.67 days \* 7.5 hours). This number includes the time of paid public holidays.
- There are occasional spurts of overtime, but employees had taken the time subsequent to the period of overtime work hours.
- There were only 3 people with an excessive 180 positive flexi hours. A maximum of 15 hours of net flexi-time may be taken in a month (see the policy in Appendix 5: so it would take at least a year to take the time off.
- It is rare when staff members have resigned or left EbiTec employ that they have had an excess number of hours owing to them.

The grounded theory principles were applied to the data collected, in the same fashion as applied as in the previous action research cycles.

From all the data analysed, the variables that presented itself in this the data were:

- Number of overtime hours worked
- Amount of additional pay
- Degree of dependency on pay
- Behaviour in the organisation
- Level of competitiveness
- Level of profitability



**Figure 29: The relationships affecting overtime.**

Once the variables were recognised in the data analysis, the causal relationships were recorded as shown in Figure 29. The diagram shows that the more overtime hours worked, the more pay one got, which would create a dependency on the additional pay and reinforce the loop that would require more overtime hours to be worked. If more overtime hours were worked then it would affect the culture of EbiTec. This in turn would have a negative effect on the competitiveness since the business model was based on its culture. In turn it would lower the profitability and return in not allowing overtime to be worked.

These factors are tied to the original concern of affect on the profitability. The major concern with paying for overtime was the negative effect that it would have on the culture and, in doing so, it would affect the profitability of the organisation.

The relationships between the variables are described below:

### **1. Relationship between the “Number of overtime hours worked” and the “Amount of additional pay”**

The *number of overtime hours worked* were the hours that the staff member would work over and above the minimum number of hours required as defined in the flexitime policy.

The *amount of additional pay* would be the amount of money specifically remunerated to compensate for the amount of hours that was worked.

It follows that the more overtime that is worked the more total additional remuneration there would be over the normal monthly pay.

### **2. Relationship between the “Amount of additional pay” and the “Degree of dependency on pay”**

The *amount of additional pay* was the amount of money received that is over the normal monthly remuneration.

The *degree of dependency on pay* was that a person would become accustomed to the amount of remuneration each month and usually budgets around this expectation. The more a person comes to expect a certain amount of monthly pay the more the person gets to expect that remuneration and ultimately there becomes a dependency on this additional pay.

The relationship is that the more money the person receives the more dependent he or she may be on that money.

### **3. Relationship between the “Degree of dependency on pay” and the “Number of overtime hours worked”**

The *degree of dependency on pay* was the amount of money that the person is dependent on each month so as to meet their personal budget and lifestyle.

The *number of overtime hours worked* was the number of hours worked over the expected number of hours as defined in the flexitime policy.

The more the person became dependent on the additional pay the more likely the person would try to work the additional hours to ensure that they could receive the additional pay.

#### **4. Relationship between the “Number of overtime hours worked” and the “Behaviour in the organisation”**

The *number of overtime hours worked* was the number of hours worked over the expected number of hours as defined in the flexitime policy.

The *behaviour in the organisation* is underpinned by the values and beliefs that exist in the organisation, making up the company culture. A company's culture is one of its most valued intangible assets that cannot be matched by the competition, (Flamhotz, et al., 1990).

The number of overtime hours worked goes against the value system and ultimately the culture of EbiTec. So the more overtime hours worked the greater the negative effect of EbiTec's culture.

#### **5. Relationship between the “Culture of the organisation” and the “Level of competitiveness”**

The *behaviour in the organisation* underpins EbiTec's culture, which is its set of values, behaviour and norms. It is the way it does its business.

The *level of competitiveness* was the degree to which EbiTec could compete and gain market share.

The stronger EbiTec culture or its work behaviour the better the competitive advantage in the market. Alternatively if EbiTec's behaviour was not favourable and was taking strain then there will be a negative effect on EbiTec's competitive advantage.

#### **6. Relationship between the “Level of competitiveness” and the “Level of profitability”**

The *level of competitiveness* was the degree to which EbiTec could compete in its chosen market.

The *level of profitability* was the amount of profit that the company could achieve from its revenue after it has met its expenses.

The level of competitiveness that EbiTec enjoys ensured that it generated more business and ultimately increases its profitability.

## **7. Relationship between the “Level of profitability” and the “Number of overtime hours worked”**

The *level of profitability* was the amount of profit that the company could achieve from its revenue after it has met its expenses.

The *number of overtime hours worked* was the number of hours worked above that required by company policy.

The more profitable EbiTec was, the more likely it is that staff members would work additional overtime due to the increased client base.

The effect of the relationship between these variables is that it is balancing in that the more overtime hours worked the more likely it is that EbiTec would become less profitable and negatively affect the overtime hours worked.

### **4.4.3.3 Intervention**

On evaluation of the data collected it was decided that there needed to be some kind of intervention to address the growing concerns around overtime, whether this intervention was in the form of a communication explaining the rationale to remain as is, or whether this intervention meant making a change.

A workshop was held in which the following points were agreed as the intervention:

- Overtime would not be paid for hours worked as paying for overtime may encourage staff to work longer hours.
- An allowance would be implemented as compensation for the inconvenience experienced by staff members. If a staff member worked more than two hours longer than the required daily hours on a week day then an allowance of R100 would be paid and if the staff member worked four or more hours on a weekend then an inconvenience allowance of R200 would be paid.
- Overtime will be counted as additional time worked over and above the minimum required hours and would accumulate to normal flexi-time
- Overtime had to be preapproved. Approval would be if a client had requested the overtime and permission would be granted by the HR or Operations director for a specified time-frame.
- Since the hours worked would be accumulated as flexi time, the staff member would be able to take the equivalent time off.
- Where a claim was made for expenses, this would be deducted from the overtime allowance.

The policy was drawn up with a great deal more detail than the points raised above. Detail of this policy. This policy can be found in Appendix 7:called: [Overtime Allowance](#)

The policy was announced to all staff members and was posted on the portal with the other time keeping system.

When overtime was pre-approved, the actual overtime would be calculated from the time keeping records at the end of the month and the individual would be remunerated.

#### **4.4.3.4 Evaluation**

On evaluation, implementing overtime pay based on hours worked would negatively affect the organisation's profitability, thus having a contrary effect to the success of the organisation as defined in the research question. The negative impact would be directly related to the impact that the solution would have on EbiTec culture or in the behaviour in

that staff would be encouraged to work more overtime that would then be paid out in remuneration. thereby reducing the profitability. Drennan (1992 p. 42) describes that changing the facts and stakeholder perceptions has a direct relationship to changing the culture, and since our concern underlying the profitability was the culture, the overtime pay for hours was not implemented but an alternative solution of an overtime allowance was implemented to address some of the staff's concerns yet retained the overall objective of the research question.

To evaluate the effectiveness of the intervention the billable hours as a percentage of hours worked were extracted from the time keeping system as a basis to determine if profit margins were improving. In addition, the opinion of staff was collated through interaction with the management team and through formal meeting minutes.

It remains, however, that all intervention needs to be specifically addressed and defined so as to maintain the overall objective of supporting the organisation's profitability that it was meant to achieve during its lifecycle, particularly during the stages of growth. Interventions have to support the growth of the organisation through its support structures.

On evaluation of this cycle it emerged that the management and control of the processes in the organisation were growing beyond the control of the existing management team. The following propositions emerged:

- Implement a middle management layer into the organisation
- Assessing which of the current policies were inadequate for the growth of the organisation\
- Publishing the policies in a place where it was accessible to all staff members
- Ensuring that the policies were understood and adhered to

#### **4.4.4 Suggestion of further intervention**

The corrective actions that were required in each of the cycles were time consuming and required a great deal of interaction and participation by staff.

In assessing the implementation of this policy it has become evident that policy and procedure is central to ensuring the smooth operation of an organisation. In doing so, it was

evident that all of the policies needed to be re-evaluated and reassessed; and updated to meet the needs of the growing organisation. However to achieve the strategic objective of ensuring that these fundamentals are implemented, monitored and achieved, the day-to-day running of the organisation needed to be funnelled to a lower level of management.

It is through the experiences of implementing these systems, structures, policy and procedure that it had highlighted that the organisation needed to incorporate another level of operational management into the organisation.

It is through these learning cycles that it is suggested that the following considerations are researched and an appropriate solution designed:

- Implement a middle management layer into the organisation, pass the responsibility of the running of the organisation to another layer of management. As the organisation grows there is a greater need for additional management to meet the overall efficiency objectives in the organisation, and this could be addressed and implemented through a layer of middle management.
- Assessing which of the current policies were inadequate for the growth of the organisation. The policies of the organisation are sparse, where only basic policies had been implemented at the time of inception of the organisation to deal with the basic needs at that time. Since the organisation has grown it had become necessary to expand these policies to meet the growing needs of the organisation.
- Publishing the policies in a place where it was accessible to all staff members. The policy document was kept in a central place that is difficult to access by most staff members. The document had to be updated and published so that staff knew what the policies were and so that staff could easily access the information.
- Ensuring that the policies were understood and adhered to. For any policy to be effective it has to be implemented and monitored. Someone needed to take responsibility for ensuring that these policies are adhered to.

## 4.5 Conclusion

In summary, the three action learning cycles identified shortcomings in infrastructure. The three interventions that were implemented can be described as follows:

- The first iteration of the action learning process was to implement a standard operational process in which the time keeping records of individual employees were controlled centrally.
- The second iteration of the action learning process was to provide a policy and procedure to support the time keeping within the organisation.
- The third iteration of the action learning process was to incorporate another policy on overtime allowances that aligned itself with the culture of EbiTec.

Each of these cycles achieved the objective of maintaining or improving the profitability of the organisation. In cycle one the accuracy of the invoices and the promptness of issuing invoices improved the profitability. In cycle two the leave liability decreased which improved the profitability, and in cycle three by providing an overtime allowance it indirectly influenced behaviour that ultimately affected the profitability of the organisation.

The learning cycles each provided one step in the process of achieving this goal. Although the organisation had by no means achieved its expected profitability it had improved its situation and would need to embark on further action process to continually improve its situation.

Overall, the action research process has achieved the goal of assisting in improving the profitability of the organisation through the phases of growth that the organisation is experiencing.

# Chapter 5: Conclusions and Implications

## 5.1 Evaluation of the research

This study was embarked on with the view to providing support to a company by allowing, through a process of co-operative inquiry, the development of necessary operational structures to ensure that EbiTec can be competitive through its continuing growth.

The researcher has been an integral part of the organisation's strategic direction for many years, first in a capacity of consultation with the entrepreneur or the managing director in this case, and then in a capacity of senior management, or executive director.

In its first five years of the life of EbiTec the main focus of its development was to ensure that EbiTec could compete as an IT service delivery company in the market. To ensure its survival during these first few years, EbiTec needed to ensure that it maintained a certain level of income even though it was still identifying and defining a market for EbiTec's services. For this purpose EbiTec needed to ensure that it kept the number of non-revenue generating hours to a minimum, (revenue generating hours are hours that can be billed to a client). The overhead management staff was maintained at two managers (one of whom is the current MD) and two administrative staff members during these years.

It was only after defining a market and pursuing the offering that EbiTec faced growth. As a response to this growth EbiTec implemented an executive structure that shared the responsibilities of the continued viability of EbiTec. It is through this change that the researcher had taken on the executive responsibility, initially of operations and HR, and eventually of the HR portfolio specifically. This study was formulated as a part of the objective of achieving viability for EbiTec through providing and ensuring the support structures needed.

This study focuses specifically on the internal support mechanism to ensure that the viability is not eroded through the lack of these structures, and aims to address the research question of:

**How does the EbiTec organisational infrastructure need to change to support its growth so that it continually increases its profitability as it grows from a small enterprise to a medium sized enterprise?**

This study forms an integral part of maintaining the viability of a company, focusing on ensuring that the operations that are needed to support an organisation that is growing in staff numbers. It is through this planning, implementing and reassessing that the objectives can be achieved.

According to Flamhotz, *et al.* (1990 p. 14):

*“Organisation development is the process of planning and implementing changes in the overall capabilities of an enterprise in order to increase its operating effectiveness and profitability.”*

The researcher believes that this study is but part of the overall objective of what needs to be achieved, and that over the last five years there have been more changes in the organisation than what has been shown in this study. However, this study has focussed specifically on the needs of managing the growing staff numbers and the implications it has on profitability and addressing these specific areas of concern.

Since the organisation's general revenue generating stream is through generation of income through services, it means that revenue is generated by the number of hours worked by an employee, irrespective of whether this time is billed as direct hours or billed through a project. Essentially, the business model is based on the number of hours of service that an individual can provide to a client.

It is through this aspect of the business that the researcher has chosen to evaluate the support structures through the phenomena experienced relating to the time recording issues within EbiTec. In this project three action research and learning cycles have been described. It has covered three different phenomena relating to the time recording that have occurred over the time-frame. In addressing these three cycles, that data has shown that there are varying support structures that need to be clearly defined and implemented.

In each of the action research and learning cycles the data that needed to be assessed was attained through a variety of sources, such as company documents, electronic data, meeting minutes, notes that were recorded and workshops documents using methods such as interviews, workshops, participant observation, document analysis and statistical analysis.

This needed to have a qualitative research methodology that would construct the theory through the data available. Since the data is mostly qualitative in nature, using an action research methodology with the data being analysed through grounded theory principles was chosen. Because the research is embedded in a constructivist epistemology with a theoretical perspective submersed in symbolic interactivism, it stands to reason that the solutions are informed in its socio-cultural nature and that the theory is constructed through the data.

In this research the data has been interpreted through the variables that have been reflected or emerged through grounded theory. These complex systems and variety of data were analysed through the grounded theory methodology to attain the theory relating to the data at hand. In the grounded theory the data was analysed for common threads. Words or phrases that were identified and the ones that occurred frequently in the data were highlighted. These variables were matched to similar variables that may have occurred in the data source or in other data sources. It was then assessed if these variables could explain the phenomena that was presenting in the data. It was also determined if these could actually explain the data. Certain patterns and trends were also identified in the data. From these variables and patterns the theory was developed as to the cause and effect of the various variables. Through an understanding of the relationships and the interaction of these variables the intervention was designed and developed and then implemented.

It is the variables that explain the phenomena experienced in an organisation and through the behaviour of these variables it is possible to understand and express the dynamics of the system. These variables show the aptitude of the organisation's survival. In monitoring and controlling these variables and keeping variables within the acceptable limits of the organisation it will ensure that the organisation survives. These variables are also defined as "*actionable knowledge*" by (Ryan, 2005).

The results of each of the cycles are described briefly and will then be evaluated against the overall objective of the study.

### **5.1.1 Cycle 1: Implementing a time management system**

The trigger for this project was that the board, or senior management, recognised that the organisation was experiencing problems with regards to the underlying operation structures. The kinds of problems that were being experienced were that of inaccurate invoicing,

incorrect recording of the time that fed into the invoicing, lack of data showing time records or leave records, insufficient project information pertaining to the amount of time being spent on the projects, and similar.

The concerns of management were that although EbiTec was growing it could not support its growth and that, unless these structures were put in place, EbiTec could not respond to the demands of the market and that it would need to slow its growth so that it did not experience failure.

On assessing the problems experienced it was recognised that the underlying problem was that the time recording of individual staff members were inadequate. The intervention that was put in place was to create a centralised system that consisted of both manual and automated processes that ensured that time keeping data was readily available, and accurate.

Once implemented the invoicing system improved in that all data was recorded and that the errors in the underlying data were reduced and easily corrected where necessary. Data also became available earlier than in the previous process. This improved the turnaround time of issuing invoices, as well as the accuracy of the invoices. The number of reconciliations required by the client reduced as a result the payments by the client were made earlier than before. This behaviour improved EbiTec's profitability.

Once the system settled and the data became more readily available other concerns were raised in that employees were not maintaining the working hour requirements as expected by EbiTec. This led to the next cycle of investigation.

### **5.1.2 Cycle 2: Providing a policy to support the system**

In cycle 2, the trigger for the investigation was the concern over the tardiness of time keeping by certain members of staff that only became evident after the implementation of cycle 1. This led to the investigation of re-evaluating the time keeping system and assessing the issues that were perceived.

After investigation it was noted that there was a growing number of negative flexi hours by a growing number of staff members. This meant that there were staff members that were

not working the minimum number of required hours in a month and that the number of staff members affected was increasing. This had a direct effect on EbiTec's profitability.

On assessing the problems experienced it was recognised that there were no repercussions for time not worked and that there was a general lack of knowledge of what was expected by EbiTec.

The intervention consisted of developing a specific process and procedure around time recording and ensuring that all non-compliant staff members were given an adequate opportunity to correct their time keeping and become compliant.

Once implemented the minimum number of hours per month had improved to the extent that there were no longer any negative flexi balances. Time off could only be taken if the person had accumulate additional flexi hours. This had resulted in reducing the liability of the organisation which directly improved the profitability.

After the implementation of the policy and during the amnesty period in which staff were allowed to rectify the negative balances, a new issue started to appear. Staff members started raising concerns in that EbiTec did not encourage overtime work and that it did not pay for overtime. Its policy was that additional time worked had to be taken as flexi time.

These concerns led to the next cycle of investigation.

### **5.1.3 Cycle 3: Introducing an overtime allowance**

In cycle 3, the trigger for the investigation was that there were requests by staff for overtime pay along with the concern that overtime was an inconvenience that needed to be compensated. This led to an investigation around the effects of overtime.

After investigation it was noted that overtime would change the culture of EbiTec and it was recognised that the culture of the organisation was one of the intangible assets of an organisation that adds to its business model and to its profitability.

There was a feeling by the staff members that it was their right to be compensated and that the organisation benefited by the overtime but that they were inconvenienced. This was contrary to the purported culture.

As a result an intervention consisting of providing an overtime allowance to compensate for the inconvenience but not to pay directly for the hours worked. The intention was to keep the culture intact but to alleviate the discomfort being felt by the employees.

This intervention had been well accepted by the staff members and the number of hours worked had improved dramatically. Incidentally, the average number of billable hours had also increased since the overtime policy had been instituted. It remains to be assessed if this behaviour will continue over an extended period of time.

#### **5.1.4 The project assessment**

This research has set out to address the concern that EbiTec is not able to support its potential growth. EbiTec was beginning to feel strain in its infrastructure as new employees joined the organisation. The concern was growing that EbiTec's current infrastructure was inadequate for its survival, that the parameters or variables would be stretched outside of its limits if EbiTec kept growing. The concern was being raised that EbiTec could not pursue additional business due to its infrastructural constraints.

Through the action research and learning cycles EbiTec has improved its time recording system, its understanding of the policy related to this, the procedures to ensure that the time variables remain within the acceptable limits and its containment of the culture of the organisation as it expects it to be implemented.

The implementation of each of these cycles has been a success for the organisation. It has achieved an incremental increase in revenue in each of the cycles of implementation and, in doing so, has increased the overall profitability.

The other area of value created through action research and learning is that as a set of learnings are implemented and assessed it gives rise to further learning. This is the nature of a continuous improvement within an organisation where variables and parameters are constantly assessed so that it remains within acceptable limits and so that variables that may have been hidden are brought to the fore.

Through this learning it is clear that the action research and learning has tremendous benefits for organisations that are in its early years of growth.

According to (Flamhotz, *et al.*, 1990) the most sustainable competitive advantage that an organisation has is in its operational systems, its management systems and in its culture. It is in these areas that the variables in this study have been identified and defined, and have been used in the identification of the intervention. It is in these three layers that competitors find it most difficult to compete and which has the most impact on EbiTec's competitive advantage.

Through this it accepted that the organisation has achieved its objective.

### **5.1.5 The overall evaluation**

The evaluation is based on the relevance of the concern in the context of the situation, of the utility of the answer, the ethics of the research, and the validation of the results.

The issues that were investigated were based on the underlying concern of the organisation as well as that of the researcher, particularly since the researcher's role in the organisation is the responsibility of ensuring that the infrastructure and human capital support the business model through service delivery. The relevance of the issues can be ascertained by the decision to create a specific role to address these issues and subsequently that of the board agreeing that these specific concerns should be addressed. None of the issues raised were in isolation. All of the concerns and solutions needed full commitment by senior management to ensure that implementation was effective and that compliance was uniform.

The question of utility of the answer is a specific measure of whether the intervention achieved the results of bringing the behaviour of the variables that were in unacceptable range, back into its acceptable behavioural pattern. On assessing all of the cycles above, the unaccepted variables have all been rectified. To be specific, in cycle 1 time keeping records are available which were not there before, in cycle 2 the negative time balances are no longer a phenomena and in cycle 3 there is an overtime allowance is paid resulting in happier staff and the culture remains within acceptable limits. In each of these cycles the profitability is addressed. In cycle 1 the profitability is improved through the accuracy and timeliness of issuing invoices, in cycle 2 the profitability is improved through the management of leave liability and the impact of the reduced negative flexi and leave time, and in cycle 3 the profitability is improved through the changed behaviour of staff that are more satisfied with their working conditions.

In the ethics evaluation it assesses that the researcher has remained ethical throughout the research. The researcher ensured that confidentiality of all data is provided throughout the report. All names of individuals and EbiTec's name have been removed. The names of individuals have been removed to maintain the confidentiality of the individuals involved. The name of the organisation has been removed particularly since it is in a competitive environment that has a rather small target market. However, details pertaining to the market have been recorded as experienced and so has all the data that is shown. All solutions that have been incorporated have been with the full knowledge of EbiTec and with all concerned. The outcomes and evaluation of the criteria is also known to EbiTec.

The validity or rationale of the solution is determined in the match of the solutions to the question that has been posed at the beginning of this research. It is also determined by the research methods that have been used. An evaluation of these methods has been discussed in the previous section. The methodology chosen for this research has been grounded theory in the action research and learning framework, evaluating three cycles of action research and learning. In organisations sense has to be made of phenomenon that occur on a daily basis and develops over time, this aligns itself to the grounded theory methodology as being the most suited and appropriate methodology for the situations that need attention. Esteves, *et al.* (2000) make reference to Haig (1995) in which they define "*good grounded theory*" when the theory is derived through induction from the data, has been "*subjected to theoretical elaboration*" and is adequate in its domain. They explain that Turner (1983) proposes two criteria, the first is that the theoretical accounts are closely aligned to the situation it is describing and the second is that the participants and observers can understand the phenomenon occurring and identify it as being accurate and providing insight into the investigation.

In addition, organisations are not static – they are dynamic – and constantly change and develop over time. Organisations are made up of people and thereby form more complex systems. In a highly complex environment where there is a great deal of human complexity it is common that only certain variables will present itself, the ones that are of most concern to the situation. It is necessary to be able to construct the variables and behaviour from the data by analysing the unacceptable behaviour. Theories emerge and interventions are designed and implemented. Through intervention, organisations change. Organisations constantly change to keep pace of both the environmental factors and its own internal influences. It is often in the intervention to address the unacceptable behaviour of these variables that more variables which may be associated, or even totally different variables, will present themselves in the new data. It is through this constant need to assess and

reassess, to make interventions and to develop that action research and learning with its continual cycles of assess, learn and change become imperative, where the assessment of the phenomenon are grounded in the data.

For this, it is believed that the action research and learning cycles with grounded theory as its methodology is the most appropriate approach in dealing with the concerns in an organisation.

In Esteves, *et al.* (2000) it is said that Turner (1983 p. 335) states that the *“the quality of the final product arising from this kind of work is more directly dependent upon the quality of the research worker’s understanding of the phenomena under observation than is the case with many other approaches to research”*. This means that one of the most important features in grounded theory is that of the quality of understanding of the research worker as this affects the outcome of the theory that it describes.

On evaluating these criteria, the research shows the trustworthiness of the research. It is believed that the research has met the requirements of being relevant to the concern, of the utility of the answers provided and the interventions that have been enacted, of the ethics maintained throughout the research and also of the validity of the results.

## 5.2 Conclusion

According to Flamhotz, *et al.* (1990 p. XVII) an organisation has to change at some stage of its growth, and that all organisations will experience these *“growing pains”* as a natural part of its growth. They describe growing pains as an indication that EbiTec has outgrown its infrastructure and describe that a company needs to develop new systems, processes and structures to support its growth. They also argue that if a company ignores these symptoms that it can result in failure.

This research has shown the impact that growth can have on the infrastructure of the organisation and how this growth can create a strain and negative impact on its infrastructure.

It has also shown that there is a necessity to intervene to bring the unacceptable behaviour of the variables into acceptable zones. The trends in the data have shown that left

unchecked these variables will grow in the unacceptable behaviour and will possibly, or probably, get out of control.

Through intervention and the implementation of systems, processes and structures the variables under consideration have been brought into check.

Through this processes of research and evaluation the question of:

**“How does the Organisational Infrastructure change to support a Company’s growth so that it remains viable as it grows from a small enterprise to a medium sized enterprise?”**

has been answered.

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# Appendices

## Appendix 1: The role of the managing director

The names of individuals and companies have been removed.

Title: Role of Managing Director

Author: Managing Director

Date: 13 June 2004

Responsibilities:

- Company responsibility
  - Ultimately responsible to shareholders for profitability and sustainability of *[EbiTec]*
  - Ultimately responsible for critical decisions in EbiTec (important decisions are however normally taken with full board discussion & approval)
  - Overall strategy co-ordination with the board
  - Financial & audit responsibility
  - HR responsibility
  - Contract negotiations on large contracts e.g. *[the insurance companies]*, etc
  - Scheduling and chairing board meetings, AGM, etc
  - Liaison with *[the shareholders representative]* (shareholders committee)
- Other responsibilities
  - *[initial EBIT contract]* – outsourced “CIO”
  - Project management from time to time (when no other resources available and project is a strategic imperative)
- People reporting to me are:
  - *[Marketing manager]* (marketing + line responsibility for (*[Client 3]* and (*[Client 4]*))
  - *[Product Manager]* (*[Product]* product manager)
  - *[Client Staff Manager1]* (*[Client 1]* staff manager)
  - *[Client Staff Manager2]* (*[Client 2]* staff manager)

- [*Client Staff Manager3*] ([*Client 2*])
- [*Technical Team Manager*] (Technical development team manager)
- [*Accounts Administrator*] (Accounting, payroll and office admin)

## Appendix 2: The strategy defined

The names of individuals and companies have been removed.

Author: Managing Director

Date: 27 February 2004

### **EbiTec's Employee Benefits strategy**

#### **Background**

EbiTec started in 1998 as the ex-*[Insurance Company]* Pensions Division IT department, with *[The Merged Insurance Company]* Employee Benefits as their first client (with a contract to support the *[System name]* legacy environment). EbiTec has now been in existence for 5 years, and has had the opportunity to transform itself from an IT cost centre, into a company marketing its services to the broader market.

It has become apparent that in order to survive and prosper in the open market, it is critical for us to identify and build clear differentiating factors, which add value to targeted clients.

Over time we have come to realise that our clear strength and differentiating factor is our unique combination of IT skills (incorporating both legacy and “new” skills), and knowledge of the Employee Benefits business environment. We have learned that it is very difficult to successfully implement IT projects in the EB environment, without an in-depth feel for the both the business and IT issues.

This insight has enabled us to surface a clear vision and strategy for EbiTec, which is summarised below.

#### **EbiTec's Vision**

To become the first choice supplier of systems services to the Employee Benefits market in South Africa.

### **EbiTec's strategy**

In order to achieve our vision, we have identified our target market (Employee Benefits administrators), and wish to forge long-term trusted relationships with the leading players in this arena.

The method of forming the trusted relationships is based on the consistent provision of high quality and reliable system deliverables supporting Employee Benefits Administration.

We have identified three core focus areas to enable the provision of this service, as well as to maintain and grow our competitive differentiators:

- **EB Business Knowledge:**

We recognise that we have to leverage our existing skills in this area, as well as enhance them. Hence we have various plans to achieve this goal: for example, from a recruitment viewpoint, we have a heavy weighting on EB knowledge. We have instituted ongoing EB training and information programs for all our staff, which is tailored to suit their specific roles and skill sets. We have also decided to host regular EB conferences on current “hot” EB topics, to which we will also invite our key clients.

- **IT skills**

We believe that we cannot provide excellent Systems Services to the EB market without IT skills that are competitive with those being provided by more generalised IT vendors. We thus ensure that we retain a core of top class technical specialists. We also keep our project managers, business analysts, developers and system testers up to date with the latest methodologies and trends in the market. Strategically, we will continue to offer support and development services in legacy technologies (mainframe & client server), as many of our clients' systems are developed in these technologies. We will also continue to maintain and grow our Java development capacity, which we use for new system developments.

- **Delivery**

The above two skill sets are meaningless without excellent implementation capability. We stress “non negotiable” delivery as part of our company culture, and will pull out all

stops to ensure that our consistency and reliability are beyond question. This element forms the basis of the trust relationship we seek to form with our clients.

## Appendix 3: Minutes of workshop held on 15 April 2005

I have highlighted the portions of the workshop that were relevant to this research.

### EbiTec's Board meeting minutes 15 April 2005

(Full day workshop session)

#### **Present:**

The technical manager,  
The shareholder representative,  
The MD,  
The marketing manager,  
The two client managers.

#### **1. Operational issues**

- ...

#### **2. Board / management structure**

The board recognized that as we are starting to grow, we need to formalize a number of our processes, and also focus on the profitability of our “new” clients. Board level responsibilities need to be defined more clearly. The question of “can we afford” additional overheads needs discussion.

After discussing a number of alternatives, the following was agreed with respect to maintaining profitability per client:

- We would appoint a manager for each client. This role would be responsible for:
  - Maintaining and growing the relationship with the client (position *EbiTec's* strategically with the partner)
  - Negotiating the new contracts with the client (involving the project managers where necessary)

- Ensuring that each client operates on a profitable basis (targets still to be negotiated but to be at least 10% profit on turnover)
- Line management for all people in their accounts, with the exception of the Java team who would continue to report into *[the technical manager's]* area.
- These managers would be as follows:
  - Client1            MD
  - Client 2           Client Manager 1
  - Clients 3&4       Client Manager 2
- Client Manager 2's appointment into this position was discussed at length ....
- ...

It was also agreed that we need a manager to push the internal controls initiatives forward.

The following points are relevant

- The need for this role is critical as we are growing, as things are starting to slip between the cracks using our current informal basis (e.g. invoice errors, HR contracts not signed etc)
- The need for this role was further positioned as “adding company value” via the creation of inherent processes in the organisation (example MacDonald's where all processes are worked out in advance =less management expertise required = more value to EbiTec).
- *[Person A]* would negotiate to spend more time at EbiTec's driving certain of these initiatives (e.g. one day a week but sometimes a full week where required).
- These initiatives are listed in point 3 below.
- It was not possible for *[client manager1]* to take a more active management role at this point owing to her current project commitments and *[her client's]* standpoint on contractors; however she would continue to attend board meetings on a “non exec” basis for now, and would take responsibility for additional issues where it seemed possible to fit these in. Potentially she would negotiate playing a larger exec management role of some sort in the future – but this would require some lead time and would need to be negotiated with *[Person B]* etc.

### 3. Internal processes

These processes encompass operations, HR and financial. Currently done mostly informally by various people e.g. ... etc. We need to identify the processes and work through them in order to priority.

The following categories of processes were identified (some processes overlap into more than one category, or could fall into different categories)

## **HR**

- Induction program for new staff – both EbiTec’s culture overview as well as “how we run projects”, methodologies etc
- Staff training and development (including EB business training)
- Recruitment process including signing of employment contracts, notification of pension fund, medical aid etc

## **Financial**

- Salary payments
- Invoicing
- Credit control
- Account payments including all legislative payments (PAYE, VAT, company tax, SDL, etc.)
- Accounting
- Monthly profit reporting as per new structure and also (if possible) per project, for development team only etc

## **Operations**

- Time sheet system – tracking per person, per project etc.
- Help desk system
- Project quoting methodology and contractual process

## **Project Operations**

- Project methodology
- Development methodology and standards
- Documentation system and standards
- Testing methodology, documentation and standards
- Release procedures
- QA procedures and project review
- etc

It was agreed that the **time recording system** was first priority and needs to be implemented asap – especially as this will facilitate the profit reporting per client which is critical for implementing the new structure. ... have put a fair amount of investigation into this and would work with Tania to move forward (Tania to drive the process).

... would retain the monthly profit reporting responsibilities for now – this responsibility to be re-looked at once Tania has implemented the time recording system.

The “project operations” responsibilities above would remain Derek’s responsibility to implement within EbiTec.

#### **4. Profit targets**

It was agreed that although we need to focus on both turnover growth and profitability, the main thrust in the short term should be profitability. We should aim for a minimum of 10% profit on turnover on all non- *[original client]* business, as well as to at least equal profits on *[original client]*. ... agreed to provide some initial numbers by early May which we could review and agree. Monthly reporting will then be done against these numbers.

## Appendix 4: An initial interview on perceived difficulties

I have listed the data of one of the interviews that were carried out.

### Interview Recording

- Resourcing – we are currently filling positions without any relevant procedure.
- Standardisation – each person has his or her own way of doing things. We need to define a standardised way of functioning.
- We need an HR Person who will be responsible for:
  - Induction – we need to create an induction course or some kind of induction process that happens when someone new starts with us.
  - Procedure vs Policy – we have a short list of policies but there are no procedures defined around these.
    - Employment Procedures, e.g.
      - Person X wanted to know if they could cancel their leave and take sick leave instead.
- Time Keeping – each person sends a spreadsheet to *[employee x]* each month who then has to allocate the time to the appropriate projects and reconcile the time to the invoices. We need to have some sort of centralized automated system to manage the timekeeping.
  - An example of this is the invoice that we need to generate for *[client y]* for *[person x]*. Shouldn't this be an automated invoice?
  - Problem that we have been having with booking time are:
    - The inaccuracy of booking time.
      - How do we ensure that each person is allocating their time to the correct work unit?
      - How do we ensure that everyone is booking time in a consistent manner?
    - Reporting – how do we understand where we are losing time?
    - Charging out –there was an incidence of a technical resource that booked time to the project team and was also allocated and charged

to the OM outsourcing. OM queried the double-charge. This was embarrassing for us.

- Crisis Management – what are we doing in a crisis? Each person has to manage him or herself. We have no method in which we deal with this. Currently it is the marketing person that goes to the client to sort out any problem that the client has. Often this is a way of satisfying the client and not necessary resolving the underlying issue.
- Figures – -our financials are taking too long to produce each month. We should also be reviewing our data on a monthly basis. The type of information that we produce is inadequate to understand what is happening in a project. We cannot produce more detailed information since we do not have a good understanding of the breakdown of each person's work other than what is charged to the individual projects.
- Filing cv's electronically
  - Recruiting – we are not managing the cv's that we have in our possession, and who they are coming from.
  - Management – who does the recruiting and where do they find the relevant information.
- Intranet Site
  - Information – we need to have information more freely available to each staff member,
  - We need to know: "This is how..."
  - Infrastructure – there is no infrastructure to decide where what information is kept.
- Job Definition / Descriptions
  - We do not have job descriptions and therefore do not have sufficient clarity of who is responsible for what.
  - We are empowered and we do not want to be over bureaucratic, but we need to find a balance.
  - How do we manage Staff Performance?

## Appendix 5: Flexi-time policy

The original policy document consisted of all items of the policy. In the next section the portion pertaining flexitime has been extracted. In the section that follows the updated policy document that pertains to flexitime only has been included.

In the third section below, the notifications of the changes and warnings of enforced compliance has been included.

The name of EbiTec has been removed in all the extracts below.

### A5.1 The original policy

The following document was taken out of EbiTec's policy document that was last update in November 2005.

...

#### 11. WORKING HOURS

Staff are required to average a minimum of 7.5 hours a day. Flexi-time is normally permitted. The rationale here is to provide individuals with the opportunity to design their working day to suit their individual requirements (as opposed to staff "hoarding" hours, with a view to taking or extending leave periods).

Obviously, should the pressures of a project be such that there is no option but to work extended hours over a long period, then it will be acceptable to take a full day as flexi leave – however should this be the case, detailed time sheets must be submitted to your manager **in advance for prior approval.**

Working from home may be permitted at the discretion of the relevant manager (it is not generally encouraged that people spend extended periods working from home, as this impacts on communication with peers and clients). It is also required that you communicate with your manager / team as to what you are working on when working from home.

...

## A5.2 The revised policy

EbiTec's staff is required to average 7.5 hours a day. Where the daily average number of hours has been reduced to accommodate a shorter working day, the agreed number of hours will apply in lieu of 7.5 hours used in the policy below.

Flexi-time is permitted where the job allows and within the framework of the client site that the individual is working at.

The rationale is to provide individuals with the opportunity to design their working day to suit their individual requirements. It is NOT intended for staff to accumulate hours (or days) with a view to taking or extending leave periods.

Flexi-time will adhere to the following rules:

- There will be no maximum limit to the amount of time that is accumulated.
- EbiTec will not be held liable for the time accumulated, and should the individual leave the employment of EbiTec for any reason, the excess time will NOT be commuted for cash and will be deemed null and void.
- An individual may reduce their flexi balance by a maximum of 15 hours (i.e. 2 X the average required daily hours) in a calendar month on condition that their flexi balance remains positive at any point during the month. Flexi balance is calculated on the last calendar day of each month. Any additional time required has to be taken as annual leave.
- If an individual is to work less than 5 hours (or 2/3 of the agreed daily hours) in a particular day then permission must be obtained from the employee's immediate manager.
- Where core-hours apply (particularly at a client site) then if an individual is to take flexi-time during core-hours then approval has to be obtained from the employee's immediate manager.
- If a full day flexi-time is required then flexi-time has to be approved as per the leave policy. Currently it just needs verbal approval by the immediate manager and is not managed through Time Machine.
- No more than two consecutive days may be taken at any point in time. This includes days taken on either side of any form of leave, a weekend or a public holiday.  
[Consecutive days count as days where there has been no working days in-between the days off.]

- Flexi-time may not be negative at any point. This has to be managed since Time Machine does not handle this automatically.
- If flexi-time is negative on the last day of a calendar month then annual leave has to be commuted to cover the negative time.

Currently Time Machine does not limit flexi-time balances nor does it limit leave automatically. Your manager will not approve your time at the end of a month unless your flexi-time and leave have fallen within the parameters defined in the leave and flexi-time policies.

### Illustration / Examples

ALL examples are for employees working a standard 7.5 hour day. If your daily hours are different then the examples need to be adjusted to the relevant agreed hours.

1. If you have a balance of, say, 60 hours on 31 October 2007, your flexi-time balance on 30 November may be no less than 45 hours.

| Maximum Flexi-Time Allowed    |                       |
|-------------------------------|-----------------------|
| Balance at 31 October         | 60 hrs                |
| Balance at 30 November        | 45 hrs                |
| <b><i>Flexi-time Used</i></b> | <b><i>-15 hrs</i></b> |

- a. If your flexi-balance on 30 November 2007 is 30 hours then you have to take 2 days leave to cover the additional 15 hours. Your flexi-time balance will then be 45 hours.

| Flexi-time before approval |         |
|----------------------------|---------|
| Balance at 31 October      | 60 hrs  |
| <i>Flexi-time Used</i>     | -30 hrs |
| balance at 30 November     | 30 hrs  |

Flexi-balance can only be reduced by a maximum of 15 hours; the additional 15 hours required have to be taken as leave. 2 days at 7.5 hours per day have to be commuted to cover this time.

For the time to be approved, the following has to apply:

| Approved Flexi-time    |         |
|------------------------|---------|
| Balance at 31 October  | 60 hrs  |
| <i>Flexi-time Used</i> | -30 hrs |
| <i>Leave Commuted</i>  | 15 hrs  |
| Balance at 30 November | 45 hrs  |

- b. If your flexi-balance on 30 November 2007 is 28 hours then you have to take 3 days leave to cover the additional 20 hours. Your flexi-time balance will then be 50.5 hours.

| Flexi-time before approval |         |
|----------------------------|---------|
| Balance at 31 October      | 60 hrs  |
| <i>Flexi-time Used</i>     | -32 hrs |
| Balance at 30 November     | 28 hrs  |

Flexi-balance can only be reduced by a maximum of 15 hours; the additional 17 hours required have to be taken as leave. 3 days at 7.5 hours per day have to be commuted to cover this time.

For the time to be approved, the following has to apply:

| Approved Flexi-time    |           |
|------------------------|-----------|
| Balance at 31 October  | 60.0 hrs  |
| <i>Flexi-time Used</i> | -32.0 hrs |
| <i>Leave Commuted</i>  | 22.5 hrs  |
| Balance at 30 November | 50.5 hrs  |

2. If you have a balance of, say, 10 hours on 31 October 2007, your flexi-time balance on 30 November may be no less than 0 hours. If your flexi-balance is -5 hours on 30 November 2007 then you have to take 1 day leave to cover the additional 5 hours. Your flexi-time balance will then be 2.5 hours.

| Flexi-time before approval |         |
|----------------------------|---------|
| Balance at 31 October      | 10 hrs  |
| <i>Flexi-time Used</i>     | -15 hrs |
| Balance at 30 November     | -5 hrs  |

Flexi-balance may be no less than 0 hours; the additional 5 hours required have to be taken as leave. 1 day at 7.5 hours per day has to be commuted to cover this time.

For the time to be approved, the following has to apply:

| <b>Approved Flexi-time</b> |         |
|----------------------------|---------|
| Balance at 31 October      | 10 hrs  |
| <i>Flexi-time Used</i>     | -15 hrs |
| <i>Leave Commuted</i>      | 7.5 hrs |
| Balance at 30 November     | 2.5 hrs |

3. You may not take more than two consecutive days of flexi-time. If you have need to take 5 days leave, and have accumulated sufficient flexi-time, you may take 2 days flexi-time and 3 days annual leave, on condition that your flexi-balance is greater than 0 hours at the end of the month AND that your flexi-balance from the previous month to the end of the current month is reduced by no more than 15 hours.

If your leave falls over the end of the month, you may not take more than 2 flexi-days. Consecutive days count as days where there has been no working days in-between the days off.

## Appendix 6: An impact analysis presentation

The presentation layout has been removed, and only the content of what was on the slides is shown in the table below.

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Impact of Negative Flexi-Time</b></p> <p>Teresia Arendse<br/>March 2008</p> | <p>Policy &amp; Procedure</p> <ul style="list-style-type: none"> <li>• Policy Effective 1/11/2007</li> <li>• May reduce Balance by max of 15 hrs/month</li> <li>• Flexi-Balance to remain positive at all times</li> <li>• Additional time taken as Annual Leave</li> <li>• Flexi-Time may not be negative at any point</li> <li>• Negative Flexi-Balance on the last day of a calendar<br/>has to be commuted for Annual Leave</li> </ul> |
|                                                                                   | <p>Plan to Rectify</p> <ul style="list-style-type: none"> <li>• All Leave &amp; Flexi to be positive by end June</li> <li>• BCOE (Chapter 3) <ul style="list-style-type: none"> <li>– 20(7) An employer may reduce an employee's entitlement to annual leave by the number of days of occasional leave on full remuneration granted to the employee at the employee's request in that leave cycle</li> </ul> </li> </ul>                   |

## Appendix 7: Overtime allowance

This appendix shows the overtime allowance policy that was implemented on 1 July 2008.

### Hours Worked: Overtime

EbiTec will not pay overtime for overtime worked where the employee is paid over the threshold as specified in the BCEA. EbiTec's culture is to foster an empowered environment where employees work flexi hours that equate to an average of 7.5 hours per day, so that daily hours can be varied according to agreed client needs and also to employee needs.

EbiTec will, however, pay an inconvenience allowance for hours worked outside of the normal working hours when the time is stipulated by the client and agreed by EbiTec and where it falls within the agreed parameters as defined below.

This policy will come into effect for all overtime arrangements agreed on or after 01 July 2008, and will remain in effect until changed or cancelled by Management.

## Conditions

### Eligibility

- Overtime must be required by the project.
- Overtime must be requested by either the client or the project manager responsible for the project.
- The overtime allowance will only be paid if the employee does not have any negative flexi-time nor any negative leave balances in the month in which the overtime is worked.

### Process

- A motivation for overtime allowance must be made in writing to the HR director, including the following details:
  - The period, i.e. start and end dates, for which the overtime allowance is required.
  - The project for which it is required.
  - Whether it is on client request and / or due to deadlines of the project.
  - The names of the employees who will be eligible for the overtime allowance.

- Only employees who are affected by the project in question are eligible for the allowance.

## **Overtime Allowance**

### **Amounts**

- An amount of R100 will be paid for each working day in which the employee works two (2) or more hours over and above the person's normal working day.
- An amount of R200 will be paid for each non-working day (i.e. week-ends or public holidays) in which the employee works four (4) or more hours.
- The employee will accumulate the overtime hours worked as per the normal flexi-time rules. These overtime hours may be taken as flexi-time, and will not be reduced as a result of the inconvenience compensation.
- If an expense allowance, e.g. for a meal, is claimed for a particular day then this expense will be off-set from the overtime allowance for that day in question.
- Where an expense, e.g. a food bill, is claimed, the maximum expense that will be reimbursed is that equivalent to the daily allowance that the employee is eligible for. Any expense amount claimed over and above the value of the overtime allowance is for the employees account.

### **Payment Process**

- The overtime allowance will be paid as an overtime allowance and normal taxation will apply.
- The overtime allowance will be calculated from the 21<sup>st</sup> of each month until the 20<sup>th</sup> of the following month.
- The overtime claims must be submitted to HR and Operations by the 20<sup>th</sup> of each month for payment in the same month. Any late submissions will be carried over to the next month.
- The overtime allowance will be paid with the employee's salary in the month of the cut-off date of the overtime submission.
- Each overtime claim must be approved by the employee's direct manager or team lead and also approved by HR or Operations.

## Appendix 8: Phelps' review of organisational life cycles

(Phelps, et al., 2007)

The information that informs Phelps' review of organisational life cycles is listed in the table below. The information in this table is a copy of the table found in Appendix 1 of Phelps' article on "Life cycles of growing organizations: A review with implications for knowledge and learning".

The references that Phelps' used for this data are included in the chapter of the appendix, as it is specific to this table. Some of the references may overlap with the data used in this research.

### March 2007 Knowledge and learning of growing organisations Appendix 1: Life-cycle Literature Reviewed

| Study                       | Stages<br>N= | Stage characteristics                                                                                                                                                                           | Rationale                                                | Theoretical (T) or empirical (E)/context | Country | Observations                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|------------------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Lippitt and Schmidt 1967 | 3            | (1) Birth (to create a new organization and become viable)<br>(2) Youth (to gain stability and reputation, and develop pride)<br>(3) maturity (to achieve uniqueness and contribute to society) | 'Like people and plants, organizations have life cycles' | T/Not given                              | USA     | Suggest knowledge needs for each of six crises.<br>(1) Creation – clearly perceived short term objective;<br>(2) Survive – communicate short term objectives;<br>(3) Stabilize – prediction and long-term planning;<br>(4) Reputation – whole exec team on board with planning and goals;<br>(5) Achieve uniqueness – setting objectives and sub-unit management;<br>(6) Earn respect– fit into wider society. |

| Study                    | Stages<br>N= | Stage characteristics                                                                                                                                                                                                             | Rationale                                                                                                                           | Theoretical (T) or empirical (E)/context | Country   | Observations                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Filley and House 1969 | 3            | (1) Single owner / founder promoting a single product / innovation<br>(2) Increased sales, market share, number of employees<br>(3) Growth slows, formalization of processes and objective setting                                | Not given                                                                                                                           | T/Not given                              | Not given | Different factors important at different stages but, all apply at different times with different levels of importance:<br>(1) markets and products;<br>(2) resources and operational systems;<br>(3) management systems;<br>(4) corporate culture;<br>(5) markets and products;<br>(6) culture, management and operational systems, and resources;<br>(7) all six.                  |
| 3. Steinmetz 1969        | 4            | (1) Increased complexity, pressure on time<br>(2) Expansion, recruitment and increased income, but also increased rigidities<br>(3) Grow or be absorbed, increasing overheads, disloyalty, diminishing rates of return, top heavy | No clear provenance, appears to be drawn from a sigmoidal model of growth                                                           | T/Not given                              | Not given | General thesis that life becomes more complicated as the organization grows, though no discernible pattern of problem type associated with any of the stages, though different factors important at different stages, e.g. in stage 1 record-keeping, legislative obligations etc.                                                                                                  |
| 4. Greiner 1972          | 5            | Each stage is followed by a 'revolution' or transitional phase arising from a major organizational problem                                                                                                                        | From an analysis of recent studies five key dimensions emerge as essential for building a model of organization development (p. 38) | T/Not given                              | USA       | Organizations face a predictable series of crises (revolutions) that are largely path-dependent. Prescriptive model. In 1998 suggests four phases for the services company.                                                                                                                                                                                                         |
| 5. Adizes 1979           | 10           | At every life cycle passage a typical pattern of behaviour emerges, such as risk and cost, vision and appetite, planning and coordinating etc.                                                                                    | Organizations have life cycles, just as living organisms do                                                                         | T/Not given                              | Not given | Organizations change emphasis on four activities:<br>(1) producing results;<br>(2) acting entrepreneurially;<br>(3) administering formal rules and procedures;<br>(4) integrating individuals into the organization.<br>Organizations start with a focus on entrepreneurialism, but over time become increasingly rigid and formalized, emphasizing stability, rules and procedure. |

| Study                       | Stages<br>N= | Stage characteristics                                                                                                               | Rationale                                                                                 | Theoretical (T) or empirical (E)/context                                                                                              | Country   | Observations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6. Kimberly 1979            | 2            | (1) Role of the entrepreneur<br>(2) Internal social control, managing relationships, building structures and processes              | Growth described in terms of numbers of people (students) and budget                      | E/Life cycle of a medical centre                                                                                                      | USA       | Factors that lead to success at birth are not the same as those during institutionalization.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 7. Galbraith 1982           | 5            | Described in terms of tasks, people, reward, process, structure and leader                                                          | These are the stages of 'a typical venture'                                               | T/Technology ventures                                                                                                                 | Not given | Asserts predictability of stages but that managers too frequently maintain inappropriate organization designs for the stage that they are in.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 8. Churchill and Lewis 1983 | 5            | See observations                                                                                                                    | Stages differentiated by changing importance of structural and functional characteristics | E/CEO reflections based on knowledge of Greiner's model, participants in a management programme. 83 successful SME s t/o \$1 m–\$35 m | USA       | Series of decisions to be made, revolving around exist or fail.<br>(1) Existence: obtaining customers and delivering the product. Simple organization, owner driven. The owner is the business.<br>(2) Survival, the emphasis shifts from existence to the relationship between revenue and expenses. Company may choose to remain at this stage.<br>(3) Success – the organization can either grow or disengage, the latter in order to maintain the status quo. Functional management takes over, and professional systems introduced – particularly those with an eye to the business's future as opposed to its current conditions.<br>(4) Take off, principal problems are how to grow rapidly and how to finance it. Responsibilities are delegated and cash is needed.<br>(5) Resource maturity – objective is to consolidate and control finances. |
| 9. Quinn and Cameron 1983   | 4            | (1) Marshalling resources<br>(2) Informal communication and structure<br>(3) Formalization of rules<br>(4) Elaboration of structure | Derived from a synthesis of nine extant models                                            | E/Development centre in a department of mental hygiene                                                                                | USA       | Major criteria of effectiveness change in predictable ways as organizations develop through their life cycles, e.g. that in entrepreneurial / collectivity stages flexibility and resource acquisition are most important.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Study                                  | Stage<br>s<br>N= | Stage<br>characteristics                                                                                                                                                                                                                                                                                                          | Rationale                                                                                                         | Theoretical<br>(T) or<br>empirical<br>(E)/context                                                                                                                                      | Country      | Observations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10<br>Miller<br>and<br>Friesen<br>1984 | 5                | (1) Birth,<br>becoming a viable<br>entity<br>(2) Growth,<br>distinctiveness<br>established<br>(3) Maturity,<br>becoming more<br>bureaucratic and<br>stable<br>(4) Revival,<br>diversification and<br>expansion<br>(5) Decline,<br>encroaching<br>stagnation                                                                       | Synthesis of<br>previous<br>models<br>inferred from<br>conceptual<br>literature                                   | E/161 periods<br>of history in 6<br>corporations<br>with 20+ years'<br>existence.<br>Mixed sectors<br>manufacturing,<br>transport,<br>services,<br>airlines<br>chemicals,<br>utilities | USA          | Some evolutionary<br>patterning but wide<br>variety of transition<br>paths open to<br>companies and<br>evidence of regression.<br>Over lengthy periods,<br>firms often fail to exhibit<br>the common lifecycle<br>progression extending<br>from birth to decline.<br>Also, the amount of time<br>spent by organizations<br>in any one period can<br>vary considerably.<br>Found that much<br>organizational growth<br>and change was<br>discontinuous in nature,<br>but that these changes<br>were 'by no means<br>connected to each other<br>in any deterministic<br>sequence' (p. 1177). |
| 11<br>Smith <i>et al.</i><br>1985      | 3                | Firms classified<br>into 3 stages by<br>cluster analysis<br>(model fitting)<br>based on 15<br>indicators of life<br>cycle stage<br>representing<br>growth, maturity,<br>structure, decision<br>style and<br>formalization                                                                                                         | Phases<br>defined in<br>terms of<br>functional and<br>structural<br>characteristics<br>in growing<br>organization | E/Electronics<br>manufacturing,<br>27 companies                                                                                                                                        | Not<br>given | Defines three top-level<br>management priorities<br>and makes some<br>suggestions about these<br>priorities' relative levels<br>of importance across<br>three stages of<br>organizational life cycle.                                                                                                                                                                                                                                                                                                                                                                                      |
| 12<br>Tushman<br><i>et al.</i><br>1986 | 2                | Some<br>organizations<br>capable of<br>sustaining long<br>periods of<br>equilibrium<br>followed by sharp,<br>widespread<br>changes. Long<br>periods of<br>convergence<br>giving support to a<br>basic strategy,<br>punctuated by<br>upheavals –<br>concurrent and<br>discontinuous<br>changes that<br>reshape the<br>organization | Synthetic<br>study modeled<br>on Greiner                                                                          | E/Mixed<br>sample – large<br>and small<br>organizations<br>in<br>minicomputer,<br>cement,<br>airlines and<br>glass<br>industries                                                       | USA          | Most successful firms<br>did undergo<br>transformation under<br>crisis, but did not follow<br>Greiner's or any<br>particular sequence.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|    | Study                     | Stages<br>N= | Stage characteristics                                                                                                                                                                                | Rationale                                                                                            | Theoretical (T) or empirical (E)/context                                                | Country   | Observations                                                                                                                                                                                                                                                                                                                                               |
|----|---------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13 | Scott and Bruce 1987      | 5            | At the transitions between the 5 stages, crises tend to occur. Firms progress from informal owner-managed organizations through formalized bureaucracy to diversified conglomerates                  | Develops Churchill and Lewis                                                                         | T/Not given                                                                             | Not given | Suggests five stages and four crisis points, acknowledges managerial choice and possible hybridizing of stages.                                                                                                                                                                                                                                            |
| 14 | Kazanjian 1988            | 4            | (1) Resource acquisition and technology development<br>(2) Production start-up<br>(3) Sales and market share growth<br>(4) Profitability. Growth rate slows to a level consistent with market growth | This differs from linear models in that it explicitly links stages to 'dominant problems'            | E/Technology based new ventures (n = 105                                                | Not given | The theoretical role of dominant problems is important in defining stages and understanding transitions between stages. However, empirical link between dominant problems and stages, in this study, is not strong.                                                                                                                                        |
| 15 | Hasenfeld and Schmid 1989 | 6            | (1) Formation / entrepreneurial<br>(2) Development / collectivity<br>(3) Maturation / formalization<br>(4) Elaboration of structure<br>(5) Decline<br>(6) Death                                      | Synthesis of previous models with the addition of 'decline' and 'death' stages                       | T/Human service organizations                                                           | Not given | Proposes a life-cycle model and examines implications for leadership, relations with environment, internal structure and service delivery system.                                                                                                                                                                                                          |
| 16 | Kazanjian and Drazin 1990 | 4            | Application of synthesis of existing models but, seeks to describe characteristics in terms of 'dominant problems'                                                                                   | Self categorization where stage is defined in terms of configurations of problems that managers face | E/105 technology based ventures, average employees fewer than 300, less than 15 yrs old | Not given | Centralization of decision-making decreased as the firms moved to higher stages, while formalization of decision making increased in higher stages.<br>Role specialization in the functional areas of manufacturing and marketing increased by stage. However, specialization in the engineering and technology functions remained high across all stages. |
| 17 | Beatty and Ulrich 1991    | 4            | None given                                                                                                                                                                                           | None given                                                                                           | T/Mature organizations                                                                  | USA       | A life cycle, with each evolving stage raising change challenges. Proposes strategies for change for mature organizations.                                                                                                                                                                                                                                 |

|    | Study                    | Stages<br>N= | Stage characteristics                                                                                                                                                                                                                                                                                                                                        | Rationale                                                                                                                                                                    | Theoretical (T) or empirical (E)/context                 | Country    | Observations                                                                                                                                                                                                                                                                         |
|----|--------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18 | Cosier 1991              | 3            | (1) Small scale, novel operations<br>(2) Cost controls, efficiency and bureaucracy<br>(3) Responsiveness to environmental changes                                                                                                                                                                                                                            | Synthesis of previous models                                                                                                                                                 | T/Office of the Secretary of Defense                     | USA        | Recommendations for modification of OSD based on life-cycle analysis                                                                                                                                                                                                                 |
| 19 | Dodge and Robbins 1992   | 4            | (1) Turning an idea into a business entity<br>(2) Establishment – uncertainty, short-term orientation, positive growth<br>(3) Growth slows, direct competitors appear, expansion/stability decisions<br>(4) Becomes a small bureaucracy and decisions for future need to be made                                                                             | Synthesis of previous models                                                                                                                                                 | E/364 clients of Small Business Institute. Mixed sectors | USA        | Marketing problems dominate, then management then financial issues. Not all businesses have the same problems, external environmental problems are more important early in the life cycle, with internal problems becoming more critical as the business grows and develops (p. 33). |
| 20 | Gupta and Chin 1993      | 3            | See Smith 1985                                                                                                                                                                                                                                                                                                                                               | Adopts Smith's (1985) model                                                                                                                                                  | E/105 CEOs                                               | Canada     | Organizations in the high-growth stage of their organizational life cycle perform significantly more analysis and innovation when faced with environmental challenges than do those in their maturity stages.                                                                        |
| 21 | Hanks <i>et al.</i> 1993 | 6            | (1) Young and small firms, indicative of start-ups<br>(2) Slightly older than 1 and expanding<br>(3) Younger than 2 but larger and suggesting late expansion or early maturity<br>(4) Bigger, seemingly maturing or diversifying<br>(5) and (6) Do not fit traditional life-cycle models. Tend to be old and small, possibly lifestyle or 'disengaged' firms | Stages identified by cluster analysis. Assumes that life-cycle stages are underpinned by unique configurations of variables relating to organizational context and structure | E/133 high technology organizations                      | USA (Utah) | Provides reasonably strong evidence in support of the life-cycle construct. However, questions remain over discreteness of clusters generated which might simply be illustrating evidence of firms choosing to do business in different ways and not of 'stages'.                    |

|    | Study                     | Stages<br>N= | Stage characteristics                                                                                                                                 | Rationale                                                                                | Theoretical (T) or empirical (E)/context                                                                                               | Country    | Observations                                                                                                                                                                                                                                                                                                                                                                    |
|----|---------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 22 | Bailey and Grochau 1993   | 4            | (1) Entrepreneurial<br>(2) Teambuilding<br>(3) Bureaucratic<br>(4) From here the organization can stagnate, die or renew                              | Identify critical life cycle transition points                                           | T/Not for profit                                                                                                                       | Not given  | Evolutionary changes within each unit must be recognized and addressed to ensure that a balanced fit is maintained between executive director and the board as the organization evolves over time.                                                                                                                                                                              |
| 23 | Terpstra and Olson 1993   | 2            | Start up = first year of operation                                                                                                                    | Constrained by data source                                                               | E/115 fast growing companies, ranged from computer services, construction, pharmaceutical and medical, telecoms, publication and media | USA        | Identifies 10 different problem types: obtaining external financing, internal financial management, sales / marketing, product development, production, general management, HRM, economic environment, regulatory environment. The findings indicated mixed support for previous research linking types of dominant problems to different stages of organizational development. |
| 24 | Dodge <i>et al.</i> 1994  | 2            | Argue that, depending on stage and level of competition (none or intense), different task environments, characterized by problems faced, will pertain | Avoids inconsistencies of previous models but attempts to retain descriptive richness    | E/645 small firms                                                                                                                      | USA        | Findings contradict much of the relevant literature that describes stages of the organizational life cycle in terms of the deterministic sets of problems that can be anticipated as an organization makes the transition from one stage to the next. But, that is not to deny that organizations face sets of problems.                                                        |
| 25 | Eggers <i>et al.</i> 1994 | 5            | Incorporate stages that recognize managers have stay or grow path alternatives                                                                        | Adopts a modified Churchill and Lewis typology                                           | E/CEO respondents in mixed industry sample at different stages of growth                                                               | USA        | Claims to validate the Churchill and Lewis model, but have to modify it. Propose 'phases of management' rather than 'stages of growth'.                                                                                                                                                                                                                                         |
| 26 | Hanks and Chandler 1994   | 4            | Based on Hanks <i>et al.</i> 1993                                                                                                                     | Based on Hanks <i>et al.</i> (1993) (contextual structural and organizational variables) | E/133 high-tech firms                                                                                                                  | USA (Utah) | E/133 high-tech Firms                                                                                                                                                                                                                                                                                                                                                           |

| Study                         | Stages<br>N= | Stage characteristics                                                                                                                                                                                                                  | Rationale                                                                                               | Theoretical (T) or empirical (E)/context           | Country   | Observations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 27<br>Flamholtz 1995          | 7            | (1) New venture<br>(2) Expansion<br>(3) Professionalization<br>(4) Consolidation<br>(5) Diversification<br>(6) Integration<br>(7) Decline                                                                                              | Synthesis of previous work                                                                              | T/Not given                                        | Not given | Key tasks need to be accomplished to move through the different stages                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 28<br>Gudmundsson 1998        | 7            | (1) Start up = pre-operational<br>(2) New entrant = revenue of up to \$99 m<br>(3) Transitional \$100–\$499 m<br>(4) Interim-major \$500–\$999 m<br>(5) Modulation-major £1 bn+ after which it becomes defined by geographic coverage. | An evolutionary path in terms of total revenue and mass (i.e. ability to sustain periods of losses)     | E/Airlines                                         | USA       | New entrants focused on niche strategy, and had cost advantages. 'Transitionals' placed increased importance on logistics systems and planning, suggesting greater organizational complexity as it grows out of earlier niches. Interim-majors emphasize cost and debt reduction.                                                                                                                                                                                                                                                               |
| 29<br>Mitra and Pingali 1999  | 6            | Owners can exert and implement a strategic preference and so choose alternative paths of growth                                                                                                                                        | Eight factors which can distinguish the growth stages of small firms are identified by cluster analysis | E/Auto ancillary companies in an industrial unit   | India     | Recognizes possibility of management choice and divergent future paths.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 30<br>Shim <i>et al.</i> 2000 | 5            | Adopts Churchill and Lewis                                                                                                                                                                                                             | Finds supporting evidence for 5-stage framework from cluster analysis                                   | E/416 Hispanic-owned retail and service businesses | USA       | Management of business resources, entrepreneurial talent and marketing and sales diminished with progression through stages. HRM issues increased with progression. Managing external / environmental factors – which were the most important factor across all stages. Strategic management factors unaffected by stage. As firms grow, managers must develop competencies in supervision of subordinates and delegation of authority and responsibility. They must have the ability to change the nature of their role as the business grows. |

| Study                          | Stages<br>N= | Stage characteristics                                                                                                                           | Rationale                                                                                                                                                                                                                                                                                         | Theoretical (T) or empirical (E)/context                          | Country     | Observations                                                                                                                                                                                                                                                                                                                |
|--------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 31 Abetti 2000                 | 3            | (1) Informal – everybody pitches in<br>(2) Functional – change from a doer to a manager<br>(3) Business units – increasing levels of management | Asserts that there are 3 stages in the first 9 years of an organization's life                                                                                                                                                                                                                    | E/Technology intensive companies (started up) in New York region. | USA         | Accelerated growth does not follow a smooth, predictable pattern, rather periods of evolution and revolution punctuated by crisis. Suggests that each phase lasts approximately three years. Each revolutionary period breeds the next crisis, and solution of the crisis generates the next period of evolutionary growth. |
| 32 Beverland and Lockshin 2001 | 4            | (1) Resource gathering<br>(2) Production<br>(3) Brand building<br>(4) Rationalization                                                           | Stages a function of: 5 years' growth, demand levels, stage of development of industry's products, level of diffusion of knowledge of industry's products, 5 years' plant capacity, current price levels for products, growth in types of distribution channels, industry advertising expenditure | E/Wineries                                                        | New Zealand | Mid-range life-cycle theory describing key challenges (gain resources, survive, gain distribution channels, systematize and plan) at each stage.                                                                                                                                                                            |

| Study                                  | Stages<br>N= | Stage characteristics | Rationale                                                                                      | Theoretical (T) or empirical (E)/context                                                                        | Country | Observations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------|--------------|-----------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 33<br>Rutherford<br><i>et al.</i> 2003 | 4            | See findings          | Number and characteristics of stages derived empirically from self-organized-mapping technique | E/2,903 family businesses, less than 500 employees from 12 industry sectors (agriculture – biotech – wholesale) | USA     | No growth – highest levels of recruitment problems.<br>Low growth – lowest levels of training and recruitment problems.<br>Moderate growth – retention issues most problematic.<br>High growth – high development problems and lowest levels of retention problems<br>Training problems peak in high-growth firms and lowest in low-growth firms, compensation problems peak in moderate growth firms and lowest in high-growth firms, recruitment problems peak in no-growth firms and lowest in low-growth firms.<br>Firm age is not a significant indicator of stage.<br>The proposition that HR problems in small firms varied over the OLC only partially supported.<br>SOM analysis did not uncover a traditional life cycle with respect to HR problems, but size and growth variables do define stages. |

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## Appendix 9: Flamhotz' organisational growth theory

(Flamhotz, *et al.*, 1990)

In this appendix, the theory of the different stages of growth of an organisation is described as defined by Flamhotz, *et al* (1990).

Flamhotz, *et al.*'s (1990) explain that in their research and experience that all organisations will experience difficulties in its environment as it passes through various stages of growth. All companies need to address its infrastructure and to develop new systems, structures and processes at each stage of its growth. These changes are imperative to support the growth and the size of the organisation. In this definition they explain that all organisations will experience growing pains and define it as a normal part of the organisation development. These changes are seen as the development gap between the operational and management structures that exist when a company is a particular size and the operational change requirements as the company grows.

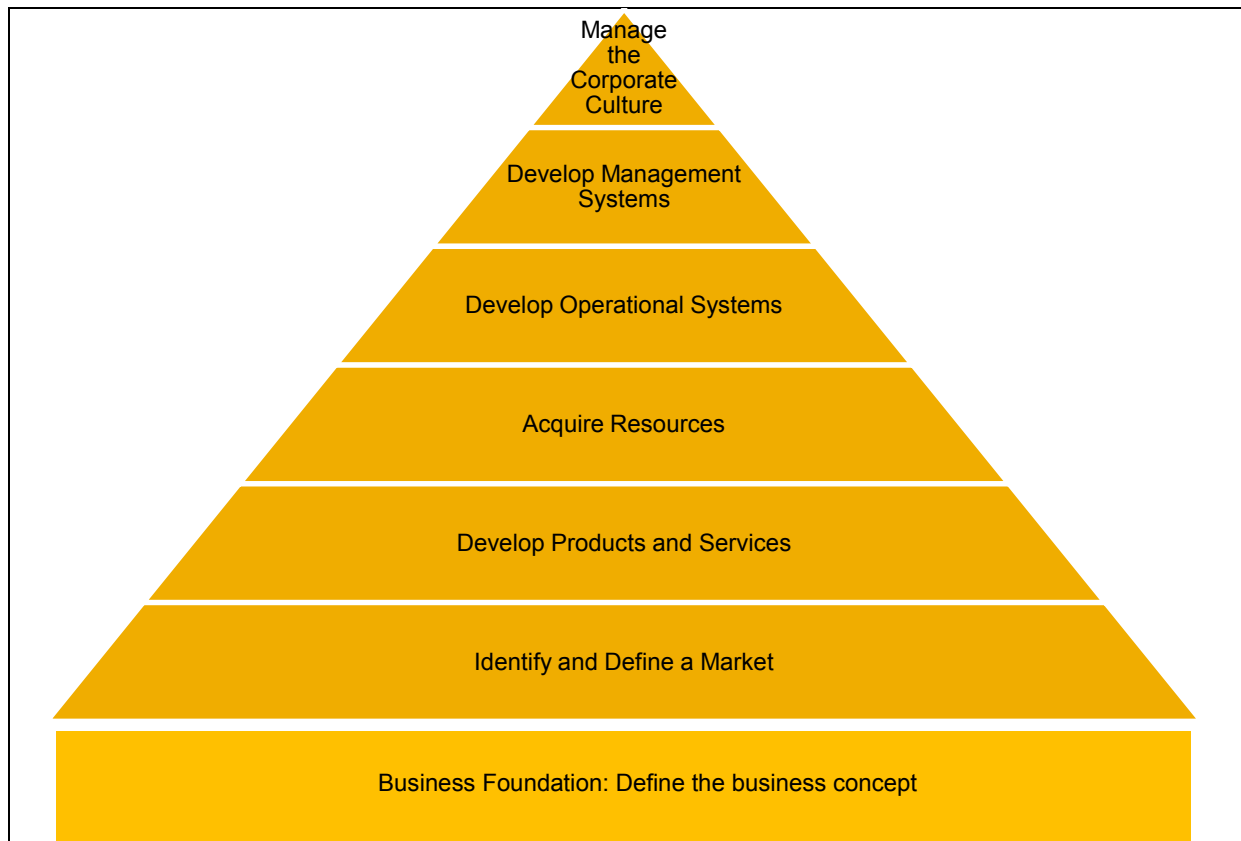
They claim that if these difficulties are ignored then significant problems or even failure can result.

In the definition of development they make a distinction between *entrepreneurship* and a *professionally managed firm*. Entrepreneurship is defined as a state of mind that is an essential component of an organisation's culture; however, at some stage of its growth entrepreneurship is not sufficient and the nature of the organisation needs to change, together with the people who run it. As the organisation grows and increases in size and complexity, the organisation needs to transform from entrepreneurship to a professionally managed firm in which it needs to develop more formal systems, processes, and structure if it wants to maximize the likelihood of continuing to be successful.

Flamhotz, *et al.*, (1990) go on to define a framework for developing a successful organisation, in which they define the operational support systems as the day-to-day systems and management systems as the firm's planning system, organisation structure, management development system, and control and performance management systems.

Their model is called the “*Pyramid of Organisational Development*” and it is described in the next section.

## A9.1 Pyramid of Organisational Development



**Figure 30: Management Systems Consulting Corporation,  
(Flamhotz, *et al.*, 1990 p. 15)**

In this model, (Flamhotz, *et al.*, 1990) defines organisation development as a process needed to increase operating effectiveness as well as profitability, and that this process includes the planning for these changes as well as the implementation of the changes.

Flamhotz, *et al.*'s (1990) offer six stages of development:

- Stage 1. The organisation has to identify and define a market; usually formed as part of the identification of the business need, and could consist of both the current clients and the potential clients of the service or product offering.
- Stage 2. The organisation has to clearly develop its products and/or service offering. This is what is being sold to the client or potential clients for a fee.

- Stage 3. It has to acquire the resources that will meet the needs to fulfil the product or service offering. Resources include space, money, people, skills or any other resource that the organisation requires to meet the business need.
- Stage 4. It becomes necessary to clearly develop the operational systems. These include the basic day-to-day operations such as accounting, invoicing, debt collection, human resources, payroll processing, so that the operation can operate adequately and function effectively. These operational structures can bring a business to a standstill if they remain underdeveloped.
- Stage 5. It has to develop the management systems. These systems comprise of the planning systems, the organisational structure, the management development system and its performance management systems.
- Stage 6. In the final stage comprises of managing the corporate culture. The corporate culture is a set of shared values, beliefs, and norms that govern the way people are expected to behave on a day-to-day basis. This is intrinsic in the way the organisation operates but in this stage it needs to be extrinsically managed so that the culture becomes a strategic benefit to the operations of the organisation.

## **A9.2 Stages of Organisational Growth**

Also according to Flamhotz, *et al.*, (1990), there are seven stages of growth in a company, namely:

- 1) new venture,
- 2) expansion,
- 3) professionalization,
- 4) consolidation,
- 5) diversification,
- 6) integration and
- 7) decline and revitalization.

The first four stages of the growth of an organisation characterises the period from inception of a new venture to the attainment of organisational maturity. This period includes the development of an entrepreneurship through the stage when the firm becomes professionally managed. The last three stages deal with the period of a company's life cycle after the attainment of organisational maturity. In this study only the first four stages are

considered. The remaining three are after maturity which doesn't relate to the concern at hand.

### A9.3 Mapping growth to development needs

The first four stages of growth in the company can be mapped to the seven organisational development stages as defined earlier.

| Stage | Description         | Critical Development Areas        |
|-------|---------------------|-----------------------------------|
| I     | New Venture         | Markets and Products              |
| II    | Expansion           | Resources and operational systems |
| III   | Professionalization | Management systems                |
| IV    | Consolidation       | Corporate culture                 |

**Table 6: The first four stages of organisational growth.**

(Flamhotz, *et al.*, 1990 p. 30)

### A9.4 Stage I: New Venture

Stage I in the company growth model emphasises defining markets and developing products (the first two stages of development) which are critical at the beginning of the company's development. It is the market and the client that usually drives the creation of the new venture and without customers and a product or service the organisation cannot exist.

### A9.5 Stage II: Expansion

Stage II involves rapid growth in revenues and staff numbers that sees the onset of other challenges. Organisational resources are stretched to the limit with demands on accounting, recruiting and service delivery. These pains are largely due to growth. Many companies cannot get through this stage and eventually fail and disappear, usually because the entrepreneur cannot cope with the managerial problems. It is in this stage that a company needs to have an infrastructure where the operational systems operate efficiently and effectively to meet the growing demands of the organisation.

## **A9.6      Stage III: Professionalization**

Stage III characterises the need for a transition to a different type of organisation, to a more professionally managed organisation with the development of the management systems and infrastructure of the organisation. In this stage a company reaches a critical size in which its practices and procedures need to be formalised with formal planning, resource and skills management. In addition the monitoring and control systems need to also be put in place. These changes to the organisation are not a choice in the development of the organisation, it is imperative that these structures are put in place to ensure that the organisation can meet its demands. Without these structures the organisation will reach a critical size in which it will no longer be able to operate.

## **A9.7      Stage IV: Consolidation**

Once these systems are developed the organisation needs to focus on its corporate culture, with culture being the most intangible benefit of all. Corporate culture is the values, the beliefs and the norms of the organisation – it is the way it in which the organisation operates. The culture of an organisation already exists in the operating of the organisation but for the corporate culture to have a powerful effect on day-to-day operations, the corporate culture has to be made explicit and specifically managed. The corporate culture can become a strategic benefit to an organisation where it has a distinct competitive advantage and adds specific value to the profitability of the company.

**Stages V, VI and VII** are defined as growth stages that occur after the maturity of an organisation. In this study the organisation has not reached these stages, and therefore the literature of these stages is not discussed.

## **A9.8      Summarising the change requirements**

However, in response to the first four stages of growth framed above, (Flamhotz, *et al.*, 1990): believe that these development needs should be addressed as follows:

To develop a successful organisation the first step is to define the market and develop a strategy to create a potential niche, through the use of strategic market planning. It also

means laying out the strategy through which the firm plans to compete with others for its share of the intended market.

The second task is the productisation of the offering by analysing the needs of current and potential customers in order to design products and / or services that will satisfy their needs.”

The third major task is to acquire resources, whether physical, financial or human to meet the organisational needs. To function effectively it must be able to administer basic day-to-day operations such as the accounting, billing, collections, advertising, personnel recruiting and training, sale, production or service delivery, information systems, transportation and any other related systems.

The fourth task in building a successful organisation is the development of the systems needed to facilitate these day-to-day operations, i.e. its operational systems. The operational systems are part of an organisation’s infrastructure and are necessary to facilitate growth.

The fifth task is also part of the organisation’s infrastructure; it is developing the management systems required for the long-term growth and development of the firm, and consists of four management systems:

- the planning system – a plan of the organisational goals,
- the organisation structure – the structure of its reporting lines,
- the management development system –the development of its people, and
- the performance management systems – the measure to understand performance of the organisation, whether people performance or organisational performance.

The sixth and final challenge is to manage the corporate culture so that it supports the achievement of the firm’s long-term goals.

## Appendix 10: Further Readings

### Organisational Performance

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