Investigating the effect of flexibility (operational, financial, structural and technological) required for Banking Industry on the correlation between the strategic planning and the organization efficiency

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Abstract: This study investigates the intermediate effect of four types of flexibility including the operational, financial, structural and technological flexibilities on the correlation between the strategic planning and efficiency. First, Spearman rank correlation coefficient test was used in order to test the hypotheses. Results indicate that: The correlation coefficient between the strategic planning and structural flexibility was 0.415, and operational flexibility 0.592, financial flexibility 0.714, and technological flexibility 0.429 which were confirmed and significant; moreover the correlation coefficient between the operational flexibility and organization efficiency was 0.53, between the structural flexibility and organization efficiency was 0.87, between the financial flexibility and organization efficiency was 0.64 which were confirmed at the significant level 95%. Furthermore, the strategic planning with the value equal to 0.78 had the highest effect on the operational flexibility. Then, the structural flexibility had the highest effect equal to 0.56. The financial flexibility had the lowest effect equal to 0.47. Moreover, the variable of technological flexibility had the coefficient equal to 0.54.

Keywords: Efficiency, Flexibility, Strategic Planning, Banking Industry

1. Introduction

Despite 50 years of empirical studies (Delmar and Shane, 2003) evidences about the relationship between strategic planning and performance as an obscure concept, have been criticized (Grant, 2003). In fact, the research issues emphasize the impact of formal strategic planning vs. informal planning (Mintzberg, 1990, 1994). Defenders of informal strategic planning say that strategic planning is inflexible and sever, while proponents of formal strategic planning say that, informal strategic planning lacks structure and thus lacks orientation (Steiner, 1979). Despite this claim, proponents of non-formal strategic planning say that the planning school in the formal approach is an important branch of the literature (Mintzberg and Lampel, 1999; p22), and researchers and consultants of this school should continue studying this paradigm. (Mintzberg and Lampel, 1999; p29). Critics of experimental studies that have examined the relationship between strategic planning and performance have expressed three major criticisms:

1. These researches about the two variables studies of conceptualization of strategic planning and performance were limited.
2. There is little research literature on examining the mediating variables.
3. These studies are limited to financial performance measures (Capon et al., 1994; Brews and Hunt, 1999).

Despite the importance of strategic planning in the strategic management literature, the slow development of ideas in this area is unusual and has stopped the development debate. Another methodological debate about the past is the analysis method used in previous studies. Comparisons of the statistical averages, percents and regression are all used. While these techniques are useful for the mentioned researches, none of them have used the advantage of structural equation model and more specifically the latent variable path analysis. This approach has three major strengths: first - the ability to estimate multiple and inter dependency relationships, the second - the ability to integrate the concepts that have not been observed within these relationships, the third – the ability to estimate the error measures. (Hair et al. 1998) Therefore, this study sought to evaluate the intermediate effect of flexibility factor in relation to strategic planning and organizational performance.

2. Theoretical Foundations

While the correlation between strategic planning and performance is theoretically proven, (Delmar and Shane, 2003) there are evidences that suggests such a relationship does not exist (Shrader et al., 1984). Researchers suggest that other factors will affect on the correlation between strategic planning and performance. (Meilich and Marcus, 2006). Scientific theories argue that successful organizations
would predict environmental turbulences through strategic planning. (Rogers et al., 1999) Also these theories predict that successful organizations preliminary, about how they would comply with environmental changes, describe flexibility in strategic planning decision options. (Edwards, 1991; p 77) Through flexibility organizations can cope better with environmental turmoil and improve the effect of strategic planning on performance. Although the strategic planning, performance and flexibility notions have attracted much attention in strategic management literature, over time there were no experimental studies on their 2-way relationship; to some extent by the lack of conceptual clarity surrounding the idea of flexibility, they can be combined. This issue has been inconsistent with its importance in the literature and is a major gap in understanding the subject. (Dreyer and Gronhaug, 2004)

2.1 Flexibility

Flexibility is the level in which new and alternative decisions are made and is considered in strategic planning, organizational positive changes and adaption with environmental disturbances will be allowed. (Combe and Greenley, 2004).

Despite the intuitive research about flexibility, flexibility suffered of the two major issue: 1 – Semantic topics, by which "the use of the word flexibility has been pandemic, while its literal meaning is not always well understood.", 2 - As the literature has expressed "flexibility as a competitive goal still lacks a precise and transparent definition", in the concept of strategic planning, there is no empirical or experimental development. (Aranda, 2003, p. 1403) More theoretical topics related to the concept of flexibility can be divided into four main types:
1. Operational flexibility (Tang and Tikoo, 1999)
2. Financial flexibility (Mensah and Werner, 2003)
3. Structural flexibility (Harris and Ruefli, 2000)
4. Technological flexibility (Adler, 1988; Harris, 2002)

However there is no assessment of the impact of these factors on the performance of strategic planning in the literature.

Organizations through Strategic Planning turbulence predict the environmental turbulences and will allocate resources accordingly. When specific opportunities and threats occur in the environment, flexible alternative options will be decided and will be expanded in the same way. As this process occurs before the effects of turbulence, flexibility in organization has a logistics and predictive nature. Thus, flexible organizations can rapidly comply with the environmental changes as they occur. Through utilization of alternative options, the decision options are obtained in strategic plans automatically and provide a potential valuable orientation to outstanding performance. Therefore flexibility displayed by the organization in relation to environmental disturbances can be planned strategically.

Flexibility is primarily a consequence of strategic planning and therefore is a major interface between strategic planning and performance. Therefore findings without the mentioned consequence are not surprising in the strategic planning and performance literature and the effect of predicted mediating variables provides flexibility.

3. The research model

To examine the criticism of strategic planning model, flexibility and performance is shown in Figure 1. 4 types of flexibility have a mediating impact on the correlation between strategic planning and performance. In the next section the theoretical correlation and conceptual development of the model is described. The dependent variables are organizational performance which includes the financial performance and non-financial performance. The financial focus of this study that examined the relationship between strategic planning and performance was considered in the previous section. One criticism is that performance evaluation based on financial criteria is not enough for organizational management in the modern competitive market, (Kenmerly and Neely, 2003, p. 214) and further expansion is necessary. Non-financial performance criteria or those performance criteria which are not directly related to financial performance are discussed in the strategic planning literature based on moral and preservatives factors in connection with involvement in the planning process. (Greenley, 1983, 1986) Probably due to problems in measuring the variables, much research has not been done in this field. To investigate this subject the theoretical model in two dimensions of non-financial and financial performance is presented.
4. Describing the dimensions and variables of the model:

4.1 Operational flexibility

Operational flexibility is the organization's ability to adapt quickly to market demands, mixed product/service and products capacity. Organizations that are able to do this (flexibility) in low ambient pressures perform better than rivals that do not do this. (Aranda, 2003).

Functional advantage of the financial efficiency is achieved by demand planning and operational compliance. Also the excess capacity during the period of low demand will be the least, and accordingly the organization can respond to the increased demand in appropriate time. However, in large or medium-sized manufacturing organizations that generally mass-produced at sufficient time, this does not seem a simple matter. Organizations that desire to benefit from operational flexibility need to plan their resources strategically to maximize financial benefits. In previous research criteria used for performance evaluation were financial criteria, and no effort to evaluate non-financial performance has been done. Thus, despite theoretical support on non-financial performance the following assumptions are developed:

H1a: Strategic planning has direct and positive impact on the operational flexibility.

H1b: Operational flexibility has positive and direct impact on organizational performance.

H1c: Operational flexibility is the medium for correlation between strategic planning and organizational performance.

4.2 Financial flexibility

Financial flexibility is the organizational skill to obtain, access and rapid expansion of financial resources. Empirical evidence suggests those organizations that bloom these skills, perform better than organizations that do not do it. (Tan and Peng, 2003; Mensah and Werner, 2003). Enough intuitive researches has been done for this concept, organizations that are able to rapidly acquire and expand the financial resources perform better than organizations that are not able to practice it. (Billet and Garfinkel, 2004). Moreover those organizations which plan to invest on these resources and prepare the organization for rapid changes facilitate the positive impact on performance. (Greenley and Oktemgil, 1998). In fact probably those organizations that plan for financial flexibility strategically, comparing their rivals who have not planned for this flexibility, can prevent inefficient and non-optimal allocation of financial resources. (Trigeorgis, 1993)

Similarly, strategic planning has a positive impact on financial flexibility, which in turn will impact on financial performance.

H2a: Strategic planning has direct and positive impact on financial flexibility.

H2b: Financial flexibility has positive and significant impact on organizational performance.

H2c: Financial flexibility is the medium between the correlation of strategic planning and organizational performance.

4.3 Structural flexibility

Structural flexibility is the ability of the organization in restructuring. (Huber, 1990) The literature shows that those organizations that can quickly change their structure design in line with competitive pressure perform well. (Nahm et al., 2003) From large to medium organizations it is evident well in flat structures, communication between departments and reduced bureaucracy. Studies have shown that some of the bureaucracies within the organization help the work, so reducing bureaucracy in a appropriate level is recommended rather than its total removal from the organization.

H3a: Strategic planning allows the organization to anticipate changes and offers appropriate strategic options to those changes.

H3b: Structural flexibility in organizational planning probably is useful in financial performance. Literature suggests that organizations which with a well and systematic approach manage the structural changes, in compare with organizations that without planning accept the
changes at once, probably face less problems related to employees. (For example, ethical problems and problems related to their maintenance) (Ahmed and Rafiq, 2003).

However the effect of such advantages is beneficial in its nature and can be continuous, and as it is opposite to financial performance influence on non-financial performance.

**H3a:** Strategic Planning has a direct and positive impact on structural flexibility.

**H3b:** Structural flexibility has a direct and positive impact on organizational performance.

**H3c:** Structural flexibility is the medium for the relationship between strategic planning and organizational performance.

### 4.4 Technological flexibility

Technological flexibility is defined as the ability of organization to change the technological capacity in line with the competitive requirements. (Miller, 2002), more specifically organizations that use outdated technology or use very specific software have limited freedom in action and opportunity for change. Usefulness of technology in strategic planning has been emphasized in the literature (Morgan, 2004; Andersen, 2005), and organizations that strategically plan for technological flexibility perform better than organizations that do not. Literature especially suggests that technology, by helping managers to comply with the uncertainty and creating an effective strategic response, has a great beneficial effect on workers who make use of it (Miller, 2002; Andersen, 2005). This essential non-financial impact has an immediate impact on technology users.

The financial benefit for organization probably will be revealed in the future. Therefore, strategic planning has a positive effect on technological flexibility, which in turn has a positive effect on non-financial performance. This concept is shown in a theoretical model in Figure 1, with the title of direct effect of technological flexibility on organizational performance.

**H4a:** Strategic planning has a direct and positive impact on the technological flexibility.

**H4b:** Technological flexibility has a direct and positive impact on organizational performance.

**H4c:** Technological flexibility is the medium for the relationship between strategic planning and organizational performance.

### 5. Research objectives

This study investigated the mediator role of flexibility in the relationship between strategic management and performance. The following sub-goals are formed:

- Study the effect of strategic planning on operational flexibility
- Study the effect of strategic planning on the structural flexibility
- Study the effect of strategic planning on financial flexibility
- Study the effect of strategic planning on technological flexibility
- Study the effect of different types of flexibility on organizational performance

### 6. Methodology

The aim of this study is practical, and its data collection is through descriptive study (non-experimental) and from the branch of field studies and the relationship between variables is causal. The research method is survey that enables the results to generalize well. Research variables include: strategic planning as an independent variable and organization performance as dependent variable and organizational flexibility as a mediator variable. The statistical community includes organizations that have implemented strategic planning. Because of the limited availability to organizations, for lack of accurate information, it has been tried to make a whole list of them. For this reason, it has been communicated with research organizations in charge of strategic planning and a list of 61 companies and private and governmental organizations was prepared that were considered as statistical community. Due to limited and low number of the communities, the population census method was used for sampling. In the table below you can see the distribution of the types of companies.

<table>
<thead>
<tr>
<th>Type of Companies</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governmental organizations</td>
<td>22</td>
<td>36</td>
</tr>
<tr>
<td>Insurance companies</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Banks</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Electronic Technology Company</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Manufacturing companies</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Shipping companies</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Hospitals</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Universities</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>61</td>
<td>100</td>
</tr>
</tbody>
</table>

The main tool for data collection was questionnaire. 165 questionnaires were distributed among 61 organizations, of which 105 were returned. In order to determine the statistical reliability of the questionnaires, 30 questionnaires were distributed and collected in statistical community. The Cronbach's alpha coefficient the scale of strategic planning with 11 questions was 0/90. The Cronbach's alpha coefficient the scale of operational flexibility with 2 questions was 0/93. The Cronbach's alpha coefficient the scale of technological flexibility with 2 questions was 0/93.
The scale of financial flexibility with 3 questions was 0.89, the structural flexibility with 3 questions was 0.92 and technological flexibility with 3 questions was 0.81, financial performance with 3 questions was 0.87 and non-financial performance with 2 questions was 0.79.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Number of Questions</th>
<th>Cronbach’s Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>strategic planning</td>
<td>11</td>
<td>0.907</td>
</tr>
<tr>
<td>Operational flexibility</td>
<td>2</td>
<td>0.937</td>
</tr>
<tr>
<td>Financial flexibility</td>
<td>3</td>
<td>0.896</td>
</tr>
<tr>
<td>Structural flexibility</td>
<td>3</td>
<td>0.927</td>
</tr>
<tr>
<td>Technological flexibility</td>
<td>3</td>
<td>0.816</td>
</tr>
<tr>
<td>Financial performance</td>
<td>3</td>
<td>0.879</td>
</tr>
<tr>
<td>non Financial performance</td>
<td>2</td>
<td>0.799</td>
</tr>
</tbody>
</table>

Table 3: The confirmatory factor analysis

<table>
<thead>
<tr>
<th>Strategic planning</th>
<th>Standard Coefficient</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission statement</td>
<td>0.84</td>
<td>12.36</td>
</tr>
<tr>
<td>Trend analysis rivals</td>
<td>0.80</td>
<td>14.06</td>
</tr>
<tr>
<td>Trend analysis of suppliers</td>
<td>0.76</td>
<td>5.041</td>
</tr>
<tr>
<td>Trend analysis of market</td>
<td>0.72</td>
<td>10.63</td>
</tr>
<tr>
<td>Internal analysis</td>
<td>0.62</td>
<td>12.03</td>
</tr>
<tr>
<td>Long-term strategies at the company level</td>
<td>0.67</td>
<td>9.89</td>
</tr>
<tr>
<td>Medium-term strategies at the business level</td>
<td>0.70</td>
<td>5.45</td>
</tr>
<tr>
<td>Short-term strategies at the level of functions</td>
<td>0.50</td>
<td>12.06</td>
</tr>
<tr>
<td>Limitations of strategy performance</td>
<td>0.61</td>
<td>7.25</td>
</tr>
<tr>
<td>Requirements analysis</td>
<td>0.69</td>
<td>8.26</td>
</tr>
<tr>
<td>Current control and evaluation</td>
<td>0.73</td>
<td>7.68</td>
</tr>
</tbody>
</table>

It is noted that the reliability of research variables are confirmed. Also to determine the validity of questions, both content validity and factor validity was used. To assess the content validity, ideas of experts and university professors were used and it was assured that the questionnaire used the same feature measured by researchers. For factor validity, the confirmatory factor analysis was performed by Lisrel software. Results of confirmatory factor analysis for independent variables are shown in Table (3) below.

Table 2: The Cronbach’s alpha coefficients of variable

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</tr>
</tbody>
</table>

7. Model Estimation and Results Analysis

In order to test the hypothesis, first the Spearman rank correlation test by 15 spss software was used, according to the qualitative variables. The correlation coefficient between strategic planning and structural flexibility was 0.415, between strategic planning and operational flexibility was 0.592, between strategic planning and financial flexibility was 0.714, between strategic planning and technological flexibility was 0.429, which was confirmed and significant, because their sig is below 5%. Also the correlation coefficient between
operational flexibility and organization performance was 0.53, between structural flexibility and organization performance was 0.87, between financial flexibility and organization performance was 0.72, and between technological flexibility and organization performance was 0.64, which was confirmed with 95% confidence. Then the causal relationship between dependent and independent variables of the research was tested, using structural equation modeling and by Lisrel 8.53 software. This in addition to be the final step of confirmatory factor analysis which previously was performed on research variables, through model evaluation parameters shows the validity of the main proposed conceptual model. Outputs indicate that the main model is well valid, because the RMSEA to the degrees of its freedom ratio in all models is less than 3, and also the GFI and AGFI in all models is higher than 90%. (x1: operational flexibility - x2: financial flexibility - x3: structural flexibility- x4: technological flexibility)

As the output model in the standardized coefficients state shows, the strategic planning with 0.78 has the highest impact on operational flexibility. Then it has the greatest impact on structural flexibility with 0.56. The least impact is on financial flexibility with 0.47. Also the technology flexibility variable has the coefficient of 0.54. At the right side the structural flexibility model with 0.74 has the greatest impact on organizational performance. Then the technological flexibility with 0.66 has the greatest impact on organizational performance. Next is the financial flexibility and then the operational flexibility with 0.54 has the lowest impact.

<table>
<thead>
<tr>
<th>Path</th>
<th>The direct effect coefficients of Path</th>
<th>Amounts of Path significance</th>
<th>Amounts of indirect coefficient</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.78 and 0.54</td>
<td>4.56 and 3.36 (significant)</td>
<td>$0.78 \times 0.54 = 0.4212$</td>
<td>Significant</td>
</tr>
<tr>
<td>2</td>
<td>0.47 and 0.65</td>
<td>5.47 and 7.57 (significant)</td>
<td>$0.47 \times 0.65 = 0.3055$</td>
<td>Significant</td>
</tr>
<tr>
<td>3</td>
<td>0.56 and 0.74</td>
<td>6.56 and 7.87 (significant)</td>
<td>$0.56 \times 0.74 = 0.4144$</td>
<td>Significant</td>
</tr>
<tr>
<td>4</td>
<td>0.54 and 0.66</td>
<td>4.54 and 6.43 (significant)</td>
<td>$0.54 \times 0.66 = 0.3564$</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Indirect coefficients are obtained by multiplying the direct coefficients. Regarding the 4-way indirect paths of strategic planning on organizational performance, the most impact is for
path 1. It means that strategic planning through operational flexibility have the most impact on organizational performance. The least impact is through financial flexibility with 0.47. Regarding the significance of all coefficients in direct path, indirect path coefficients are also significant and the hypotheses are confirmed.

8. Conclusion

Although the strategic planning is a process to predict the environmental disturbance, often a logical sequential process is given in the literature which is not sufficient to affect on performance. Flexibility in decisions needs change in the operational issues, such as services and products or their production and also change in financial issues such as capital and its cover, in relation to impact on financial performance. Similarly flexibility in decisions needs change in structural issues such as management style and expertise, and change in technological issues such as software and product technology, in relation with impact on non-financial performance. The results showed that when these changes occur, the impact of strategic planning is more effective. While financial performance optimizes through operational and financial flexibility, and non-financial performance optimizes through technological and structural flexibility, the results did not show any relationship between non-financial performance and financial performance. Thus, managers who are focused on structural and technological flexibility, will face optimization in ethics and retained employees, but will not face financial return. Managers who are merely looking for financial return should focus on operational and financial flexibility, and not on structural and technological flexibility. However, appropriate flexibility will be required for effective mediatory. Inferences here are that managers initially will be able to predict the environmental disturbances in the horizon of strategic planning and also will be able to monitor changes during this period. Secondly flexibility requires the managerial ability to create alternative decision options in relation to technology, structure, financial and operational, before the time it is probable that environmental disturbances are created during the strategic planning horizon. Flexibility requires that managers stay ready or planned, thirdly to be flexible managers shall have the willingness to consider decision options, some of them may include risks and unknown decisions, as sometimes environmental disturbances and threats and opportunities occur. Fourth, managers shall be willing to make appropriate decisions about the operational, financial, structural changes and in connection with required technological flexibility in order to affect performance. Fifth, managers shall be able to exploit the planned flexibility by ensuring that the operational, financial, structural and technological changes are effective to allow the organization to adopt the opportunity and. Finally, managers shall implement the important and necessary changes effectively and efficiently, in order to verify the benefits anticipated in planned changes.

9. Suggestions for future research

The above results provide various orientations for future researches. Clearly most of the above indications can help to further understanding how flexibility and strategic planning processes together influence on performance. Some of these issues can be integrated in the model for further path analysis of latent variable, but Some of them may be precedence over strategic planning, which in turn may affect the effectiveness of strategic planning. Also it is recommended that the effect of other mediator variables such as organizational commitment be reviewed, because the committed staff can have a major impact on the implementation of organizational strategies. More comprehensive study to examine the impact of flexibility on financial performance is recommended.

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References

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