CHAPTER - 5
Chapter 5

Conclusions and Managerial Implications

This chapter provides conclusions of the research study and managerial implications along with limitations of this study.

Overall, this research is aimed at improving the understanding of heterogeneity in business performance among organizations in the Indian Life Sciences BPO Industry. According to Slywotzky et al., (1997), Timmers, (1998), Tapscott et al., (2000) and Kaplan et al., (2004), this difference on why some firms do better than others is explained in the form of “business models”.

Based on the work on various authors such as Magretta (2002), Petrovic et al., (2001), Timmers, (1998), Weill and Vitale (2001), Osterwalder and Pigneur, (2002), Ghaziani and Ventresca (2002), Rappa (2003) to name a few, the researcher defines a business model as “an essential conceptual structure that contains a set of elements (critical success factors) and their relationships that allows expressing an organization's unique strengths required to attain business success.”

Hence, understanding the relationship between business models and business performance of organizations in the Indian Life Sciences Business Processing Outsourcing (BPO) Industry would help us better understand, explain and control the heterogeneity of business performance and success of various organizations in this specific industry segment.

From literature review, it is evident that there are no industry specific models, frameworks, tools which can be applied to create organization specific business models and compare these organizations based on their business performance. On comparison we can empirically understand the relationship between business models and business performance of organizations belonging to this specific industry.

Due to the lack of models or frameworks required to create business models, this study constructs a industry specific generic business model framework which is then used to identify existing business models, study, compare relationships and predict business performance of organizations.
5.1. Conclusions

5.1.1. Elemental Critical Success Factors

In conclusion, the research study finally lead to identification of 46 elemental critical success factors and eight themes under which these 46 elemental CSF were categorized.


2. The eight identified themes were: Strategy (made up of 8 elemental CSF), Human Resources (5 elemental CSF), Operations (3 elemental CSF), Marketing (7 elemental CSF), Finance (7 elemental CSF), Environment (6 elemental CSF), Industry (6 elemental CSF) and Innovation (4 elemental CSF).

3. Four groups containing specific themes were identified to influence business performance in order of decreasing magnitude. These include Operation and Innovation (GROUP 1), Strategy, Human resources and Finance CSF themes (GROUP 2), Marketing and Environment theme CSF's (GROUP 3), Industry CSF (GROUP 4). Table 5.1 given below presents this along with the name of the elemental CSF which influences the identified business model theme the most.
### Table 5.1- Relationship between Themes and Elemental CSF’s

<table>
<thead>
<tr>
<th>Sl.</th>
<th>Business Model Themes affecting Business Performance</th>
<th>Elemental CSF’s affecting Business Model Themes the most</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Operations</td>
<td>Global Delivery Footprint</td>
</tr>
<tr>
<td>2.</td>
<td>Innovations</td>
<td>Technological innovation</td>
</tr>
<tr>
<td>3.</td>
<td>Strategy</td>
<td>Management commitment</td>
</tr>
<tr>
<td>4.</td>
<td>Human resources</td>
<td>Skills &amp; Attitudes</td>
</tr>
<tr>
<td>5.</td>
<td>Finance</td>
<td>Customer Focused practices</td>
</tr>
<tr>
<td>6.</td>
<td>Marketing</td>
<td>Customer Relationship &amp; Management</td>
</tr>
<tr>
<td>7.</td>
<td>Environment</td>
<td>Regulatory</td>
</tr>
<tr>
<td>8.</td>
<td>Industry</td>
<td>Bargaining power of buyers</td>
</tr>
</tbody>
</table>

4. Constituent elemental CSF which has maximum influence on the theme Operations is Global delivery competency of the organization, for Innovations it is Technological innovation, for Strategy it is Management commitment, for Human resources - Skills & Attitudes of the resources, for Finance - Customer Focused practices, for Marketing - Customer Relationship & Management, for Environment — Regulatory and for Industry it is Bargaining power of buyers respectively.

5. The elemental CSF and the themes identified are extensive as they include factors under industry view, firm/organizational view, environment factors, technology factors, marketing factors, corporate factors, finance factors and innovation factors. This study has identified and includes elemental CSF’s under all categories of construct themes of business models which affect business performance as identified by various authors outlined under Section 2.4 of literature review.

To the researcher’s knowledge, this is a new contribution to the literature on identifying elemental critical success factors essential in business models of Life Sciences BPO industry and attempts to provide an empirical platform to understand heterogeneity in business performance of various organizations with different business models in this specific industry. As there are no similar precedents in the literature, comparing or contrasting this with other research findings is not possible.
However, there is strong support in the literature with reference to the methodology which has been used to arrive at these results.

5.1.2. Business Model Framework Construction

The generic business model framework specific to the Life Sciences BPO Industry was constructed based on the identified elemental CSF's and their relationships influencing business performance and success.

1. The study identified a Four Factor Solution which included Customer factor (comprising 26 elemental CSF's), Organization factor (14 elemental CSF's), Industry/Sectoral factor (05 elemental CSF's), Environmental factor (01 elemental CSF). Identified factors, factor scores, elemental CSF's affecting factor names the most and factor loading of specific factors are presented in Table 5.2.

Table 5.2- Four Factor Solution – Factor names and scores

<table>
<thead>
<tr>
<th>Sl.</th>
<th>Factors</th>
<th>Factor Names</th>
<th>Factor Scores</th>
<th>Elemental CSF's affecting Factor Names the most</th>
<th>Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F1</td>
<td>Customer Factor (26 elemental CSF's)</td>
<td>22.039</td>
<td>Skills &amp; Attitude</td>
<td>0.993</td>
</tr>
<tr>
<td>2</td>
<td>F2</td>
<td>Organization Factor (14 elemental CSF's)</td>
<td>11.109</td>
<td>Availability of resources</td>
<td>0.890</td>
</tr>
<tr>
<td>3</td>
<td>F3</td>
<td>Industry/Sectoral Factor (05 elemental CSF's)</td>
<td>4.097</td>
<td>HR practices</td>
<td>0.939</td>
</tr>
<tr>
<td>4</td>
<td>F4</td>
<td>Environmental Factor (01 elemental CSF)</td>
<td>0.788</td>
<td>Political</td>
<td>0.788</td>
</tr>
</tbody>
</table>

2. Customer factor has maximum influence on business performance and success of an organization represented by Returns to Shareholders (RTS) followed by Organization factor, Industry/Sectoral factor and Environmental factors respectively.

3. The generic business model framework accounts for 65.10 percent of variance (adjusted R square value) with an overall significance of less than 0.0005 (p value).
4. This generic business model framework constructed with 46 elemental CSF's, clearly and quantitatively depicts business models and their influence on business performance and success of organizations operating in the Life Sciences BPO Industry.

5. This framework or tool can be used to identify and classify business models existing in the Life Sciences BPO Industry. It can also be used to study and predict cause effect relationships between business models and business performance of organizations operating in the Life Sciences BPO Industry domain.

Again, to the researcher's knowledge, this is a new contribution to the literature on constructing a generic business model framework specifically for the Life Sciences BPO Industry. This attempts to provide an empirical tool to identify, classify and predict the effect of business model components on business or organization performance.


5.1.3. Hypothesis Testing

Overall, five hypothesis were identified in the study and were tested to determine the independence or dependence of an organization's business performance on its business model. In conclusion this research study demonstrates that

1. Business performance of organizations operating in the Life Sciences BPO Industry domain is positively influenced by the organizations' business model. Higher the business model score for an organization, higher is its business performance, measured as Returns to Shareholders (RTS).

2. The business performance of an organization in this domain depends positively and directly on Customer Factor, Organization Factor, Industry/Sectoral Factor and Environmental Factors - the identified elemental components of organizational business models in the Life Sciences BPO Industry sector.
3. Heterogeneity in business performance among organizations in the Life Sciences BPO Industry is dependent on their organisational business models.

4. Table 5.3 below provides a summary of the Null hypothesis tested and their acceptance or rejection.

**Table 5.3 - Results of Hypothesis testing**

<table>
<thead>
<tr>
<th>SL</th>
<th>Null Hypothesis</th>
<th>Accepted / Rejected</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>An organization's business performance is independent of its business model.</td>
<td>Rejected</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>2</td>
<td>An organization's business performance is independent of &quot;Customer Factor&quot;.</td>
<td>Rejected</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>3</td>
<td>An organization's business performance is independent of &quot;Organization Factor&quot;.</td>
<td>Rejected</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>4</td>
<td>An organization's business performance is independent of &quot;Industry/Sectoral Factor&quot;.</td>
<td>Rejected</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>5</td>
<td>An organization's business performance is independent of &quot;Environmental Factor&quot;.</td>
<td>Rejected</td>
<td>&lt;0.0005</td>
</tr>
</tbody>
</table>

Although no specific studies in this industry sector were identified during literature review, these results conform to research by Amit and Zott (2001), Chesbrough & Rosenbloom (2002), Martinez & Kennerley, (2005), Mausolf & Spence, (2008), Melkers and Willoughby, (2005), Osterwalder et al., (2005), Melone et al., (2006), which confirm that relationships exist between business models and business performance of organizations in general.

5.1.4. Comparative Study

Completion of the comparative part of the study yielded the following

1. 33 business models based on the constructed generic business model framework were identified which were specific to the Indian Life Science BPO Industry.
2. Out of these 33 business models, 21 unique, Indian Life Science BPO Industry business models were identified.
3. Organizations having a higher number of elemental CSF's embedded in their business model perform better (on comparing and ranking organizations based on the identified business models and their predicted RTS values).
4. There is a direct and positive relation between the number of elemental CSF's present in a business model of an organization and its business performance in the Indian Life Sciences BPO Industry. Lesser the number of elemental CSF's in an organization, lesser is its predicted business performance value (RTS) and hence lesser is the organization capability to succeed in this industry segment.

5. There is a positive association between the predicted RTS values (based on the generic business model framework) and the factual RTS values (based on organizational financial data) of organizations exhibiting unique business models.

These finding confirm that a positive relationship exists between business model elements and business performance which is similar to finding of Amit and Zott (2001), Chesbrough and Rosenbloom (2002) and Osterwalder et al., (2005). The research of the indicated authors was in relation to other industries, sectors, segments and not specific to Life Sciences BPO Industry.

The results of this research study confirm that there is a strong, positive association between business models and business performance. This is empirically demonstrated through an association between business model predicted RTS values and factual RTS values of organizations operating in the Indian Life Sciences BPO Industry.

To conclude, this research study meets all its objectives and answers all research questions which formed the basis for this study.

5.2. Study Limitations

The following limitations apply to this research:

1. This study confirms the existence of business model influence on business performance but does not help understand why this influence exists.

2. This study includes a maximum number non-financial and limited financial measures/factors in the generic business model framework.

3. The effects of different business model design frameworks have not been assessed in this research study.

4. This research did not attempt to investigate the effect of business models on all business performance measures. Additional business performance measures not studied in the current research could be investigated in future research.
5. There are a number of contextual factors that can influence a Business model and hence impact organizational performance (e.g., financial structure, leadership style etc.). This research did not seek to investigate all potential contextual factors. Additional factors not studied in the current research could be investigated in future research.

The above limitations provide an opportunity for further research to enhance knowledge in this area of management.

5.3. Contributions of this Research

The following contributions are envisaged from this research:

2. Empirical identification of different and unique business models and designs.
3. Improvement in business logic representation, design and analysis of different business models.
4. Provide a roadmap for individual firms to exploit or modify their business models to improve their performance.
5. Provide an entrepreneurial tool to improve managing businesses in a rapidly moving, complex and uncertain business environment.

5.4. Practical Implications for Managers

Based on the current research findings, several practical implications can be offered to managers in organizations wishing to extract more value from their business models.

1. The results highlight the importance of changing/adapting the business model to the changing business environment in delivering positive impact on organizational performance.
2. The proposed generic business model framework can be used to predict how changes in elemental CSF’s of the business models can affect business performance.
3. The proposed generic business model framework can be used as a strategic direction tool to identify and improve elements of the existing business model to improve business performance/success.

5.5. Future Research

It would be interesting to identify and understand how and what other factors other than contextual and factual factors can influence business performance.

Another area of research would be to identify another business performance parameter or factor which could provide a more comprehensive snapshot of an organization's performance.

Constructing a generic business model framework which can be used across industry sectors to predict and understand influence of business models on business performance is another direction this research can proceed to.

Although this study has established initial evidence of a reliable and valid generic business model framework for assessing business model effects on business performance and hence move it in a more positive direction, there are several areas where the current model may benefit from further testing and refinement. The following are some components which could benefit from further testing and refinement:

- Identified Elemental CSF
- Additional Performance Evaluating Metrics
- Confirmatory Factor Analysis and
- Contextual factors influencing affecting business performance and success in this industry segment.