Chapter 6

Suggestions & Recommendations and Concluding Remarks

6.0 Introduction:

In the Chapter five findings, arising out of the analysis of the data gathered through the questionnaire are listed. Based on the above findings conclusions have been arrived at. Using the findings and conclusions following suggestions and recommendations are made.

6.1 Suggestions and Recommendations:

Gaps in the management practices that negatively impact deployment of the IT tools and techniques by the medium enterprises have been analyzed to arrive at the following suggestions and recommendations that can mitigate the gaps and assist in better utilization of IT. Each identified gap is explained below followed by the suggestions and recommendations.

6.1.1 Alignment/ synchronization of the IT strategic plan with the business strategic plan.

This has emerged to be the major gap. Several other gaps listed in Chapter five are the consequence/causes for this gap.

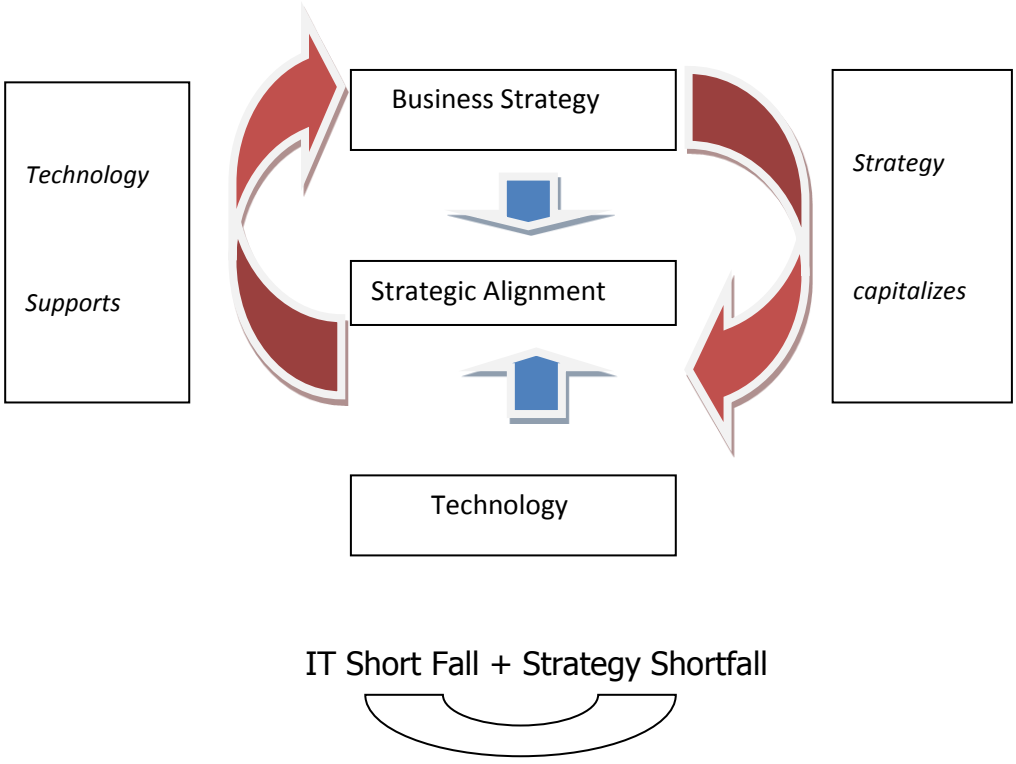
For the sake of clarity, brief introduction to the subject of 'alignment of the IT strategic plan with the business strategic plan' is given below.

6.1.1.1 What is alignment of the IT strategic plan with the business strategic plan and how to achieve this?

Joe Luftmann and Tom Brier defined 'business-IT alignment' as "applying IT in an appropriate and timely way and in harmony with business strategies, goals and needs".

Paul A. Strassman has defined alignment of IT strategy with the business strategy as "alignment is the capacity to demonstrate a positive relationship between information technologies and the accepted financial measures of performance".

Strategic alignment may be pictorially depicted as follows:



(Source: Paul P. Tallon and Kenneth L. Kraemer 1999)

Figure 6.1 Alignment of IT Strategy with Business Strategy

In short, 'Strategic alignment' is the synchronization of the Business strategy and the IT strategy to support the business plans in such a manner that it influences the business performance in a measurable manner. The above alignment logically is a definite pre-requisite to get the best results from deployment of IT.

Alignment of business and IT strategy is believed to improve organizational performance (Sabherwal and Chen 2001[26], Venkatraman, Henderson & Oldach 1993[27], Reich and Benbasat 1996[28], Croteau and Bageron 2001[29]). This has been further confirmed by a study carried out by the BTM institute, USA and reported in the CIO journal[30].

Over the last two decades several models for Business-IT strategic alignment have emerged. The most widely accepted model was conceptualized by Venkatraman, Henderson and Oldach (1993) and is reproduced below. **(www.valuebasedmanagement.net)**

Strategic Alignment Model (Venkatraman et al)

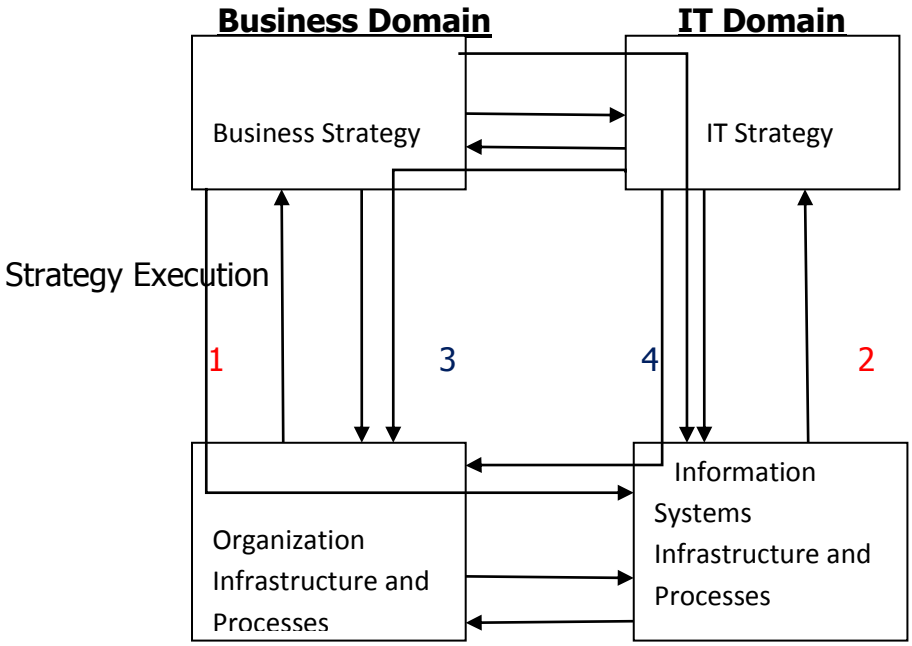


Figure 6.2 Strategic Alignment Model

This perspective views the business strategy as the driver of both organization design choices and the logic of the IT infrastructure. Top management formulates the strategy; IT management is only strategy implementer. (Arrow 1)

Technology Potential.

This perspective also views the business strategy as the driver. However it involves the formulation of an IT strategy to support the chosen business strategy and the corresponding specification of the required IT infrastructure and processes. The top management should provide the technology vision to articulate the logic and choices pertaining to IT strategy that would best support the chosen business strategy. The role of the IT manger should be that of the technology architect. He designs and implements efficiently and effectively the required IT infrastructure that is consistent with the external component of IT strategy (scope, competences and governance). (Arrow 2)

Competitive Potential.

This alignment perspective is concerned with the exploitation of emerging IT capabilities to:

- Impact new products and services (i.e. the business scope)
- Influence the key attributes of strategy (i.e. distinctive competences), as well as
- Develop new forms of relationships (i.e. business governance).

Unlike the two previous perspectives, which considered business strategy as given (or as a constraint for organizational

transformation), this perspective allows the modification of business strategy via emerging IT capabilities.

The specific role of the top management to help this perspective succeed is that of the business visionary, who articulates how the emerging IT competences and functionality as well as changing governance patterns in the market place would impact the business strategy.

The role of the IT manager is to act as a catalyst. He (or she) identifies and interprets the trend in the IT environment. In doing so he (or she) assists the business managers to understand the potential opportunities and threats from an IT perspective. (Arrow 3)

Service Level.

This alignment perspective focuses on how to build world class IT organization within an organization. In this perspective role of business strategy is indirect.

This perspective is often viewed as being necessary, but not being sufficient, to ensure the effective use of IT resources and to be responsive to the growing and fast changing demands of the end-user population.

The specific role of the top management to make this perspective succeed is that of the prioritizer. They decide how the scarce resources should be allocated, both within the organization as well as in the IT marketplace (in terms of joint ventures, licensing, minority equity investments, etc.).

The role of the IT manager is one of business leadership, with the specific tasks of ensuring that the internal business succeeds within the operating guidelines from the top management."

From the above model that has stood the test of time since its inception in 1993, it may be assumed that in the current Indian Medium Industries context, "Competitive Perspective" is the most apt strategic alignment approach and that without this optimum utilization of IT for growth and performance of the enterprise may fall short. (Arrow 4)

6.1.1.2 Relationship with the other identified gaps:

The following identified gaps are the cause or effect of the **key gap** i.e. "Inadequate (absence of) alignment of IT strategy with Business strategy". (Reference no given before each gap provides the cross reference with Chapter Five):

- **C 2.10 Level of IT manager in the Organization Structure:**
  Since IT manager is currently not expected to participate in business strategy deliberations and contribute in formulation of the business strategy, IT manager is not a part of the top management echelon and consequently, in most of the cases, does not report to the Chief Executive Officer or the Chief Operating Officer.

- **C 2.13 Role and Responsibilities of the IT manager**:
  On account of the above key gap, role of the IT manager is perceived to be purely functional and operational i.e. management of IT operation.

- **C 2.12 Profile of IT manager:**
  Roles and responsibilities of the IT manager being only management of IT operations, profile is correctly decided to comprise of IT related education and experience.

- **5.2.3.2 Weaknesses:**

  The identified key weakness of inadequacy of "'Business knowledge and understanding of the users' needs" is a consequence of C2.12 above.

- **C 8.17 Process of selection and implementation of the IT applications:**

  In view of the above key gap, selection of applications would be driven by ad hoc plans.

6.1.1.3 Impact:

This key gap of "non/inadequate alignment of the business strategy with the IT strategy' would impact the following:

- Selection of IT applications to be deployed that will assist in realizing the business strategic plans and achieving the planned growth and performance.
- Implementation of the planned IT applications within the cost and time budget.
- Effective utilization of the implemented IT applications.
- Enabling the IT manager to handle additional responsibilities besides the IT related areas (for example business process improvement).

6.1.1.4Suggestions and Recommendations:

To achieve the desired alignment/ synchronization of the IT strategy with the business strategy, following actions are recommended:

- C level management persons need to be IT savvy by way of effective deployment of IT. Also they need to be aware of the need, importance and process of alignment of IT strategy with the business strategy. This can be achieved in the following ways:
  - Hire a consultant well versed on the subject of 'alignment of the IT strategy with the Business strategy'. The consultant together with the IT manager would assess the current status of alignment. Consultant together with the IT Manager would carry out the alignment process. The consultant would also document the process of alignment and train the in house IT persons (IT manager and couple of other senior IT persons) to enable them carry out the process in future. Also the Consultant would carry out training sessions for the senior management on the need and process of aligning the IT strategy with the business strategy.
  - Outsource the process of making the IT strategy aligned with the business strategy. Training of the senior management and the IT persons on the subject of alignment would still be required and should be done. This approach would be applicable for the enterprises who have only skeleton IT organization whose responsibility is simply operation of the IT facility or where management and operation of IT infrastructure has been outsourced.
  - Train the Senior Management through participation in seminars or/and through in house training on the subject conducted by a consultant.

If the current IT manager is not business savvy, sponsor the IT manager to short business oriented courses.

Also ensure that the IT manager goes through adequate orientation in all functions of the organization to gather knowledge of the practices and priorities of the various functions.

Alternatively a business savvy person from within the organization may be selected and sponsored to short IT courses to equip him with the IT knowledge required by an IT manager.

Another alternative could be to hire an IT manager from outside, who is savvy in the company related businesses. The selected person can go through a detailed orientation program to understand the business of the company.

In any case the IT manager would need to be trained in the process of making IT strategy aligned with the business strategy.

At the organization level process of making an IT strategy aligned with the business strategy needs to be made an essential part of 'formulation and review of the business strategy'.

- In the organization structure, the IT manager must report directly to the Chief Executive Officer or the Chief Operating Officer so as to have a firsthand knowledge of the organization's strategic, tactical and operational plans.
- IT manager needs to be a part of the key management group and must participate in all strategy/ operational plan making as well as review deliberations.
- IT manager must formulate and regularly review the IT strategic plan aligned with the business strategic plan. The IT

strategic plan and its alignment must be communicated regularly to all IT staff to ensure that the total IT organization is in sync with the business needs and contributes effectively to achievement of the business objectives and goals.

- Key Performance Indices (KPIs) of the IT function as well as all key staff members must be business oriented in addition to being IT activities and tasks oriented.
- Communication between IT and the other functions must be frequent and of high quality thereby minimizing the traditional chasm. Internationally lack of understandable and transparent communication and its adequacy have been identified as the major cause of the chasm between IT and the users.

6.1.2 C 8.17 Process of selection and implementation of the IT applications:

Root cause of the inappropriate selection of the IT applications lies in the gap identified above (i.e. inadequate/lack of the IT strategy aligned with the business strategy). Both the underlying drivers as well as the recommendations to mitigate the same have been dealt with in 6.1.1 above.

It stands to reason that a business strategy oriented IT strategy would ensure that any IT investment in the additional infrastructure (including hardware, communication, networking and software) is focused on realizing the business strategy. This will ensure that selection of IT applications is synchronized with the business strategy.

6.1.2.1 Gaps in the Implementation Process deployed for implementing IT applications:

Following gaps in the implementation process followed for the IT projects have emerged.

- In justification of an IT project quantified measures of the results/ benefits expected are not included (58% NC level).
- Formal management review of the results of an IT project, including the measurement of quantified results/ benefits, to identify the learning from the project for use in the future projects, is not in place (62% NC level).
- Progress of the IT projects is not transparently communicated in a formal pre-defined manner and frequency, to all stakeholders. In other words no formal process exists for communication of progress to all stakeholders (41% NC level).
- For IT projects, stage wise time and cost planning and its formal management review is not in place (35% NC level).

6.1.2.2 Suggestions and Recommendations:

Root cause of the above gaps is again **"inadequate/lack of the IT strategy aligned with the business strategy".** Top management at most of the medium enterprises still are not IT savvy and may delegate the IT project management to the non business savvy IT manager. This results in management of the IT projects from technology point of view and consequently many times results in substantial over run of cost and time as compared to the budget.

The gaps identified above are on account of non-implementation of sound 'IT Project Management Processes'. These processes may be based on the best practices promoted by the 'Project Management Institute' of USA or the OGC (Government of UK) promoted 'Prince 2' (**Pr**oject **in C**ontrolled **E**nvironment) methodology. There are several books available on the subject. The project

management best practices recommend adoption of the practices that would automatically mitigate the above gaps.

The medium enterprises do apply the 'Project management' techniques for the Capital Investment' projects related to plant and machinery. IT projects are no different. Contrary to normal perception of the senior management, IT project management is quite similar to the other projects.

To apply the project management techniques to the IT projects, senior management needs to go through the introductory training course (usually of 4-6 hours duration) and the IT persons a detailed training (usually of 4-5 days duration). It is recommended that the key IT persons not only go through this training but also appear in the exam and get certified.

Thereafter application of project management techniques to the IT project management can be institutionalized by strict insistence by the senior management. This would provide an incentive to the IT persons as the 'Project management certification' and experience in its application, carries weight in the CV.

6.1.3 C.8.18 Process Improvement Initiative as a prelude to implementation of an IT application.

To get the best results from implementation of an IT application, it is advisable to analyze the underlying business processes and improve/ re-engineer them before computerization. This practice would enable harnessing full potential of IT tools and techniques and provide an optimum ROI (return on investment) from the investment in the IT application/s being deployed. This concept has been very well explained by Michael Hammer and James Champi in their famous book "Re-engineering the Corporation".

6.1.3.1 Gap

This gap has a significant NC level of 56%. It means that 56% of the medium enterprises can improve the benefits from IT applications and ROI on the investment in these applications through adopting practice of re-engineering the business processes planned to be computerized.

The driver for this gap is again **"inadequate/lack of the IT strategy aligned with the business strategy".** A business savvy IT manager who is a part of the business strategy process, would make a case for carrying out business Process reengineering prior to IT enabling or IT reengineering the process.

6.1.3.2 Suggestions and Recommendations

For lasting mitigation of this gap, it is recommended that the IT manager is made responsible for the 'Continuous Improvement of Business Processes' initiative across the organization specifically for the key business processes where IT applications have been implemented or planned to be implemented.

To implement this recommendation, the IT manager and the IT staff needs to be trained adequately in the improvement methodology (like Six Sigma, Lean Sigma) adopted by the organization.

The IT persons (including the IT manager and the first line managers/ supervisors of the IT department) need to undergo green belt training, carry out a couple of process improvement projects and get certified as 'green belt'. A few persons among the green belt certified IT persons may be trained as black belts. This will also help in making the IT processes to be efficient and focused

on providing high level of service to the users thereby minimizing the traditional divide among the users and the IT persons.

To ensure participation in the process improvement projects, participation in such projects and the results achieved may be made as a part of the KPIs for measurement of performance.

6.1.4 C 7.26 Continuous Improvement (CI) methodologies being followed for improving the non-manufacturing (Business) processes.

This gap will automatically be addressed by the suggestions/ recommendations made in 6.1.3 above.

6.2 Summary

This research has confirmed that the medium scale manufacturing industries in and around Pune, by and large, are utilizing IT tools and techniques to stay competitive by meeting with the criteria of quality, cost and delivery so as to win customer satisfaction. They have also embraced 'continuous improvement revolution' to achieve consistent organizational performance as well as customer delight. It has also been confirmed that the top management/ owners are not only satisfied with the contribution made by the IT in their enterprise/s, but are also convinced that IT is capable of contributing a lot more. The CEOs/CFOs, to a large extent, are aware of the weaknesses of their IT infrastructure and would like to get over these inhibitors so as to improve the contribution of the IT applications currently deployed and planned in future.

The study has shown that the major use of IT is in the area of operations management with the objective of improving operational performance. The recent two cycles of economic slowdown have further reaffirmed this focus and accelerated its implementation. With galloping cost of skilled person-power and basic raw material

(like steel, copper, etc.) improvement in efficiency and productivity both in the manufacturing and non-manufacturing areas is an absolute necessity. Re-engineering of core business processes using IT tools and techniques provide a proven way forward.

The next stage of IT deployment (as proven all over the world) is expected to be in the area of achieving higher level of business performance and customer satisfaction. The applications in this area include BPM (Business Process/Performance Management), BI (Business Intelligence), e-commerce, etc.

This is generally followed by the next level which would be focused on revenue generation areas like acquisition of new customers, development of new products and enabling generation of innovative revenue streams.

There is no hard and fast rule that the above stages need to be followed in the sequence stated above. Each organization would select the stages appropriate to meet with their needs.

Hence it is essential to identify and mitigate the gaps that inhibit successful deployment of IT tools and techniques in application areas that enable achieving operational excellence as well as addition of new revenue streams. This research has identified such inhibitors.

Among others the key finding is "Inadequacy/absence of strategic alignment of the IT strategy and the business strategy'. Whereas formal business planning both long term and annual is quite common among the enterprises, IT strategic planning synchronized with the long term business plan is by and large lacking. This is most likely to result in wrong selection of IT applications and inappropriate deployment of the IT infrastructure including the IT

manager and other key persons, resulting in disenchantment of user community and widening the commonly present chasm among business and IT. This is most likely to deprive the enterprise of the potential growth opportunities as well as appropriate and well deserved 'Return on Investment'.

Suggestions and recommendations to mitigate the above and other identified gaps have been included above in this chapter.

6.3 Benefits of this research to the Industry:

Not only the medium size manufacturing industry but all types of medium and large industry can use the conclusions reached in this research (within the scope and limitations stated elsewhere in this thesis) and the suggestions/recommendations made. For example all industries irrespective of the size would be benefitted by formally aligning their IT strategy with the business strategic plans. The aligned IT strategy would result in quantum leap in the contribution of IT in enabling the business achieve better profitability, world class performance and bench mark growth level.

6.4 Further Research.

There is a definite need for carrying out further research on the subject 'Strategic Alignment of the IT strategy and the Business strategic plan', absence/inadequacy of which has emerged in this study to be a major gap. The above 'strategic alignment' has very wide implications for effective deployment of the IT tools and techniques. Internationally too this is the top concern of the top management including the Chief Information Officers (at times referred to as IT managers).

Several models for the above strategic alignment have been developed over the past two decades by the researchers from USA

and Europe. The environment and culture that the medium manufacturing enterprises operate in India and the challenges faced are entirely different.

Hence a detailed research leading to the development of a medium enterprises centric strategic alignment model is definitely needed. In addition research needs to develop implementation road map that can be adopted by the medium enterprises considering the limited resources and the managerial bandwidth available to them.

The above research would be extremely helpful to all types and sizes of enterprises not only in India but also similar enterprises in developing countries across the world. This would also be helpful to the educational bodies to address the above subject of 'Strategic Alignment of the IT strategy and the Business strategic plans' in IT and Management programs.