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Contents

Industrial Economics

Islamic Work Values and Organizational Commitment: A Case Study Among Employees in Broadcasting Industry
Othman Mohd. Yunus, Munira Mazlan, Abdul Rahman Abdul Rahim, Alwi Bin Shabudin

Development Perspectives of Bio-Tech Entrepreneurship: The Case of Slovenia
Jaka Vadnjal, Jurij Bernik, Janez Bernik

Regional Economics

The Binary Conception of Economics, Janus-Faced Development and the Aspiration for Accelerated and Shared Growth in South Africa
Johannes Tsheola

Enterprise Management

Streamlining Government Financing Programs for SMEs in the Sub-Saharan Africa: The Case of Botswana
Mengsteab Tesfayohannes

Living Environment as Location Decision Factor for Manufacturing Enterprises
Kaarel Kilvits

Proactive Innovative Strategy
Jindra Peterková, Veronika Gruberová

Model for Quality Improvement and Sales
Dana Santoso Saroso

Corporate Governance and Audit
Sazana Gaxholli, Vjollca Karapici, Albana Gjinopulli

Public Economics

The Importance Knowledge Management for the Improvement of Crisis Management
Ondrej Jasko, Nenad Popovic, Sloboda Prokic

Applying Importance-Performance Analysis to the Management of Health Care Services
Sérgio Dominique-Ferreira Lopes, Sancha Catarina Frazão Maia
Islamic Work Values and Organizational Commitment: A Case Study Among Employees in Broadcasting Industry

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This study examines the contribution of Islamic work values towards organization commitment among employees. A total of 90 Muslim employees from a local broadcasting organization participated in this study. This descriptive study uses self-administered questionnaire to gauge the respondents’ level of Islamic work value and organizational commitment. Findings of the study demonstrated that there were no significant differences in the level of Islamic work ethic between males and females, and between the management group and the support group. The findings also showed a moderate but significant relationship between Islamic work value and dimensions within organizational commitment.

Keywords: Islamic work value, organizational commitment, broadcasting industry, muslim employees, productivity

Introduction

Organizations stand to benefit engaging employees high on positive work value—a commitment to the value and importance of hard work. According to Noe, Hollenbeck, Gerhart, and Wright (2000) a strong positive attitude towards work can lead to higher productivity levels on both individual and organizational.

The principle of work value derives from the study on work ethic. This leads Hit (1990) to conclude that the principles of ethic are synonymous to value and that any references to individual’s ethic will revolve around his or her values. Hit (1990) further argues that it is an individual’s value set that guides his or her life. This has led Wollack, Goodale, Wijting, and Smith (1971) to use principles in work ethic as a basis to develop the famous work value survey—a scale to measure a person’s attitude towards work.

Although the concept of work ethic originates from the studies of religious belief, i.e., protestant ethic; it has
since been secularized. In fact, research undertaken by Beit-Hallahmi (1979), Cameron (1969), Giorgi and Marsh (1990), and Ray (1982) has failed to find a consistent relation between religious orientation and work value. This lead Ray (1982) to conclude that while protestant work ethic is certainly not dead but it is just no longer protestant. In support to this, Pascarella (1984) argues that since all major religions espoused the importance of work therefore what appeared initially as a religious construct is now secularized, thus best viewed as general work ethic and not a protestant work ethic.

Yousef (2001) however argues that although work ethic as advocated by Max Weber (1958) has been considered as a universal value nonetheless its applicability must be limited to Western societies especially in countries and societies which profess Christianity from which the construct originated. In countries of Muslim populace the uses of secularize work ethic must be given serious consideration especially when Islam too has its own work ethic. As a religion Islam too gives special emphasis on the importance of work for it enhanced one’s social status and help society through the giving of “zakat” or tithe.

Nevertheless, Yousef (2001) does recognize that both Islamic Work Ethic (IWE) and Protestant Work Ethic (PWE) rest upon very similar assumptions which emphasize on hard work, commitment, dedication to work, work creativity, avoidance of unethical method of wealth accumulation, cooperation and competitiveness at the work place. The major differences however, IWE does not only focus on work as an obligatory activity and a virtue but also emphasizes that success and progress on the job depends on hard work and commitment to one’s job (Ali, 1988). In fact the Islam is against laziness, wasting of time, and forbids the “ummah” or followers from remaining idle or engaging in unproductive activity (Yousef, 2001). As a standard measurement of work ethic both Ali (1988) and Yousef (2001) see IWE exceeds PWE since it also emphasizes on cooperation in work and consultation is seen as a way of overcoming obstacles and avoiding mistakes. For these reasons they argue that there is a need to have a measurement of work ethic based on Islam. As such Ali (1988) and Yousef (2001), proposed the development of the Islamic Work Ethic (IWE) based on the Qur’an and Sunnah.

This study explores the level of Islamic work ethic and its relation with organizational commitment among employees in broadcasting industry. Understanding the level of work ethic that exists and its contribution to organizational commitment are important in assisting managers to better manage their employees. Study conducted by Nik Mu’tasim, Nordin, and Abdullah (2006) among employees in banking sector has concurred that there is a direct, positive and significant relationship between Islamic work ethic and organizational commitment. Accordingly understanding work ethic and its relationship with organizational commitment are essential in determining methods of intervention and strategies formulation in promoting organizational commitment.

Work values or work ethic can be made reference to what Cherrington (1980) referred to as a positive attitude towards work. Persons who enjoy their work are considered to have a better work value than those who did not enjoy their work. In the context of Islamic work values, Beekun (1997) defined it as the set of moral principles that distinguish what is right from what is wrong in the Islamic context. It is based on the Qur’an, the teachings of the Prophet who denoted that hard work caused sins to be absolved (Ali, 2005). According to Rizk (2008), Islamic work ethic is an orientation towards work and approaches work as a virtue in human’s lives.
Organizational commitment on the other hand is a multi-dimensional construct comprising three components which are affective, continuance and normative (Meyer & Allen, 1991). Affective commitment is made reference to an employee’s emotional attachment to identify with and involve in the organization. Employees with a strong affective commitment will remain in the organization because “they want to”. The second component, continuance commitment refers to employees’ awareness of the costs associated with leaving the present organization. Employees strongly on this commitment will remain in the organization because “they have to”. The third component, normative commitment refers to the feeling of obligations to the organization based on one’s personal norms and values. Being a normative type employees strong on this commitment naturally will remain in the organization simply because they believe “they ought to”.

**Literature**

Since work ethic is made reference to the positive attitude towards work (Cherrington, 1980) therefore, many of the research on work ethic have been focus on to job satisfaction (Yousef, 2001; Koh & Boo, 2001; Viswesvaran & Deshpande, 1996; Vitell & Davis, 1990). Nevertheless, the relationship between work value and organisational commitment has also received considerable attention (e.g., Jones, 1997; Elizur, Borg, Hunt, & Magyaribeck, 1991; Yousef, 2001).

However, much of the research on the work ethic has been carried out in the West, with the focus on the protestant work ethic (PWE). Such interest must have been attributed to the belief that work ethics not only facilitates employees’ attitudes toward work but also toward the organization where they work. For instance, Kidron (1978) in his study uses three diverse samples to investigate the relationship between Protestant work ethic and commitment to organization. In this study the protestant work ethic was measured using the Mirels and Garrett Scale. The results indicated that work ethic is more related to moral commitment than calculative involvement. Oliver (1990) on the other hand examined the influence of employee work ethic on organizational commitment among a UK employee-owned firm. The results also show that work ethic has significant relationships with commitment. Meanwhile Saks, Mudrack, and Ashforth (1996) using Blood’s pro-protestant ethic examined the relationship between work ethic and organizational commitment among 145 temporary employees of a large Canadian theme park. The results indicate a strong support of the relationship between protestant work ethic and organizational commitment. In Asian context, the association between work ethic and organizational commitment has also been research. Two major dimensions of work ethic, namely, intrinsic and extrinsic derived from a factor analysis of Wollack et al.’s scale was used by Putti, Aryee, and Ling (1989) to analyze this association on a sample of workers in Singapore. The analysis shows intrinsic work ethic relates closer to organizational commitment than extrinsic work ethic. In general, despite using different samples in their investigations, all these studies have produced consistent results.

The impact of individual variables on work ethic and organizational commitment has also been examined. Using Wollack’s *Work Values Survey on Palestinian Arabs*, Abboushi (1990) found occupation influenced employees’ work values which relates to pride in work, job involvement, social status, and attitude toward earnings. Abboushi (1990) also found that employees’ level of formal education has significant influence on pride in work, job involvement, and attitude toward earnings; while employees’ age has significant influence on
the social prestige connotations of work. Employees’ work experience on the other hand, was found to influence the work ethic of upward striving.

Using a modified version of Hofstede’s Values Survey Module, Frick (1995) found that employees’ educational fields and levels are the most important demographic variables that relate to work ethic considerations. The study also found occupational fields and levels relate significantly with work ethic. Ali, Falcone, and Azim (1995) study in the USA and Canada on the other hand, found work ethic differs across age, organizational and education levels. Dipboye and Anderson (1959) and Wijting, Arnold, and Conrad (1978) also reported a significant association between work ethic and education. Taylor and Thompson (1976) on the other hand, discovered a significant association between age and work ethic. While personality has been found to have a significant association with work ethic (Davidson, 1983); a significant relationship is also found between work ethic, tenure and work experience (Gomez-Mejia, 1983; Whelen, 1972).

However, there have been mix results on the study of work ethic across gender. Frick’s (1995) study using Hofstede’s Values Survey Module found that work ethic does not differ significantly across gender. Rowe and Snizek (1995) in their study also found no significant differences between males and females in terms of work ethic. Ali, Falcone, and Azim (1995) study in the USA and Canada on the other hand, found work ethic differs across gender. Mannheim (1993), using Wollack’s Work Values survey instrument on 209 working men and 136 working women in a metropolitan area in Israel found that there were no differences between men and women in terms of their work ethic. Using Manhardt’s Scale on a convenience sample of 29 males and 43 females from the southwestern part of Nigeria, Adeyemi-Bello (1994) also reported that both males and females in general have similar work ethics. However, when Manhardt’s Scale was administered on a sample of 202 advanced undergraduate business students, Beutell and Brenner (1986) found that there were significant gender differences with females rating higher than males. Similarly, Fruehling (1980) also reported a significant association between work ethic and gender. Chusmir and Parker (1991) when using Rokeach’s value survey scale to examine gender differences in ethic among managers also reported strikingly similar work ethic between women and men managers.

Researches on the relationship between gender and organizational commitment have also produced mixed results. Several studies have suggested that gender may affect employees’ perceptions of organizational commitment (Porter, 2001; Mowday, Porter, & Steers, 1982; Mathieu & Zajac, 1990). However, most studies showed that there was no significant difference between males and females in regard of organizational commitment (Marsden, Kalleberg, & Cook, 1993). Study by Xiong and Francesco (2000) indicated that, except for position, other demographic variables, including gender, had no main affects on organizational commitment.

Research on work ethic using Islamic work ethics (IWE) scale is relatively new. The original IWE scale was developed by Ali (1988) thus only a few researches have since been recorded (see Ali, 1988, 1992; Yousef, 2000, 2001; Ali & Al-Kazemi, 2007). Yousef (2000) has used IWE to study the strength of the relationship between Islamic work ethics and various dimensions of organizational commitment. Using a sample size of 474 employees from 30 organizations in the United Arab Emirates, his study indicates the existence of a moderate positive relationship between Islamic work ethics and the following dimensions of commitment: affective, continuance and normative. Comparatively, affective commitment is reported to be more related to the work ethics than either normative or continuance commitments.
In another research Yousef (2001) uses a sample size of 425 Muslim employees to study the moderating effect of the Islamic work ethics on the relationships between the organizational commitment and the job satisfaction in several organizations in the United Arab Emirates (UAE). The result of the study revealed that IWE directly affected both the organizational commitment and the job satisfaction and that it moderated the relationship between these constructs.

Meanwhile Wahibur Rokhman (2010) studied the relationship of Islamic work ethic with job satisfaction, turnover intention, and organization commitment among employees of financial institution in Indonesia. Using a sample size of 49 employees from 10 institutions of Islamic microfinance the results show Islamic work ethics has positive effects on both job satisfaction and organizational commitment. Wahibur Rokhman’s findings were supported by the study conducted by Nik Mu’tasim et al. (2006). Using a sample size of 227 employees from several banks, they found that there was a direct, positive and significant relationship between dimensions in organizational commitment and Islamic work ethic.

Based on the literature, this study sets to explore Islamic work ethic orientation among employees in broadcasting industry and its relationship with the three dimensions of organization commitment namely; affective, continuance and normative. These objectives are achieved through the following questions:

1. Do employees in the broadcasting industry have high orientation in Islamic work ethic and organization commitment?

2. Are there differences in Islamic work ethic orientation and organizational commitment among employees according to gender, age, job status and length of service categories?

3. Does Islamic work ethic correlate significantly with dimensions of organizational commitment?

**Research Method**

This descriptive study was conducted among employees in the broadcasting industry in Malaysia. Using the name list of employees in a government-owned broadcasting media, 100 questionnaires were randomly distributed among its Muslim employees. However, only 90 responded and were suitable to be used in the final analysis. Distribution of respondents and their demographic characteristics is shown in Table 1.

<table>
<thead>
<tr>
<th>Demographic factors</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>26</td>
</tr>
<tr>
<td>Female</td>
<td>67</td>
<td>74</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>Job status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior support group</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Senior support group</td>
<td>65</td>
<td>72.2</td>
</tr>
<tr>
<td>Junior management and professional group</td>
<td>13</td>
<td>14.4</td>
</tr>
<tr>
<td>Senior management and professional group</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-25 years</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>26-35 years</td>
<td>32</td>
<td>35.5</td>
</tr>
<tr>
<td>36-45 years</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>46-55 years</td>
<td>32</td>
<td>35.5</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>
This study uses self-administered Islamic Work Ethic (IWE) and Organizational Commitment Questionnaire (OCQ) as the data collection technique. The use of IWE instrument to gauge work ethic for this study was simply because the majority of employees in Malaysian government agencies are Muslims. Islam being the official religion of Malaysia is one of the most influential factors that shaped Malaysian civil servants work value systems. Further, according to Nasr (1984), the Islamic work ethic deserves a serious inquiry because it is the ideal which Muslims seek to realize. Both these instruments have been validated by previous authors. According to Flynn, Schroeder, and Sakakibara (1994) an empirically-validated scale can be used directly in other studies in the field for different populations and for longitudinal studies. Nevertheless, in this study reliability test is still being carried out on these two instruments.

The original Islamic work ethic (IWE) instrument used to gauge respondents work ethic was developed by Ali (1988), and consisted of 46 items. The internal consistency reliability (Cronbach’s Alpha) was reported as 0.89 (Ali, 1992). For the purpose of this study the shorter version of IWE was used. This instrument consisted of 17 items. The internal consistency reported for this scale was 0.89 (Yousef, 2000). For this study the alpha of internal consistency reliability is 0.82.

Meanwhile, organizational commitment was measured using Meyer and Allen’s (1991) instrument. This instrument consists of 24 items. It has three subscales, namely affective, continuance, and normative. Each subscale has eight items. The internal consistency (Cronbach’s alpha) for overall organizational commitment scale and for affective, continuance and normative subscales was reported as 0.89, 0.85, 0.88, and 0.79 respectively (Yousef, 2000). For this study, the alpha of overall reliability is 0.82 whereas affective, continuance and normative subscales are 0.91, 0.89, and 0.79 respectively.

In answering the question in IWE instrument respondents have to indicate their agreement or disagreement with each item on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scores were averaged to yield a summary score reflecting the Islamic work ethic. A cut-off score of 70 was used to divide the respondents into low and high in Islamic work ethic orientation. The same procedure applies to organizational commitment. A cut-off score of 90 was used to divide the respondents into low or high in organizational commitment orientation. Since each subscale in the organizational commitment consists of eight items therefore the cut-off score to determine whether respondents are low or high on affective, continuance, and normative commitment is 30. In getting the respondents to participate they were assured of confidentiality and that participation was voluntary.

In enhancing respondents’ respond to the questionnaire, every question in its original English version is accompanied with a Bahasa Malaysia translation. This was simply because most respondents speak only in Bahasa Malaysia. The Bahasa Malaysia translation was developed through careful translation and
back-translation techniques as suggested by Brislin (1970) and McGorry (2000). The 17-item IWE scale was first translated into Bahasa Malaysia and then back-translated into English by a bilingual expert. This process minimizes the discrepancies between the English and the Bahasa Malaysia measurements. This is consistent with Berry’s (1980) suggestions that the goal of translation is to obtain instruments that elicit responses which convey similar meanings to members of various groups (i.e., “conceptual equivalence”). Phillips (1959) cautioned that a literal translation of an instrument is not sufficient for conveying the equivalent of an instrument in cross-cultural research but noted that a complete semantic equivalence in cross-cultural studies is a statistical fiction.

For analysis, this study uses descriptive statistics of frequencies and percentage. For research question 1, the overall means score is used as a basis to determine work ethic and organizational commitment orientation among respondents. For research question 2, independent sample comparison of means is used to see the differences while to test for significant differences $t$-test analysis and ANOVA test are used. For research question 3, correlation technique is used to gauge Islamic work ethic contribution towards organizational commitment.

**Results and Discussions**

Overall the result of this study shows that respondents ($N = 90$) recorded a relatively high means score of 73.80 ($SD = 6.48$) on the Islamic work ethic scale. Therefore, it is concluded that respondents have high orientation in Islamic work ethic. This can be interpreted that respondents strongly support and adhere to IWE. The positive orientation of respondents toward IWE is considered good for Malaysia as the country strives to achieve a high income nation status and vision 2020. As IWE is an orientation towards work and approaches work as a virtue in human’s lives (Rizk, 2008) therefore, employees holding strongly to Islamic work ethic can help department heads to overcome work-related problems arising from attitude and behaviors of their staffs. Further, as work ethic has been positively linked to job satisfaction (Yousef, 2001; Koh & Boo, 2001; Viswesvaran & Deshpande, 1996; Vitell & Davis, 1990) and organizational commitment (Nik Mu'tasim et al., 2006) therefore assumption can be made that respondents are satisfied with their job and committed to their organization.

The finding of this study is also of importance as argued by Yandle (1992), that any decline in work ethic can lead to a lower levels of job performance; a higher level of absenteeism and turnover (Klebnikov, 1993; Shimko, 1992); and can also lead to an increase in counterproductive behavior ranging from unauthorized breaks to employee theft (Sheehy, 1990). Further as IWE has been defined as the set of moral principles that distinguish what is right from what is wrong in the Islamic context (Beekun, 1997); and that Yousef (2001) recognizes IWE as a principle way of avoiding unethical method of wealth accumulation therefore, employees holding high on IWE can help the Malaysian government in its fight against corruption and malpractices in all sectors—public and private.

Respondents’ IWE orientation according to gender differences shows that female respondents score a little higher ($M = 74.27$, $SD = 6.43$) than the male respondents ($M = 72.43$, $SD = 6.59$). However, the differences is not significant ($t(88) = -1.173, p = 0.24$). This result support findings of Chusmir and Parker (1991), Adeyemi-Bello (1994), and Rowe and Snizek (1995) that both males and females employees in general have similar work ethic and that there was no significant differences between males and females in terms of work ethic.

Table 2 shows respondents’ IWE orientation based on age, job status and length of service. In terms of age
group differences, the results show that the total mean score for respondents within the age group of 20 and 25 is \( M = 73.89 \) (SD = 6.53), age group of 26 and 35 is \( M = 74.28 \) (SD = 6.44), age group of 36 and 45 is \( M = 74.50 \) (SD = 4.93), and those of age group 46 and above is \( M = 73.80 \) (SD = 7.03). Results of the ANOVA test on the sample size \( (N = 90) \) show that there is no significant differences between the age groups on the Islamic work value scale \( (F(3, 86) = 0.21, p = 0.88) \). The findings of this study however do not support the findings of Taylor and Thompson (1976) and Ali, Falcone, and Azim (1995) that found there was a significant association between age and work ethic.

### Table 2

**Respondents’ IWE Mean Score According to Demographic Factors** \( (N = 90) \)

<table>
<thead>
<tr>
<th>Demographic factors</th>
<th>Mean (M)</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-25 years old</td>
<td>73.89</td>
<td>6.53</td>
</tr>
<tr>
<td>26-35 years old</td>
<td>74.28</td>
<td>6.44</td>
</tr>
<tr>
<td>36-45 years old</td>
<td>74.50</td>
<td>4.93</td>
</tr>
<tr>
<td>46 and above</td>
<td>73.80</td>
<td>7.03</td>
</tr>
<tr>
<td><strong>Job status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior support group</td>
<td>76.0</td>
<td>14.57</td>
</tr>
<tr>
<td>Senior support group</td>
<td>73.51</td>
<td>13.37</td>
</tr>
<tr>
<td>Junior management group</td>
<td>73.46</td>
<td>11.42</td>
</tr>
<tr>
<td>Senior management group</td>
<td>75.67</td>
<td>14.01</td>
</tr>
<tr>
<td><strong>Length of service</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 5 years</td>
<td>74.25</td>
<td>13.60</td>
</tr>
<tr>
<td>5-10 years</td>
<td>72.79</td>
<td>13.43</td>
</tr>
<tr>
<td>11-15 years</td>
<td>74.50</td>
<td>9.90</td>
</tr>
<tr>
<td>16-20 years</td>
<td>77.00</td>
<td>8.96</td>
</tr>
<tr>
<td>21-25 years</td>
<td>76.38</td>
<td>7.45</td>
</tr>
<tr>
<td>26 years above</td>
<td>72.38</td>
<td>11.90</td>
</tr>
</tbody>
</table>

In contexts of job status the results of this study show a relatively high mean score of Islamic work ethic for all employees in the category. However, the junior support group have a slightly higher mean score of \( M = 76.0 \) (SD = 14.57) and followed by the senior management group with a mean score of \( M = 75.67 \) (SD = 14.01). The mean score for senior support group is \( M = 73.51 \) (SD = 13.37), and junior management group is \( M = 73.46 \) (SD = 11.42). Results of the ANOVA test on the sample size \( (N = 90) \) however, show that there is no significant differences between the job status groups on the Islamic work value scale \( (F(3, 86) = 0.412, p = 0.75) \). Thus, this study concludes that there is no significant differences in the level of Islamic work value among respondents according to job status. Therefore, whether respondents are in the category of management group or support group the results show that they are in strong support and adhere to Islamic work value.

The results of this study also show that all employees irrespective of their length of service have a relatively high mean score in the Islamic work ethic scale. For those who have served below 5 years the mean score is \( M = 74.25 \) (SD = 13.60), 5 to 10 years is \( M = 72.79 \) (SD = 13.43), 11 to 15 years is \( M = 74.50 \) (SD = 9.90), 16 to 20 years is \( M = 77.00 \) (SD = 8.96), 21 to 25 years is \( M = 76.38 \) (SD = 7.45) and lastly those who have served for more than 26 years have a mean score of \( M = 72.38 \) (SD = 11.90). Result of the ANOVA test on the sample size \( (N = 90) \) however, shows that there is no significant differences among the length of service category on the Islamic work ethic scale \( (F(5, 84) = 0.794, p = 0.56) \). Therefore, regardless of number of years in service, the results of this study show that respondents have strong support and adhere to Islamic work value. The findings of this study however
do not support the findings of Gomez-Mejia (1983) and Whelen (1972) that there is a significant relationship between work ethic and tenure.

In the context of organizational commitment, respondents \( (N = 90) \) overall mean score is 79.40 \( (SD = 13.18) \) thus can be consider as moderate. Within the dimension in organizational commitment, the mean for Affective dimension is 30.32 \( (SD = 5.48) \), Continuance is 27.18 \( (SD = 5.78) \) and Normative is 21.90 \( (SD = 4.09) \). In the context of gender differences the mean score for Affective commitment for male is 26.09 \( (SD = 3.13) \) while female is 26.43 \( (SD = 5.22) \). For Continuance dimension male mean score is 26.39 \( (SD = 4.29) \) and female is 27.45 \( (SD = 6.21) \). The mean score for Normative dimension of male respondents is 21.48 \( (SD = 2.83) \) and female is 22.04 \( (SD = 4.45) \). The results of significant test for Affective commitment is \( t(88) = -0.299, p = 0.765 \), Continuance is \( t(88) = -0.755, p = 0.453 \), and Normative is \( t(88) = -0.571, p = 0.569 \) and are not significant. Therefore, it can be concluded that there are no significant differences in respondents orientation within the dimension of affective, continuance and normative of organizational commitment. Overall, respondents’ orientation towards organizational commitment is considered moderate and not significant.

Table 3 shows respondents’ orientation toward organizational commitment according to age, job status and tenure. Mean score for all dimensions within organizational commitment with regard to individual variables are moderate.

Table 3
Respondents’ Organizational Commitment Means Score According to Demographic Factors \( (N = 90) \)

<table>
<thead>
<tr>
<th>Demographic factors</th>
<th>Affective Mean (M)</th>
<th>Continuance Mean (M)</th>
<th>Normative Mean (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD</td>
<td>SD</td>
<td>SD</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-25 years old</td>
<td>24.7</td>
<td>27.9</td>
<td>20.8</td>
</tr>
<tr>
<td></td>
<td>4.45</td>
<td>6.26</td>
<td>4.11</td>
</tr>
<tr>
<td>26-35 years old</td>
<td>25.6</td>
<td>27.9</td>
<td>22.3</td>
</tr>
<tr>
<td></td>
<td>5.07</td>
<td>6.22</td>
<td>4.52</td>
</tr>
<tr>
<td>36-45 years old</td>
<td>26.5</td>
<td>27.8</td>
<td>21.0</td>
</tr>
<tr>
<td></td>
<td>4.89</td>
<td>6.43</td>
<td>4.18</td>
</tr>
<tr>
<td>46 and above</td>
<td>28.0</td>
<td>25.9</td>
<td>22.3</td>
</tr>
<tr>
<td></td>
<td>4.24</td>
<td>4.88</td>
<td>3.6</td>
</tr>
<tr>
<td>Job status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior support group</td>
<td>29.0</td>
<td>33.0</td>
<td>23.3</td>
</tr>
<tr>
<td></td>
<td>5.57</td>
<td>5.57</td>
<td>3.06</td>
</tr>
<tr>
<td>Senior support group</td>
<td>26.4</td>
<td>27.2</td>
<td>21.9</td>
</tr>
<tr>
<td></td>
<td>4.80</td>
<td>5.67</td>
<td>4.36</td>
</tr>
<tr>
<td>Junior management group</td>
<td>25.4</td>
<td>27.8</td>
<td>21.9</td>
</tr>
<tr>
<td></td>
<td>4.97</td>
<td>5.31</td>
<td>3.11</td>
</tr>
<tr>
<td>Senior management group</td>
<td>26.6</td>
<td>24.1</td>
<td>21.3</td>
</tr>
<tr>
<td></td>
<td>4.28</td>
<td>6.39</td>
<td>3.97</td>
</tr>
<tr>
<td>Length of service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 5 years</td>
<td>24.9</td>
<td>28.2</td>
<td>21.8</td>
</tr>
<tr>
<td></td>
<td>4.64</td>
<td>5.81</td>
<td>4.07</td>
</tr>
<tr>
<td>5-10 years</td>
<td>25.4</td>
<td>26.1</td>
<td>20.4</td>
</tr>
<tr>
<td></td>
<td>4.43</td>
<td>6.20</td>
<td>4.85</td>
</tr>
<tr>
<td>11-15 years</td>
<td>20.0</td>
<td>20.0</td>
<td>17.5</td>
</tr>
<tr>
<td></td>
<td>1.41</td>
<td>7.07</td>
<td>0.71</td>
</tr>
<tr>
<td>16-20 years</td>
<td>31.3</td>
<td>35.3</td>
<td>26.8</td>
</tr>
<tr>
<td></td>
<td>3.30</td>
<td>3.40</td>
<td>2.50</td>
</tr>
<tr>
<td>21-25 years</td>
<td>28.9</td>
<td>25.4</td>
<td>21.8</td>
</tr>
<tr>
<td></td>
<td>3.76</td>
<td>2.72</td>
<td>2.77</td>
</tr>
<tr>
<td>26 years above</td>
<td>27.9</td>
<td>26.2</td>
<td>22.5</td>
</tr>
<tr>
<td></td>
<td>4.43</td>
<td>5.25</td>
<td>3.77</td>
</tr>
</tbody>
</table>

Results of the ANOVA test on age groups sample size \( (N = 90) \) show that differences are not significant may it be on Affective commitment \( F(3, 86) = 2.39, p = 0.075 \); Continuance commitment \( F(3, 86) = 0.798, p = 0.498 \), and Normative commitment scale \( F(3, 86) = 0.81, p = 0.49 \). For job positions the differences between the dimensions within organizational commitment are also not significant; Affective commitment \( F(3, 86) = 0.488, p = 0.69 \); Continuance commitment \( F(3, 86) = 1.97, p = 0.125 \), and Normative commitment \( F(3, 86) = 0.177, p = 0.912 \). However for length of service the results while on Normative scale the differences are not significant \( F(5, 84) = 2.22, p = 0.06 \) but on Affective and Continuance scales the differences are significant \( F(5, 84) = 3.94, p =
The probable causes for this moderate orientation may be due to factors involving benefits and constraints in exploring one’s own potential. Being a government-owned entity, one cannot expect to enjoy lucrative benefits as offered by the private sector. Due to limited budget government agencies also suffer constraints in terms of technology and together with too many guidelines to adhere to, these in return curbs employees’ creativity to explore their true potentials.

As for the relationship between Islamic work values and dimensions within organizational commitment the results show that the relationship is moderate however positive and significant. Islamic work values significantly correlated with *Affective* dimension \((r = 0.48, p < 0.05)\); with *Continuance* dimension \((r = 0.32, p < 0.05)\), and with *Normative* dimension \((r = 0.42, p < 0.05)\).

The results of this study show that while respondents are high in Islamic work ethic orientation but score moderately on organizational commitment. Nonetheless there is a moderate but positive and significant relationship between Islamic work value with *Affective*, *Continuance*, and *Normative* commitment. These findings are in support of the theoretical foundation on which Islamic work ethic is being developed. Since work value takes root from religion therefore being Muslim; respondents show high orientation towards Islamic work value. This is simply due to the fact that developments of individual’s values are very much influenced by the religion he or she professes. Religion provides the paradigm of what is good and what is bad, and the do’s and the don’ts. All Muslim regardless of race or sex will strive to be good Muslims. In the Quran, Allah s.w.t says:

\[
\text{O mankind, indeed We have created you from male and female and made you peoples and tribes that you may know one another. Indeed, the most noble of you in the sight of Allah is the most righteous of you. Indeed, Allah is Knowing and Acquainted. (Al-Quran, 49, p. 13)}
\]

Since IWE takes its root from the Quran therefore, an individual Muslim employee regardless of gender, marital status, age, job status and length of service who hold strong in Islamic faith will also have a high orientation in Islamic work values. In the context of relationship between Islamic work value and organizational commitment the findings of this study are in support of findings done by Yousef (2000), Wahibur Rokhman (2010) and Nik Mu’tasim et al. (2006).

**Limitation**

The results of this study should be viewed with caution. Since this study involves a small sample size, therefore it has a limited ability to be generalized to the population. To this extent this study cannot truly reflect that these respondents represent the whole population of Malaysian employees in the broadcasting industry. However, the results of this study are reflective of the Islamic work value and organizational commitment of the respondents as they advance into their career. This work ethic should also be reflective of the community in which they live, i.e., an Islamic community. Also, since the data being reported came from questionnaire surveys therefore, several other limitations are associated with it such as general issues of questionnaire understandability and readability, scaling issues, and measurement errors. Furthermore, there is no assurance that the respondents’ responses are a true reflection of their ethical judgments for some of the respondents could have provided socially desired answers.
Conclusion

The exploration of IWE and organizational commitment among employees of a broadcasting organization is intended only to show a general idea of an employee’s attitude towards work and their organization, rather than provide information about how he or she views his or her job and organization or the reasons behind it. This study indicates that respondents have a high orientation in Islamic work ethics but moderate in organizational commitment. Future research should examine the Islamic work ethics among Malaysian employees in other industries and using a larger and representative sample size. Future studies should also apply IWE to non-Muslim and other ethnic in Malaysia in order to find whether Islamic work ethic scale can be secularized.

References


Development Perspectives of Bio-Tech Entrepreneurship: 

The Case of Slovenia

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The development perspectives of the bio-tech entrepreneurship in Slovenia are examined in the paper. The main research question is to examine the conditions for fundaments of wider expansion of this particular industry in Slovenia. Due to a small extent of the industry a qualitative research methodological approach seemed appropriate. Eight companies were interviewed with the objective to reveal the main characteristics of the entrepreneurial ventures established on the basis of science and research driven ambitions of founders who managed to encompass their personal and professional development trails with entrepreneurial paths. There are several peculiarities found in this particular qualitative research which goes along with the literature survey. On the other side, there are some characteristics which may not be regarded as usual in the field of bio-tech entrepreneurship: majority of companies are not spin-offs in are not based on public-funded research, they do not rely on venture capital and seem not to have a very distinguished business model. Half of companies are located in incubators or tech-parks. Participants in the study share similar opinion regarding the support policy of the government. On the other hand, majority of entrepreneurs come from public research institutions not exactly being entrepreneurial from the viewpoint of being profitable but rather in a way, that there is a belief that in private companies they may generally have more flexibility and broader financing opportunities. The understanding of importance of marketing, building on social capital and risk-awareness still seem to be neglected factors among bio-tech entrepreneurs. Still, high level of reliance on public finance, mostly on different EU-sponsored programs can be recognized from the opinions of study participants.

Keywords: bio-technology, entrepreneurship, R&D, science-driven industry, financing

Introduction

Being a pure science in the beginning (DNA was discovered in 1953 and was recognized as a key genetic material with its basic function of transfer genetic code onto the next generation of living and became a new milestone in understanding lives from bacteria, plants, animals and finally human beings), first commercial
applications were not developed very soon since the first biotech company Genetech Inc. was established in California only in 1976 (Robbins Roth, 2001). Today, the commercialization of the biotechnological inventions and discoveries is known as biotech industry while new ventures in the field are defined as biotech entrepreneurship (Baum, Calabrese, & Silverman, 2000). On the break of the centuries, the number of biotech companies over the world was estimated to be around 5,000 (Audretsch, 2001) while this number has been tremendously increasing (Becker, 2004).

Biotechnology seems appropriate to research science-based entrepreneurship since during the last two decades there has been an upsurge of new firms (Zucker, Darby, & Brewer, 1998). In the case of Slovenia, the number of creation of biotech firms is also increasing, from virtually nothing a decade ago, to more than 20 nowadays. There can be no doubt that those new firms are knowledge based since biotechnology is widely acknowledged as a science-based and even a science-driven sector (Cohen, Nelson, & Walsh, 2002). Another challenging feature of biotech research is that new firms are usually pure cases of entrepreneurship, in the meaning that they are new technology-based firms. Firms are built upon the use of a new technology or the development and production of a new product. However, the problem of knowing whether or not the creation of a new firm can really be considered as a case of entrepreneurship is ignored in this case (Metcalfe, 2004).

Although US seem to play the leading role in the field, there is also an increasing activity in Europe, mainly in UK but also in Germany and France while other countries are far behind (Cooke, 2001). Moreover, while technology part of the biotech had been predominantly studied, the attraction of the researchers is more and more often dragged to entrepreneurial part of the biotechnology (Fuchs, 2001) which causes the emergences of this intriguing field also in other parts of the world including emerging and smaller, also transition economies (Stuart & Ding, 2006). Although industrial dynamics and technology trends in biotech are defined globally, the national institutional rules, tradition and politics do have a large impact in the activity of biotech companies in the social and economic environment at the national level (Nilsson, 2001) and urge for positive trends such as increasing numbers of science graduates worldwide, accelerating pace of scientific advancement, dominating role of globalisation enabling greater collaboration, democratising forces of the internet, and the relentless competitive pressure to innovate. As such, policy agendas should focus on increasing factor conditions to enhance start-up formation, alliances, and skilled employment, rather than attempt to select specific winners and losers among specific sub-sectors or individual firms (Ahn & Meeks, 2007). The particularities of the Slovene environment influencing the development of biotech entrepreneurship are therefore the main motivation for writing this paper.

**Literature Overview and Research Questions**

There are several pillars in the entrepreneurial process and business modeling that differentiate biotech businesses from other entrepreneurial ventures: (1) The industry is research and science driven; (2) There is a predominant role of patenting possibility in order to secure awards for risk taking; (3) Entrepreneurial abilities have to go beyond traditional innovation and risk paradigms to capability of managing heterogeneous networks (clusters); (4) The importance of public science; and (5) Availability of venture capital (Wolff, 2001).

Biotech start-ups are usually founded by a small number of people who personally assume the direction of the project. Motivations of those founders, which are often not only profit oriented, and the recourse to credit to launch the business are also in line with Schumpeter’s early view on entrepreneurship and entrepreneurs.
Founders are often individuals endowed with a strong experience either scientific or managerial (Radosevic, 2002).

Yet, this view of entrepreneurship ignores interdependences between the multiple actors of innovation. It comes from a deep misunderstanding of entrepreneurship in biotech, which is mainly a collective process that relies on the assembling of competences distributed across a large number of agents. The entrepreneur is not a single agent but belongs to a network and has to interact with other members to succeed in his enterprise. In short, the locus of innovation has shifted from individual organizations to networks (Baum et al., 2000).

Yet, if networks are the central drivers of innovation it does not mean that individual entrepreneurs play no role. They still need to develop specific competences, at least to ensure the creation of their network. In this sense, competences such as the ability to bridge different culture, open-mindedness, etc., may become central. The entrepreneur must have the ability to set-up agreements among all interested parties (such as the inventor of the process, the partners, the capitalists, the suppliers, the distributors), to enlist cooperation of official agents, to put together adequate staff, etc. This ability to bridge heterogeneous networks and persons may become far more important for entrepreneurs in biotech than scientific or managerial abilities (Orsenigo, 2001). Thus, the main case in a successfully started bio-tech venture may be the ability of individuals and entrepreneurial teams to shift from award-winning entrepreneurs to real-life entrepreneurs (Wolf, Michelsen, & Schwartz, 2010).

One element to be put forward is the role of public research for new biotech start-ups. Many new biotech firms stem from the academic community (are academic spin-offs or at least are mixed structure from the academia and industry) and even for those that are not, it is central to establish strong links and to collaborate with public labs. This central role of public research in the development of the biotech industry was already emphasized by Zucker et al. (1998), who showed that in the US during the early days of the biotech industry, there was a very positive correlation among the local presence of a university and the development of biotech start-ups. However, this huge reliance on public research sector to play a crucial role in the biotech start-ups seems to be more European and US matter, while in Japan a lot of bio-tech start-ups are intrapreneurial ventures mostly from pharmaceutical companies (Jolivet, Lanciano-Morandat, Nohara, & Pardo, 2009).

Also the cooperation with public research organizations is reported to be of high importance for biotech start-ups. Collaboration with universities is central to increase firms’ reputation and to achieve scientific credibility. Here, collaborations essentially aim at increasing the firms’ attractiveness for financiers or potential partners. Star scientists among others, by their ability to bridge different communities, ensure to the entrepreneur the scientific visibility necessary in order to collect funds and to develop collaborations (Zucker & Darby, 1999). Despite an increase in life science technology commercialization and venture creation, graduate schools have largely failed to provide adequate opportunities for students to acquire knowledge and experience in bio-entrepreneurship. Postdoctoral trainees and graduate students have recognized this educational gap, as well as a role in complementing university run bio-entrepreneurship programs, and formed student organizations that foster bio-entrepreneurship education (Brown & Kant, 2009). On the other hand, advanced degrees that combine master’s in business with master’s in biotechnology are popping up at several universities. The programs are targeted to students who will bridge the gap between scientist and managers in biotech companies (Waltz, 2006).

Many empirical studies are suggesting that the most important asset for entrepreneurship in biotech is patent and that without patents there would have been few investments in biotech. The prominent role of patents in
biotech goes back to the origin of the sector. There is indeed a strong correlation between the birth of the industry and important changes in patent laws, which suggests that patents played a central role in the birth and development of the biotech industry (Hemphill, 2003). It is possible that without the patent system the biotechnology revolution would not have reached the dimension it has nowadays.

In life sciences, and contrary to most other sectors, it has indeed been shown that patents are highly important to appropriate the returns of an innovation and to enhance incentives (Combs & Metcalfe, 2002). Firms acting specifically in biotechnologies are usually small and young companies faced with high competitive pressures and thus they intensively rely on patents because they do not have any other tangible asset. Biotechnology companies may apply for patents not only in order to exclude rival firms but also to facilitate collaborations and interactions. Without patents those firms would have no guarantee to offer to potential partners and to financing institutions (Bureth, Levy, Pénin, & Wolff, 2005).

Biotechnology is a money-consuming business. Biopharmaceuticals, for example, demand more than $100 million for R&D expenditure and a 12-year development process before they enter the market (DiMasi, Hansen, & Grabowski, 2003). Other biotechnological products such as genetically engineered plants or platform technologies also demand high R&D expenditures before generating revenues. For most young bio-ventures, financing these expensive processes depends on the availability of VC capital and development of stock markets. Therefore, the development of the biotechnology industry is substantially influenced by the munificence of the financing environment (Prevezer, 2001). In several countries the present financial crisis seems to begin to trigger a certain drop in biotech activity (Patzelt & Audertsch, 2008).

Methodology

Our empirical research was conducted on eight businesses operating in biotechnology industry. The examined businesses are all located in the capital of Slovenia where also the largest university in the country is based with reasonably developed live-science departments. A case study method was used as a qualitative research approach in order to answer the research questions. The sample was defined on the basis of knowledge, information and personal network the authors have of biotechnology-based businesses operating in Slovenia.

There seem to be two reasons for this: one is in the character of the target group which as proposed functions in a specific economic system and second, researching technology-based businesses has become a new approach in the field of academic interest for small business and entrepreneurship thus, even enhancing the common problems with establishing trust between all parties in the research.

The research was conducted in a period from January to September, 2009. Data collection was based on semi-structured personal interviews with the owners of businesses and in two cases accomplished with business partners/co-founders. Interview encompassed seven specific questions for owners. One of the reasons for choosing the particular qualitative research, which is a case study method, is that this appears to be a prevailing methodology in small sample business research worldwide. However, the lack of the data based on biotechnology businesses which would include contact details (i.e., name, phone and address) determined the need for developing a flexible and cost effective methodology which would allow the researchers to identify, reach and communicate with the target population and to adapt the techniques of data collecting to the circumstances found. On the other hand, quantitative approaches would be challenged with conditioning
sampling methodology and in terms of potential bias.

Three interviews were conducted by teams of two researchers and two were conducted by one researcher. It has been assumed that voice- or video-taping may not be appropriate and would lead the respondents to aversion from revealing all the information and thoughts and may distort other levels of communication. Only handwritten minutes were taken and the story was transcribed immediately after the interview. In all cases interviews took place at the premises of the company which should normally enhance the comfort and relaxation of collocutors. The interviews took place at various times of the day, mostly during the working days. It is believed the timing and place of the interview did not anyhow negatively influence on the readiness and openness to reveal data and information.

The following research questions were addresses to entrepreneurs based on the subjective assumptions of the researchers and literature search presented in the previous chapter:

RQ1: How did you get the idea, what was your motive for entrepreneurship? (Becker, 2004);
RQ2: Why did you decide to start a company on the field of biotechnology? (Metcalfe, 2004);
RQ3: What is your entrepreneurial background? (Radosevic, 2002);
RQ4: What would be a popular description of your product/service: what do you develop, produce and sell? (Orsenigo, 2001);
RQ5: What is your business model (suppliers, customers, marketing strategy, business economics and control of costs, break-even point)? (DiMasi et al., 2003);
RQ6: What is your opinion about biotechnological environment, status of biotechnology, possibilities of development in Slovenia and in extended region? (Stuart & Dieng, 2006);
RQ7: What are your expectations from the support institutions on the field of entrepreneurship (ministries, universities, research institutes, governmental agencies, incubators, technology parks)? (Wolff, 2001).

Results

Demographics of Study Participants

Basic demographic data regarding the researched group of companies is gathered in Table 1. All the companies are located in the capital of Slovenia, being from four to 20 years old. They employed from three to 15 people at the time of interviews and are managed by founders which six out of eight possess post graduate degrees (two on masters and four on doctoral level) which in a way confirm the paradigm of bio-tech entrepreneurship as a research driven industry.

<table>
<thead>
<tr>
<th>Case</th>
<th>Activity</th>
<th>Location</th>
<th>Age</th>
<th>Education of founders</th>
<th>Founded</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Laboratory and process equipment</td>
<td>Ljubljana</td>
<td>49</td>
<td>B.Sc. in informatics</td>
<td>1990</td>
<td>7</td>
</tr>
<tr>
<td>C2</td>
<td>Bioelectromagnetics and new biology</td>
<td>Ljubljana</td>
<td>30-60</td>
<td>From high school to Ph.D.</td>
<td>1990/2004</td>
<td>14</td>
</tr>
<tr>
<td>C3</td>
<td>Cell therapy service</td>
<td>Ljubljana TP</td>
<td>n/a</td>
<td>Ph.D.</td>
<td>1997</td>
<td>10</td>
</tr>
<tr>
<td>C4</td>
<td>Personalized genetics</td>
<td>Dublin, Ireland and Ljubljana TP</td>
<td>24</td>
<td>Master degree</td>
<td>2005</td>
<td>10</td>
</tr>
<tr>
<td>C5</td>
<td>Consulting, engineering, R&amp;D</td>
<td>Ljubljana</td>
<td>50</td>
<td>Master degree</td>
<td>1989/1996</td>
<td>5</td>
</tr>
</tbody>
</table>
(Table 1 continued)

<table>
<thead>
<tr>
<th>Case</th>
<th>Activity</th>
<th>Location</th>
<th>Age</th>
<th>Education of founders</th>
<th>Founded</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6</td>
<td>Personalized genetics—nutriogenomics</td>
<td>Ljubljana TP, Koper TP</td>
<td>34</td>
<td>B.Sc. in economics</td>
<td>2008</td>
<td>5</td>
</tr>
<tr>
<td>C7</td>
<td>Cell therapy—cancer</td>
<td>Ljubljana</td>
<td>43</td>
<td>Ph.D.</td>
<td>2010</td>
<td>3</td>
</tr>
<tr>
<td>C8</td>
<td>Development of molecular and genomic tools</td>
<td>Ljubljana</td>
<td>35</td>
<td>Ph.D.</td>
<td>2001</td>
<td>15</td>
</tr>
</tbody>
</table>

Note. * Means “technology park” which is also synonym for incubator, university incubator etc.. Source: Own research 2009-2010.

Case Studies

Fourteen Slovenian companies from the fields of biotech, medical and pharmaceutical science, medical and laboratory equipment, were invited to collaborate in the research. Six directors of companies from the field of biotechnology have refused participation in personal interviews from different reasons: either they had no interest or, they reported to be too busy or had other priorities in a given moment. We completed a qualitative research on the sample of eight companies or institutions:

BIA Ltd. was established in 1990 and employed seven highly specialized professionals at the time of interview who perform work on the fields of development and marketing activities. Their main activity is selling products and services on the fields of chromatography, biotechnology, organic synthesis and lab equipment. They develop solutions for tracking and monitoring bioprocesses and simple LIMS (Laboratory Information Management Systems). From BIA, a new spin-off company BIA Separations has been established, which is today a world leading producer of monolithic chromatographic columns based on CIM (Conventive Interaction Media). Their business partners and customers are several companies and research institutions in pharmaceutical and food industry.

Institute Bion Ltd. is a spin-off company from a publicly funded research institute and since 2004 it operates as a private limited company. However, the origins of their activity go back in 1990. Their main focus is the impact and influence of electromagnetic fields on live organisms. Since 2003 they have been intensively researching bio-fields or subtle fields. The institute performs basic and applied research on the field of bio-electromagnetics. They are financed mostly from public tenders, they cooperate with industry and other companies for which they provide specialized research services. Also they perform training and cooperate with universities at diploma, master level and doctoral research.

Educell Ltd. is a company, operating since 1997 and it is the first institution, which gained the status of the institute for tissues and cells from the public agency of the RS for medicine and medical remedies in 2008. The company was established on the basis of the research project started at the publicly funded institute and they currently operate at Ljubljana Technology Park. The venture was backed by a VC fund in late 1990s and was lately acquired by another company. Their provide cell therapy processes intended to cure joint cartilage and bone tissue. They cooperate with clinics in several medical fields: orthopedic, trauma and urology of the university clinical centre Ljubljana which is currently their sole customer. They grow cells in the most modernly equipped laboratories. Their field of work is tissue engineering for very various purposes.

Gene Planet Ltd. was established in 2005 and is registered in Dublin, Ireland, because they believe that support for high-tech companies is much better recognized there. The company was established by several founders and business angels have also contributed to the initial capital. At the time of the interview, it employed
ten people. The main company’s service is personalized genetics. The essence of this service is to draw someone’s attention to the individual’s genetic predisposition for the disease which can be detected early by frequent preventive examinations and therefore early treated. It is a DNA analysis of individual’s saliva and interpretation of results. In this way the company connects high science with life and health of individuals. The service is highly innovative and entirely new in Europe therefore, intensive and extensive research is taking place. The company is in its early stage of development and is still in the process of defining its business model. It is located in Technological Park of Ljubljana.

Omega Ltd. was established in 1989. Since 1996 it represents two high-tech companies Perkin Elmer and Applied Biosystems from USA in Slovenia. Company’s main mission is transfer and introduction of new, fast developing technologies and procedures from the fields of chemical analysis and molecular biology into Slovenian environment. Their field of work is chemical analysis, biochemistry, biology and physics. Very important company’s mission is training of topmost professionals or researchers from the fields of activity. The company offers turnkey projects for known customers. Their main business partners are regional institutes for health care in Slovenia. Their business model is strongly connected to the parent companies in the USA on the fields of planning, organizing and reporting. The company is entirely independent on the fields of development and marketing their own products and services. It sells them in Slovenia and in countries of former Yugoslavia.

Genelitik Ltd. was established in 2008 by several individuals and relied highly on grant funding from the public enterprise fund. In 2011 a strategic investor provided additional capital for development. They develop processes in personalized genetics in the individual’s feeding level—nutriogenomics. On the basis of DNA analysis they are able to prepare recommendations for altered feeding habits for individuals suffering from different diseases, weight problems etc.. Their vision is in five years to become a leading European bio-tech company in the field of diseases prevention measures and healthy way of life. For further financing of their research activity they are still quite dependant on EU budget research funding projects.

DiaGenomini Ltd. was established in 2010 by a group of young researchers in the field of biology and medical science and also co-financed by some corporate strategic investors. They employed three people at the time of interview and mainly deal with genetic analysis of intestines and breast cancer which would enable faster and more efficient cure treatment. They are expanding their research efforts in the field of cardio-vascular system which would eventually direct and individual to a healthier way of life. They also provide specialized trainings in order to provide some cash-flow for their daily operations.

IFB—Institute for Physical Biology Ltd. was established back in 2001 and employed 15 people at the time of interview. They are mostly dedicated into development of molecular and genomic tools for profiling, determination, quantification and, characterization of microbes associations. Their tools are applicable in the medical science, food industry, pharmaceutical industry and environment protection. Their business model is based on idea that once a service can be marketed it is spun-off in another company.

Results and Findings

The responses given upon the research questions are outlined in Table 2. As described, the majority of the researched companies were established as private companies and do not share a public institution background. If we put them in the business life-cycle model they are in the range from mature companies to early-stagers or even
start-ups. Their domain is mostly in life-sciences with a certain level of industrial application flair. Only one company can be regarded as a spin-off and even this spin-off was from another company because of the reason of a serious disagreement of founders regarding the strategy adoption and future business orientation.

Table 2

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Note. Source: Own research, 2009.

As mentioned earlier, directors of Slovenian biotech companies were interviewed in our research. Following are results of these personal interviews, presented according to the questions.

RQ1: The origin of the idea and main source of motivation for entrepreneurship.

Speaking about age and professional experience, entrepreneurs in biotech companies show a wide span from such with 30 years of experience and 20 years of work in biotechnological company (BIA Co.) to very young entrepreneurs who have only finished their postgraduate studies and started their own business (Gene Planet) immediately. Postgraduate level of education is prevailing (master and doctoral degrees). All have extensive research experience on the fields of medical sciences, biotechnology, also chemistry and physics. Most of the younger ones originate from the “young researchers” government project. They established a biotechnological company either from the existential need, as they could not find appropriate job after finishing their studies and research work, either they have not found real challenges in large companies and research institutes, either they have established a company as a spin-off from bigger public research institutes. Some of them have joint biotechnological company upon invitation from these companies’ founders and they have been previously successful on other fields of activities and technologies (e.g., IT technologies). Motives for entrepreneurial career were different, from implementation of their own vision from earlier days, to the motives arising from the existential need, to the spontaneous meetings and invitations for cooperation in biotechnological project.

RQ2: Decision to start a company on the field of biotechnology.

For most of our interviewees this has been a very logical and natural decision. They wanted to continue their careers in the field, which they studied in details and researched. Therefore a biotechnological company was a logical result of study and specialization, although they were perfectly aware that it is very difficult to establish and manage a successful biotechnological company. One of the companies (Omega) was established as a respond
to the noticed opportunity and needs for representing a foreign company in Slovenia.

RQ3: Entrepreneurial background (family, relatives, acquaintances, friends, other).

Most of the answers were that they do not originate from families with entrepreneurial background and they have not considered entrepreneurship as a possible career path as they were interested mostly in the narrower field of biotechnology and in-depth study. The majority agree that there is probably no linkage between their personal decisions for study, research, entrepreneurship and environment in which they have grown up and study. Some of them come from families, where their parents were professors and researchers, but most of them come from families, where parents were public servants, belonging to generation in the former socialist system. The majority agree that “entrepreneurial genes” have not played a crucial role in a decision for entrepreneurial path on the field of biotechnology.

RQ4: Products and services.

The studied companies perform a wide range of activities. Educell grows cells in to cure and grow joint cartilage (cells for renewal of bone tissue for clinical use). Institute Bion studies the field of bio-fields or subtle fields and their impact on people, animals and plants. Results of their research are healing products. In perspective, this will become a new branch of pharmacy and pharmaceutical industry. Gene Planet offers personalized genetics services. It discovers inclination of someone to some chronic diseases and offers timely diagnostics of diseases that someone is exposed to. One of the companies is representing and selling products from American companies (Omega) and also sells instruments, materials and services on the fields of chromatography, biotechnology, organic synthesis and computer and laboratory equipment. The activities of the studied companies are very different from production, performance of proper research services, representation, sale, service and training.

RQ5: The business model (suppliers, customers, marketing strategy, business economics and control of costs, break-even point).

Several business models are revealed in the sample, from classical agency for a foreign partner, selling equipment from foreign suppliers to larger pharmaceutical companies, to production of biotechnological material (cells) and connection to one large customer, and to entirely entrepreneurial approach to development and marketing the service of personalized genetics. All the companies strictly control their costs and cooperate with more suppliers. They monitor and control costs of labor and fixed costs of operation. Most of our interviewees revealed that they have not reached the break-even point or that they have to fight for positive operations all the time. Marketing activities are performed on different ways apart from contemporary information technologies they prefer personal communication with customers.

RQ6: Opinion about biotechnological environment, status of biotechnology, possibilities of development in Slovenia and in wider region.

Most of interviewees agree that Slovenia is a too small country for realization of large biotechnological projects. Our neighboring countries (e.g., Austria) are biotechnologically well developed, but centers of knowledge and personnel in the region are dispersed and too competitive to each other to be able to achieve a critical mass for a biotech region. Big breakthroughs on the field of biotechnology in Europe and in the world can be done only by large companies and research laboratories, which invest big financial assets. The temporary politics is in Slovenia too reserved regarding support to smaller development centers, which should successfully
Most of interviewees only have modest expectations from the support environment. According to their opinion, too many of the state budget assets are spent unintentionally or, with a very small benefit in comparison with technologically successful countries. They agree that we need technology parks, incubators and tech-zones, which can offer legal, organizational, spatial and financial support to biotechnological companies. More spin-off companies from universities and research institutes could be started if administrative incentive mechanisms from the government would be more friendly (legislation, adequate financing). Financing priorities should be changed and criteria for competing at public tenders for research for smaller companies should be at least partly adjusted. Universities and research institutes have a good name, a good infrastructure and a high level of trust. But cooperation with biotechnological companies is on a very low level because since there seems to be no will and enthusiasm from some responsible individuals and researchers to cooperate.

**Conclusions and Implications**

This paper aimed at understanding the main features of entrepreneurship in biotech through a detailed analysis of the foundation of eight companies in Slovenia. Our objective was to go into the black box in order to analyze the genesis of new biotech ventures. Research questions raised here should hence provide a good starting point for more quantitative research that will confirm or invalidate them.

Our analysis enabled us to stress several characteristics of entrepreneurship in biotech. A first insight deals with the motivations that drive the founders, at least when they come from the academia. We have seen that those motivations are usually not directly based on money but on more complex mechanisms. Scientists may, for instance, want to foster the industrial exploitation of their research in order to make them benefit general public. Or they may wish to increase research budget and achieve more freedom for their research. More generally, scientists may want to join industry because it often offers more opportunities coming out from flexibility than the public sector (i.e., universities and research institutions). Yet, we have also seen that this willingness to create a venture in order to pursue his research also entails risks. Projects that are too far from the market usually do not survive very long. Also in our case, it would be a very difficult task to forecast how many companies will be successful. There is a certain impression that marketing imperative is still subordinated to the research/scientific ambitions of entrepreneurs which still tend to be their main vision for the future development of their careers.

Beyond the motivations of the founders, we emphasized three broad points that appear as central within the entrepreneurship process: The role of public science, the role of patents and the collective dimension of start-ups’ creation. First, biotech entrepreneurship in Slovenia cannot be understood without public science. Most new biotech firms are founded by former public scientists, that, definitely, has some historic origins and almost all biotech start-ups acknowledge strong links with at least one public lab. Second, for biotech firms involved in drug
production, patents are highly necessary. New ventures cannot exist without a strong patent system. Third, the process of entrepreneurship in biotech is a distributed process in the sense that it does not rely on one single entrepreneur but on the assemblage of a mix of competences distributed over a wide range of individuals and organizations.

To conclude, we believe that a promising approach of entrepreneurship in biotech deals with the notion of distributed entrepreneurship. Entrepreneurship in biotech is never the fact of one single player, neither is it the fact of several firms that just share knowledge or other items. Rather, entrepreneurship arises in a collective network of heterogeneous actors, each of them acting on a fraction of the system but being inseparable from the other members, implying that the whole is worth more than the sum of each of its parts. In this sense, although there may be a leader who directs the project, each player takes a role and it may be very damaging for the overall efficacy of the project to exclude some players.

It is believed that entrepreneurs without stable market revenues can be still regarded as nascent entrepreneurs, no matter for how long they have been employed in their own company. Knowledge of factors that determine the transition from nascent entrepreneurship into real entrepreneurship is of major importance for policies aiming to effectively stimulate start-ups including bio-tech start-ups. However, scientist concentrated on person-specific factors to explain transition probabilities, environmental characteristics have been fairly neglected. Controlling for technology and individual characteristics, there is a significant impact of general regional opportunities, specific regional opportunities and the entrepreneurial environment for the probability of transition from nascent entrepreneurs to real start-ups.

References

The Binary Conception of Economics, Janus-Faced Development and the Aspiration for Accelerated and Shared Growth in South Africa

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Neoliberal macroeconomics delivered positive economic growth for most developing economies, amidst persistent deprivation and inequalities, and rigged market capitalism wherein the state incrementally substitutes itself for society, paradoxically creating bloated welfare rather than people participation, empowerment and human development. South Africa’s pursuit of Growth, Employment and Redistribution (GEAR) produced positive economic growth devoid of human development. Inevitably, government adopted Accelerated and Shared Growth Initiative for South Africa (AsgiSA) in 2006 with the intention of engendering “shared” growth for all. This article argues that the occurrence of Janus-faced development in South Africa reflects the failure of micro-scale people empowerment that is precipitated by the exclusion of poor people’s “asset base” from treatment as productive and investment capital within the hegemonic GEAR macroeconomics. It concludes that AsgiSA would fail to engender “shared” growth because it does not provide for the (re)capitalisation of the bottom half of society as its primary transformative agenda.

Keywords: economics, growth-orientation, people-centeredness, GEAR, AsgiSA, South Africa

Introduction

Analyzing post-apartheid development, Nabudere (2006, p. 33) declared that developmentalism is “dead but not yet buried because theory has not matched reality”. Western self-conceptions universalised under neo-libertarian globalisation, failed to replicate their successes in developing economies (Amin, 2001; Bayart, 2000; Cheru, 2002; Nabudere, 2006; Tsheola, 2002a, 2002b, 2003). With the ascendancy of “there is no alternative” (TINA) paralysis, countries that could have ordinarily exercised alternative policy choices were forced to adhere to the Washington Consensus. Independent sub-Saharan African states adopted structural adjustments (SAPs), underwritten by neo-libertarian macroeconomics and capital accumulation philosophies, producing a litany of incomplete skeletons of misconception economics and development practice. Post-apartheid South Africa’s macroeconomics too became replicas of Western conceptions of selfhood (Nabudere, 2006;
Tsheola, 2003).

For former colonial economies, neoliberal macroeconomics perpetuated import-dependent production structures and vertical external relations of trade with former colonial powers (Cheru, 2002; Tsheola, 2002c, 2003). Notwithstanding the wealth generation opportunities associated with the ascendancy of globalisation, “Africa continues to project a sad case of a region that is more or less excluded from world trade and its benefits” (Ilorah, 2008, p. 96). The ongoing inflexible binary conceptions of economics are central to the development conundrum experienced by developing economies. Cement Sunter blames South Africa’s development puzzle on “the triumph of Thatcherism and the Washington Consensus and the international rejection of Keynesian Theory” (as cited in Legum, 2002, p. iv). This article adopts Cassim’s (2006, p. 55) argument that “the ultimate test of reform is the impact it has on the poorest segments of society”, and argues that post-apartheid South Africa’s policy choices delivered Janus-faced development of persistent poverty and inequality amidst positive and increasing economic growth because the transformative agenda did not (re)capitalise the bottom half of the society for participation in the economics of capital accumulation.

The legacies of colonialism and apartheid entailed broadly participatory and inclusive post-1994 development policy (Cloete, 2006). Government adopted a mix of economic growth and people-centred approaches to development in the Reconstruction and Development Programme (RDP) (Cloete, 2006; Davids, 2005; de Coning, 2006; Munslove & FitzGerald, 1997; Munslove, Fitzgerald, & McLennan, 1997; Padayachee, 2006; Tsheola, 2002a, 2003). The RDP vision attempted to strike a balance between growth-orientation, people-centeredness and environmental sustainability (Cloete, 2006; Tsheola, 2002a, 2003). The ascendency of GEAR macroeconomics engendered a bias towards macro-policies underpinned by quantitative-development and growth-orientation, entrenching the foundational neoliberal principle that economic growth is a function of asset accumulation and treatment thereof as productive and investment capital.

This article teases out three foundational norms of the hegemonic neo-libertarian macroeconomics and their linkages to positive economic growth, devoid of micro-scale empowerment and human development. It demonstrates that the post-apartheid Janus-faced development experience is associated with the circumvention of the “asset base” managed by poor people, whose majority the state sought to cater for through social welfare. By 2007, over 12 million South Africans (about 26% of the total population) received social grants whilst annual economic growth rate was about 5% (RSA, 2007). Apparently, GEAR’s transformative agenda failed to (re)capitalise the bottom half of the population for participation in the hegemonic economics of capital accumulation. AsgiSA also does not provide for the recognition and treatment of poor people’s assets as capital.

The next section discusses the binary nature of conceptions of economics in order to consolidate the conceptual argument that neoliberal macro-policies are associated with Janus-faced development for erstwhile colonies in sub-Saharan Africa. Section three analyses GEAR’s delusional presumption of wealth generation, job creation and trickle-down economics, and section four proposes that the Janus-faced development puzzle cannot be divorced from GEAR macroeconomics’ exclusion of the assets of the poor from the hegemonic process of capital accumulation. Section five argues that “sharing in economic growth” is not necessarily congruent with engendering authentic people’s participation and empowerment for the poor. The article concludes that rather than hoping for trickle-down economics, South Africa’s transformative agenda needs to focus on (re)capitalisation of the bottom half of the society for participation in the process of capital accumulation.
Conceptions of economics are highly contested and controversial, largely because of the “vested interests in how change and development are to proceed” (Desai & Potter, 2002, p. 59). The Washington Consensus conceives economics as “the logic of a system”, and its critics argue that economics is “about people and how they are being served by whatever system” adopted (Legum, 2002, p. 1). Conceptions of economics as “the logic of a system” are linked to comparative advantage theory, which emphasises the role of free global trade in economic growth (Cheru, 2002; Desai & Potter, 2002; Ilorah, 2008; Todaro, 1997). The free global trade argument holds that “the only economic system that works is one in which all people on the planet must compete with all others to produce and sell goods and services” (Legum, 2002, p. 2). Global trade is presumed to promote “competition, investments, knowledge transfer and growth” and foreign exchange from exports, to finance imports (Ilorah, 2008, p. 83). Countries are expected to engage global trade according to their comparative advantages and to enhanced self-sufficiency, wealth and growth (Legum, 2002; Ilorah, 2008; Todaro, 1997). Domestically, poor people would presumably benefit through trickle-down of jobs and income from fast growing national economies (Cheru, 2002; Ilorah, 2008; Legum, 2002; Todaro, 1997). The conceptual heritage of the “new-left orthodoxy”, neoliberal macro-policies, structural adjustments and the populist poverty alleviation strategies is now exulted as neoclassical approaches (Adedeji, 2009; Cheru, 2002; Dlamini-Zuma, 2009; Ilorah, 2008; Tsheola, 2002c), describing a plethora of dualistic and linear conceptions of development in “modernisation theory, unbalanced and unequal growth, and top-down and hierarchical formulations” (Desai & Potter, 2002, p. 59).

Ascendancy of neoclassical approaches truncated discussions of alternative development paths through the TINA paralysis (Desai & Potter, 2002; Ilorah 2008; Legum, 2002; Tsheola, 2002b). Whereas political economists conceived economics as “a branch of moral science” and “part of an ethical system in the service of humanity”, the TINA paralysis entrenched “immutable laws” and overtook politics “in deciding how people should live” (Legum, 2002, pp. 1-2). Increasingly, a picture of humanity being helpless was crafted, especially for developing economies, analogous to “the sinking ship” imagery. Simultaneously, Keynes’ alternative conception of economics as “value-laden” and “a servant of humanity’s development” was undermined (Cheru, 2002; Dlamini-Zuma, 2009; Ilorah, 2008; Legum, 2002; Todaro, 1997). Keynes demonstrated that a stable macroeconomic framework for production, wherein state decisions could be made about the fairer distribution of wealth, was possible (Adedeji, 2009; Cheru, 2002; Dlamini-Zuma, 2009; Ilorah, 2008; Todaro, 1997). Markets are, by their nature, imperfect and unable to be self-correcting. Therefore, state regulation and participation in the economy are necessary. Keynes’ economics involve the pursuit of political justice and gratification of the electorate’s interests (Legum, 2002). The recent global market crisis showed that developed economies, in consort with Keynes’ economics, adopted measures that they previously “shunned”, paradoxically unravelling “some fundamental fault lines of (neoliberal) globalisation” (Dlamini-Zuma, 2009, p. 7).

With the exception of the World Systems Theory which stressed that there existed a substantial “semi-periphery” in the contemporary world system, radical dependency approaches too reduced the development reality into binary dichotomies such as “core and periphery”, “rich and poor”, “developed and underdeveloped” and so on (Desai & Potter, 2002), rarely acknowledging the unending continuum of alternative
economic conceptions. Consequently, two broad categories of development philosophies (growth-orientation and people-centeredness) gained currency (Cheru, 2002; Davids, 2005; Monaheng, 2000; Ros, 2007; Todaro, 1997). Notwithstanding structuralism radical dependency antithesis, growth-oriented neoclassical approaches attained hegemony whilst people-centeredness became a mere political stunt and rhetoric (Cheru, 2002; Desai & Potter, 2002; Ilorah, 2008; Todaro, 1997). A brief review of the two categories of development philosophies should suffice.

**Macro-scale Economic Growth Versus Micro-scale Human Development**

Growth-orientation holds economic growth as the primary goal of development whose success is measured through aggregates such as GDP, largely operational at the macro-scale. Reliance on this approach has commonly resulted in positive economic growth rates amidst persistent poverty and stark inequalities for developing economies (Tsheola, 2002c). Its proponents argue that redistributive strategies are generally anti-growth, and the inequalities described through the Kuznets Curve are to be tolerated at the initial stages (Adams, 2001; Desai & Potter, 2002; Monaheng, 2000; Munslow & FitzGerald, 1997; Todaro, 1997). Macro-scale drives towards “high economic growth paths” and quantitative outputs are preferred at the expense of micro-scale qualitative human development, under the presumption that trickle-down economics would avail income and jobs for the poor. But evidence suggests that this approach is inherently discriminatory against poor people, especially in developing economies where poverty is deep and widespread.

People-centeredness places focus at the micro-scale of societal contact with policy to promote people’s involvement for empowerment and qualitative human development (Monaheng, 2000). This development philosophy exults the adage that “development is about people”, who should be both the vehicle and beneficiaries of their own development (Davids, 2005; Theron, 2005a), and its practice entails adoption of instruments for the devolution of power, control, ownership and determination of direction of the process of development to the micro-scale (Cook, 1997). Giving pragmatic effect to the principles of people-centeredness, under developing economies’ conditions of poverty and inequalities, requires the recognition and treatment of familial assets they control within the hegemonic economics of capital accumulation.

A variant of the people-centeredness philosophy, community development, provides for a micro-scale, poverty-oriented and multifaceted strategic front, founded on the notion of devolution of power and control. That is, empowerment entails accrual of subjective power, competence and objective power to ordinary people, as essential building blocks for becoming primary actors in the development process. Empowerment, participation, capacity, performance, sustainability, ownership and control of productive assets and resources, exchange of usable knowledge and information, and motivation, are inseparable complementary foundational bases for people-centeredness whereby contact with development policy incrementally engenders conditions of “being developed”, encapsulated in the three core values of improved standards of living, high self-esteem and total freedom of choice (Monaheng, 2000; Theron, 2005a). Under the hegemonic macroeconomics, poor people are excluded from participation in the economics of capital accumulation; and, a fundamental transformation of the determination of the asset base treatable as productive and investment capital in order to accommodate those managed by poor people in developing economies is necessary. But giving pragmatic effect to the principles of people-centeredness has remained elusive, largely because the requirement for devolution of power and control
of productive and investment capital has commonly been overshadowed by short-term quick-fixes such as social grants. Under neoliberal macroeconomics, the rules for capital accumulation are already predetermined and discriminatory against poor people’s asset base. But broad-based participation, empowerment and human development would take place if the bottom-half of the population is appropriately capitalised or recapitalised, and developing economies’ transformative agendas cannot afford to ignore the foundational norms of economics, as “the logic of a system”.

Foundational Norms of Economics as the Logic of a System

The primary assumption underlying growth-orientation is that income and employment are fundamental to development because they can create the capacity for people to achieve a better life (Cheru, 2002; Ros, 2007; Todaro, 1997). High growth rates and wealth generation would presumably trickle-down to the poorest sectors of the population through income and employment (Monaheng, 2000; Davis, 2005; Theron, 2005a, 2005b; Todaro, 1997). Ros (2007) dismisses this proposition because neoliberal macroeconomics is structured with strong “centrifugal” and weak “centripetal” forces at the extremes of the income distribution spectrum. Centrifugal forces deepen the diversity of shares of national income between the poor and the rich, and these forces are immanent in developing economies where inequalities are stark (Amin, 2001; Bayart, 2000; Cheru, 2002; Ros, 2007; Todaro, 1997). The strength of these “centrifugal” forces is sustained by the circumvention of poor people’s asset base and exclusion from treatment as productive and investment capital. Conversely, the weak “centripetal” forces are presumed to promote convergence of shares of national income between different sections of the population (Cheru, 2002; Ros, 2007; Todaro, 1997). Post-apartheid South Africa’s stark inequalities should suggest that the “centrifugal”, rather than “centripetal” forces are preeminent. Economic growth by itself does not instigate automatic trickle-down of income and employment to poor people. This article shows that South Africa’s positive economic growth was not accompanied by centripetal shifts in national income and jobs.

A second foundational assumption of neoliberal economics is that people participate beneficially in the accumulation process by treating their assets as productive and investment capital (Todaro, 1997). But poor people’s “asset base” is excluded from the neoliberal economics of capital accumulation. Developing economies have attempted to transfer and replicate the modern mainstream “asset base” into traditional rural communities to no avail; also, poor people’s familial asset base is undermined as unproductive and non-investible under the neoliberal macroeconomics. Developing economies’ transformative agenda should therefore seek to capitalise or recapitalise poor people, most preferably through their familial asset base.

The third norm of neoliberal macroeconomics conceives economic growth as a function of the increase in efficiency and productivity, which are dependent upon a range of factors, including human capital, infrastructure investment, trade reform and contestable market established through competition policy (Cassim, 2006; Ilorah, 2008; Todaro, 1997). Indeed, GEAR’s economics is heavily dependent on total factor productivity (TFP) growth, wherein improvements involve shedding jobs and rendering the country’s abundant productivity resource, labour, a marginal contributor to growth (Cassim, 2006). Under such pursuits of efficiency and productivity, economic growth trickle-down presumption becomes unrealistic.

Successful incubation of people empowerment in developing economies entails fundamental economic and
socio-spatial transformation and conception of economics in accordance with the societal knowledge and context (Nabudere, 2006). Whereas poor people’s traditional mud and brick houses, shacks and donkey carts cannot be rented or sold, their lands are degraded and productively marginal. Thus, interventions that do not seek to fundamentally transform the hegemonic macroeconomics’ norms would not create the opportunity for poor people to share in the benefits of growth. Whereas vested interests would dispel attempts to fundamentally transform the system for inclusion of poor people’s “asset base”, calls for their (re)capitalisation would be dismissed as retrogressive, because social perceptions are frozen at levels predetermined by the rules of the hegemonic economics of capital accumulation.

In South Africa, people-centeredness and devolution of power for the control of development have not progressed beyond the RDP rhetoric; and, the majority of poor people manage assets that are not treatable as productive or investment capital. Whereas GEAR failed to engender broad-based participation, AsgiSA’s hope of shared growth remains unrealistic because it too does not seek to transform the economics for (re)capitalisation of the bottom-half of the population for participation in capital accumulation.

**South Africa’s Macroeconomic Frameworks**

A brief analysis of key features of post-apartheid development policy frameworks will demonstrate that GEAR became hegemonic, establishing a development landscape devoid of people empowerment. In response to the massive racially-inspired poverty and inequality, the RDP conceived economics as a servant for human development (Padayachee, 2006). It set a three-pronged vision wherein reconstruction and development were designed to induce socio-spatial transformation without constraining the potential for the economics of capital accumulation, whilst ensuring environmental sustainability (Tsheola, 2002a). Perhaps the RDP’s avoidance of simplistic binary conceptions of economics was its downfall because the simultaneous drives for growth, redistribution and sustainability was too ambitious for a developing economy. By mid-1996, GEAR macro-policy superseded the RDP, becoming hegemonic (Padayachee, 2006; Tsheola, 2002a). Far from the RDP goals, GEAR conceived economics as “the logic of a system”, rather than a “servant of humanity’s development”, unambiguously proposing “a pro-growth strategy entailing fiscal prudence, trade reform and public-sector reform with the aim of creating a more market-friendly, efficient economy” (Cassim, 2006, p. 56), wherein business would presumably thrive through global competition whilst poor people benefit from trickle-down economics of jobs, income and economies of scale (Padayachee, 2006; Legum 2002). Contrary to the RDP’s redistributive propensities, GEAR was perhaps an embodiment of the TINA paralysis wherein pertinent questions about the spatial fix, geographical unevenness, profound contradictions, injustices and material inequality immanent in free market capitalism were suppressed. Reverence of GEAR’s political-economy found expression in questions of how its growth could be shared.

Setting out to achieve 6% annual growth rate and to generate 400,000 jobs per annum by 2000, GEAR conceived specific growth-oriented strategies and programmes in Trade and Investment, Industrial Growth, Export Regimes, Motor Industry Development Programme (MIDP), and so on. In external relations, it enforced trade liberalisation, locking South Africa into a commitment to the World Trade Organisation (WTO) tariff reduction schedule from an average of 11.7% to below 5% between 1994 and 2004 (Cassim, 2006). The Industrial Policy Reform gradually eliminated the so-called price-distorting measures such as export subsidies,
except in the automotive and clothing and textile industries (Cassim, 2006). Whereas GEAR’s incremental positive economic growth never reached 6% per annum, employment generation fell below the annual target by about 19% over the past five years to 2007, whilst unemployment rate remained above 25% per annum until 2006 (RSA, 2007). Poor people largely remained outside the economics of trickle-down and capital accumulation.

AsgiSA was adopted at the beginning of 2006 in the hope of ensuring that GEAR’s positive economic growth could be “shared” by all South Africans (RSA, 2006). It provides “a set of interventions to promote and create conditions for accelerated and shared growth and development” in six areas: building infrastructure to grow the capacity of the economy; boosting sectors of the economy with special potential for faster growth; developing the skills needed by the economy; addressing inequalities that marginalise the poor in the “Second Economy”; continuing with the policies that have created a good climate for growth; and, making government more effective and efficient (RSA, 2006, p. 3). These provisions are not fundamentally new; importantly, they do not seek to transform the macroeconomic norms for (re)capitalisation of the bottom-half of the society, whose asset base is circumvented by the economics of capital accumulation. Under AsgiSA, resourceful assets treatable as capital, continue to be predetermined in ways that discriminate against poor people’s asset base. Rather than transforming the political-economy landscape, AsgiSA merely sets out to use the previously existing infrastructure investment instruments such as the Municipal Infrastructure Grant, Expanded Public Works Programme (EPWP) and so on, hoping to improve service delivery in the “Second Economy” (RSA, 2006). The use of funding policy instruments such as the Integrated Sustainable Rural Development (ISRD), the EPWP, the Joint Initiative on Priority Skills Acquisition (JIPSA) and the Integrated Development Plans (IDPs), devoid of transformation of the basic norms of neoliberal macroeconomics for recognition and treatment of the asset base of the poor as productive and investment capital remains unhelpful. Whereas the provision of economic and social overhead capital is crucial, its delivery cannot automatically (re)capitalise the bottom-half of the society.

The philosophical principles underwriting AsgiSA remain income and employment generation, and the quantitative development outcomes measureable at the macro-scale (Boraht, 2007; Woodriffe, 2007). Its Programme of Action and “interventions in the ‘First Economy’ to speed up progress towards faster growth and development of at least 6% a year”, and to “sustain and improve… social development programmes aimed at providing support to those most exposed to the threat of abject poverty” (RSA, 2006, p. 2) would most likely remain cosmetic. Like GEAR, AsgiSA seeks to achieve quantitative growth-oriented objectives of 4.5% annual growth rate over the period 2006-2009 and 6% between 2010-2014 (RSA, 2006; Woodriffe, 2007). Whilst these targets are realistic, the assumption that “high” growth rates and wealth generation would by themselves trickle-down to the poorest through income and employment is questionable. According to Woodriffe (2007, p. 37), the word “shared” in AsgiSA means “bringing as many South Africans as possible into the ‘First Economy’ through creating employment or income and wealth opportunities so that all may benefit from future economic growth”. But availing the poor to the capitalist logic as labourers, rather than as managers of productive and investment capital is not congruent with empowerment.

Growth-orientation amidst widespread inequalities and severe poverty would potentially entrench deleterious social welfare dependency, and AsgiSA does not provide for recognition and treatment of the poor’s asset base as productive and investment capital for independent involvement in the economics of capital accumulation. Poor people’s participation in the “First Economy” should go beyond trickle-down of jobs and
income. People-centeredness and human development remain delusional for post-apartheid South Africa. The attainment of positive economic growth amidst the lack of people empowerment, decrease in poverty rate and increasing dependence on social welfare defines a Janus-faced development associated with GEAR, which AsgiSA would fail to resolve.

**Post-apartheid South Africa’s Janus-Faced Development**

Legum (2002, pp. vi-vii) argues that South Africa’s unquestioning dependence on neoliberal macroeconomics led to “appalling poverty in the midst of unbearable wealth and potential plenty for everyone”. The Minister of Trade and Industry (DTI) accepted that adherence to the Thatcherite economics caused Janus-faced development (Creamer, 2007) of positive and increasing economic growth rates, increasing rates in the standards of living and decreasing poverty rate amidst persistent inequalities and increasing dependence on social welfare. Apparently, increases in the rate of average standard of living from 1.3% to 3.03% between 1994 and 2007 are accounted for by the decrease in population growth rate from 1.9% to 0.97% over the same period (see Figure 1). Whilst annual GDP growth rates increased from 3.2% to 5.0% and 4.02% in 1994, 2006 and 2007, respectively, and poverty rate, calculated at the R 3,000 per annum poverty line, declined from 50% to 43.2%, inequalities remained persistently high with average annual Gini-coefficient above 0.675 (RSA, 2007). Importantly, share of national income by the poorest and richest sections of the population remained starkly divergent over the same period.

*Figure 1.* Annual growth rates in GDP, population, average standard of living and share of national income by the poorest sectors of the population, 1994-2006.
The positive economic growth together with persistent inequalities and concentration of national income in the hands of a minority, discounts imputations that the general standard of living might have improved in absolute terms. As the share of total income accruing to the poorest 20% of the population decreased from 2.0% to 1.7% between 1994 and 2006 that for the richest 20% increased, though marginally, from 72.0% to 72.5% (RSA, 2007). Accompanying the stark inequalities was a decline in poverty rate (see Figure 2), apparently accounted for by the increased number of beneficiaries of social welfare from 2.5 to 12 million between 1999 and 2007 (RSA, 2007). Notwithstanding the dangers of societal dependency syndrome, AsgiSA draws inspiration from the speedy expansion of social services and the substantial increase in the number of beneficiaries of social grants (RSA, 2006).

Dependence on social welfare is a far cry from the ideal of people empowerment, especially where 7 million of the beneficiaries in 2006 were children receiving Child Support Grant (see Figure 3). Evidently, the decline in poverty rate could not have been a direct outcome of the growth-orientation, trickle-down economics. Unemployment rate remained persistently high because the positive economic growth resulted from unsustainable, strong consumer demand financed by borrowing (RSA, 2006). Under such circumstances, ‘the free market ideology’ rendered ‘growth and development hostage to finance… at the expense of economic
rationality” (Adedeji, 2009, p. 4). Positive economic growth occurred simultaneously as imports increased, creating a resources gap in foreign exchange, notwithstanding the increase in the value of exports as percentage of GDP from 23.3% to 30.8% between 1994 and 2006 (RSA, 2007).

But social expenditure was kept under control and the expansion of social welfare was not necessarily financed through increased government debt. The latter trended downwards as a percentage of GDP from 43.5% to 33.5% between 1994 and 2006, despite attaining a high of 49.9% in 1999 (RSA, 2007). As poverty rate declined, government budget deficit before borrowing as percentage of GDP also declined consistently from -9.1% to -0.3% between 1994 and 2006 (RSA, 2007). The upward trend in the value of exports as percentage of GDP appears to have made a negligible contribution to the positive economic growth because whilst the value of imports increased, the expected FDI flows did not materialise. FDI flows remained unreliable and a significant amount of South African capital relocated offshore in 2006 (see Figure 4).

Mergers and acquisitions transactions, associated with jobs shedding and a highly selective Black Economic Empowerment (BEE) for the so-called “empowerment A-list”, dominated inflows of foreign capital (Cassim, 2006). GEAR’s pursuit of greater efficiency and investment-friendly macro-policy failed to enhance FDI and exportation (Cassim, 2006). Whereas the rate of average standard of living increased, the Living Standard Measure (LSM) shows that the majority of South Africans lacked access to the wealth generated through GEAR (see Figure 5).
Figure 4. FDI net flow (R billion), 1994-2006.

Figure 5. Population (thousands) by living standard measure (imputed monthly average income), 2000-2007.
Between 2000 and 2006, an overwhelming majority received monthly incomes of less than R 3,000, locating within LSM 1-5. This section of the population is the poorest, managing marginal assets that are generally excluded from the economics of capital accumulation. An erroneous impression could be created that the apartheid land ownership status quo was transformed as the number of hectares in the hands of poor people increased from 15,395 to 1,486,399 between 1996 and 2006 (RSA, 2007). A significant proportion of this land is productively marginal and extraordinarily difficult to exploit as assets for capital accumulation. The new beneficiaries of land reform were exposed to the harsh effects of neo-liberalism as apartheid’s high protective tariffs were incrementally eroded. In 2006, over 72 such farmlands in Limpopo Province were listed for deregistration because the beneficiaries failed to treat them as productive and investment capital.

Accumulation of land assets by the formerly disadvantaged people did not enable them to participate in the economics of capital accumulation. The decline in Human Development Index (HDI) from 0.73 to 0.67 and life expectancy from 54.9 to 50.7 years between 1995 and 2006 suggests general deterioration in human development (RSA, 2007; UNDP, 2004). These trends held simultaneously as the economy grew, social welfare expanded and unemployment rate declining marginally (see Figure 6). The negligible share of income by the poorest 20% of the population suggests that trickle-down economics did not happen and the economy’s absorption capacity remained weak. Average dependency ratio stood around 7 dependents per working adult, reaching 19 in cases such as Sekhukhune District Municipality. But official and unofficial unemployment rates decreased from 29.4% to 25.5% and 40.6% to 37.3%, respectively, over the period of five years to September 2006 (RSA, 2007).

This article infers that GEAR’s growth-orientation is devoid of people empowerment and human development. The trickle-down assumption did not hold because the growth accounting frameworks show that GEAR’s growth was founded on the TFP wherein an increase in efficiency and output “resulted in a less than proportionate increase in employment” (Cassim, 2006, p.56). The article asserts that rather than reliance on trickle-down economics, poor people should be empowered for participation in capital accumulation through (re)capitalisation. Most poor South Africans own land and dwellings within rural tribal settlements where it is almost impossible to treat them as productive and investment capital. The most familial assets for the majority of rural South Africans are a brick structure on separate stand and traditional mud house (see Figure 7).
This familial asset base of the poor is excluded from the process of capital accumulation because it cannot be rented or used as investment. This article asserts that transformation and support of this familial asset base of the poor for treatment as capital within the hegemonic neoliberal macroeconomics provides an inescapable key towards unlocking poor people’s potential for empowerment. For this reason, the article infers that AsgiSA too would not engender people empowerment because it does not seek to enforce recognition and treatment of the poor’s familial asset base as productive and investment capital on the same footing as the modern mainstream assets.

AsgiSA sets out to perpetuate GEAR norms. The former National Treasury director-general, Lesetja Kganyago, confirmed that South Africa will continue to apply “economic orthodoxy” wherein development and investment are “driven by the selfish interest that is meant to drive capitalism” (Creamer, 2007, p. 9). According to May (2006, p. 148), “the assumption that the adoption of growth-friendly policies by all countries or regions results in a win-win situation” flies in the face of overwhelming evidence to the contrary. South Africa’s Janus-faced development adds to the pool of evidence.

**Conclusion**

Notwithstanding the decline in poverty and unemployment rates, income inequalities have remained substantially high under the GEAR-driven positive economic growth. AsgiSA itself acknowledges that the
positive economic growth attained through GEAR is unsustainable because it is largely achieved through heavy reliance on credit-financed strong consumer demand, rather than export expansion (RSA, 2006). The recent global crisis attests to the dangers inherent in financial markets that rely heavily on credit-financed strong consumer demand. GEAR too led to increased import demand, recreating the requirements for increased foreign capital inflows (RSA, 2006).

The lesson to be drawn from South Africa’s Janus-faced development is that policy instruments that do not transform poor people’s familial asset base for treatment as productive and investment capital do not incubate authentic people’s participation and empowerment. Increasing the number of people who “share” in the national growth through the expansion of social welfare grants does not devolve power, control, ownership and determination of direction of development to the micro-scale. The prospects of achieving such devolution of control, where poverty is deep and widespread, are embedded with the treatment of poor people’s familial asset base as productive and investment capital. The modus operandi for such a treatment of poor people’s asset base on the same footing as the modern mainstream assets should necessarily be paradoxical and contradictory. The Pareto Optimum Theorem of the efficient market entails making many people worse-off in order to make a few individuals better-off. Also, societal perceptions continue to be frozen at a level where assets managed by the majority of the poor are considered to be economically unproductive and wasteful of investment. In the “TINA-styled” economics, creativity about treatment of poor people’s asset base remains truncated even in countries where they constitute a potentially resourceful majority. AsgiSA, just like GEAR, does not address this critical challenge.

This article concludes that post-apartheid development practice, underwritten by GEAR macroeconomics, is largely responsible for the lack of people empowerment and human development as well as the perpetuation of exclusion of the poor’s familial assets from treatment as productive and investment capital. Whether or not neoliberal macroeconomics can be transformed and reconstituted to embrace assets of the poor in the process of capital accumulation is a conceptual moot point; but the circumvention of poor people’s familial asset base will most certainly perpetuate severe and widespread poverty, stark inequalities and trends of positive economic growth devoid of human development or empowerment.

References


Legum, M. (2002). *It doesn’t have to be like this! A new economy for South Africa and the world.* Kenilworth: Ampersand.


Streamlining Government Financing Programs for SMEs in the Sub-Saharan Africa: The Case of Botswana

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The issue of SMEs financing is complex and we should address it on a priority basis. Although SMEs should be motivated to initiate their own means of solving their financing problems, their capacity is limited and the role of other stakeholders in the financial sector is vital. In this scenario, governments have a major role to play. Strengthening the government’s role is very important since it acts as a catalyst, investor and regulator to strengthen the supply-side of the economy. This paper discusses what role the Government of Botswana (GoB) can effectively play in facilitating SMEs financing. The author proposes four financing packages containing schemes for possible use by the GoB—direct financial assistance schemes; loan guarantee schemes; direct credit grant schemes; and financing of technical and managerial advisory services. Stakeholders need to evaluate these schemes from the economic rationality point of view before they are opted for implementation.

Keyterms: small, medium and micro enterprises, financing, government financing schemes, financing institutions

Introduction

Small, medium and micro enterprises (SMEs) are widely regarded as the engine of economic growth in both developing and developed nations (Tesfayohannes, 1998). They are substantial generators of local and broad-based employment; promoters of indigenous entrepreneurship and innovation; and providers of goods and services to the local population and beyond. Nations in the sub-Saharan Africa (SSA) already recognized the vital role of SMEs, and they are keen to give priority for their development (Briscoe, 1995). However, SMEs require a nurturing environment and supporting infrastructure for sustainable development. There are vital external and internal factors affecting SMEs’ development in any national socio-economic framework. The external ones are national institutional capacity, regulatory framework, training and entrepreneurial development, access to finance, market opportunities, technological support and suitable socio-cultural and political environment (Liedholm, 1993; Rodinelli & Dasarda, 1992; Tesfayohannes, 1998). Although all the above factors require consideration, lack of finance has continued to be the major concern and the main cause for untimely failure of many SMEs (Liedholm, 1993; Morewagae, Monica, & Henry, 1995). This is particularly a common phenomenon for SMEs in the developing countries (National Small Business Regulatory Review, 1999). SMEs’
financing is complex and all stakeholders need to address the issue skillfully and prudently. There are numerous potential sources of financing for SMEs. We can broadly categorize them as: equity financing, debt financing, special purpose and governmental sponsored financing (Tesfayohannes, 1998). These categories have their own distinctive methods of dealing with the qualified SMEs. But, an effective partnership between financial institutions, cooperative funds, the government, private and cooperative investors, venture capital firms, investment angels, and non-bank financial institutions can ideally facilitate SMEs’ access to finance.

Botswana is a middle-income country located in Southern Africa. It is a peaceful, democratic nation with a striving national economy. The country has an effective private sector led sustainable economic development agenda that promotes gender aware economic diversification, poverty reduction and SMEs’ development (National Development Plan 8, 1998; Vision, 2016, 1996). In line with its core development agenda, the Government of Botswana (GoB) issued a special policy on SMEs development (National Policy on SMEs, 1999). During the last 10 years, the GoB through its responsible institutional capacities attempted to implement those policy directives, modalities and strategic objectives with the support of other community-based stakeholders. So far, results are not as desired and local SMEs have continued to suffer from lack of access to finance (Task Force Report, 1998).

In this paper, the author focuses on how governments can play a catalyst role as investor and regulator of the financial environment with the desired effectiveness. Moreover, the author discusses the Whys and Hows of the direct and indirect roles of the GoB towards alleviating SMEs financing problems. Although, the author doesn’t believe that governments can solve SMEs’ financing problems totally, they can substantially facilitate SMEs’ access to finance. This is particularly true in the case of nations in SSA. In the author’s opinion, governments in SSA are currently overstretched due to their excessive involvement in many vital responsibilities and regulatory attributes. The aim here is to recommend feasible government sponsored SMEs’ financing schemes that GoB can initiate, handle and implement through its appropriate institutions and agencies. This can be a small contribution towards the efforts to achieve the desired goal and strengthen the effectiveness of SMEs financing scenario in Botswana. The GoB is keenly interested in actively promoting SMEs as the engines of economic growth and social prosperity. SMEs access to finance is an important issue, and the GoB’s role is cardinal. The author believes that the financing schemes the author conceptually proposes in this paper can also be useful for other SSA nations facing similar problems.

### SMEs as the Engine of Growth

Unfortunately, some policy makers still regard SMEs as the consequences of the failure to apply the conventional economic development paradigms exclusively stated in the Neo-classical School of Economic Thought. This comprehensive grasp on SMEs has given the impetus for the attitude of viewing them as lonely entities with immutable diseconomies (Kuratko & Hodgetts, 2007). However, all major entrepreneurial innovations and killer applications (groundbreaking innovations) that have been responsible for drastic changes in our economic and social life were largely the result of SMEs’ innovative activities and related entrepreneurial attributes (Kuratko & Hodgetts, 2007). However, currently SMEs are high in the developmental agendas of all nations as important contributors to national economies (Hull, 1983; McPherson, 1996). More than any time, African nations have now embraced the paramount importance of SMEs as a vital motive force of innovation,
change, and development (Owualah, 1988; Liedholm & Fuzzy, 1994; McGrath & King, 1999, Van Dijk & Sandee, 2002). Beyond the narrower spectrum, African nations should comprehend that the key to economic growth in any country lies in creating the necessary infrastructures that support the promotion of SMEs (Roux, 1999). This mandatory prerequisite can potentially help to overcome constraints hindering the enhanced developmental scope of SMEs (McCormick, 1999).

As briefly mentioned earlier, the current position of SMEs in Botswana is not rosy. At least at this time, they are not contributing to the national economy in line with their expectations. In fact, they are currently plagued with technical, regulatory, organizational, financial and other institutionally related problems at both macro- and micro-levels (Hinton, Mokobi, & Sprokel, 2006). Even with all their formidable challenges, they are still significant to Botswana’s economy (Briscoe, 1985; Daniels & Fisseha, 1992; Cuncombe & Heeks, 2001). They continued to actively participate in all vital sectors of the national economy (Sunny, 2000). Unfortunately, Botswana has only rudimentary statistical data and it is difficult to have a full knowledge on the structure of SMEs’ and their contribution to GDP and broad employment. However, according to the Presidential Taskforce Report (1998) and Botswana aggregate Statistical Report, 2007/2008, SMEs annually contribute approximately 25-35 percent of the country’s GDP. Their contribution to employment is more appreciable and accounts for 50 percent of the total formal employment. This is indeed an indication that Botswana is working effectively for the full-fledged development of SMEs’ as vital economic motive forces that serve as a means of providing equitable benefits for the majority (Curry, 1987). In line with the strategic agenda, SMEs occupied a center stage in government’s endeavor to achieve sustainable industrial development (Sunny, 2000). As articulated in the SME national policy, the current GoB efforts focused on: employment creation, poverty alleviation, economic diversity promotion, indigenous entrepreneurship advancement and fostering successful economic competition. This is in line with the country’s long-term vision towards advancement and prosperity for all (Vision, 2016, 1996). GoB should also continue to create an enabling environment for collaboration and partnership with other stakeholders for the speedy realization of the desired strategic objectives.

Some Fundamental Aspects of SMEs’ Financing

The Financing Constraints

Some have argued that SMEs do not need special financing schemes and they should compete in the financial market (Mazumdar, 1989). However, many studies have advocated for SMEs’ focused financing as they suffer most due to lack of suitable access to finance. This lack of finance is the toughest constraint in most of the developing nations (Cook, 2001; Lycette & White, 1989; Harrison & McMillan, 2003; Kurwijila & Due, 1991). For example, Levy (1993) emphasized in his study that the lack of finance is the primary bottleneck to smaller business operation expansion in the leather and furniture industries in Sri Lanka and Tanzania. In a similar way, studies conducted in other African nations like Ghana, Kenya, Nigeria, Ethiopia, and South Africa have shown that the major cause of small enterprises’ failure is their inability to obtain adequate financing (Schoombe, 2000; Bigsten et al., 2000; Aryeetey, 1993; Oyejide, 1993; Marana, 1993; Demesne, 1993). In their study, Morewagae et al. (1995) found that the ability of SMEs to obtain funds is constrained by the lack of information, complicated application procedures, high collateral or security requirements, high interest rates, and harsh repayment terms. To a lesser degree, this case is also felt in the developed countries (Brigham, 1983; Harrison & Mason, 1993).
Walker and Petty (1986) noted that SMEs are subject to greater business and financial risks and are more vulnerable to bad decisions than their larger counterparts. SME financing problems stem from the lack of capacity to obtain funds at the right time, of the right type, in the desired amount and at various stages of development (Bates & Hally, 1982). Many potentially innovative and productive entrepreneurs in SSA have failed because of a lack of finance (Tesfayohannes, 1998).

Numerous studies identified several case specific and general problems related to SMEs’ financing problems (Task Force Report, 1998; Liedholm, 1993; Rempel et al., 1994; Morewagea et al., 1995; Lisenda, 1997). The common problems that affect SMEs in SSA nations are: conservative approach of the financial industry; less effective governmental regulatory frameworks; internal organizational and financial weakness of the SMEs; less recognition of the role of SMEs as the engine of economic growth; in-adequate entrepreneurial and managerial acumen of SMEs’ owners and managers; the marginal role and availability of informal financing sources in the society; and the non-supportive role of institutions and agencies representing the interests of SMEs (for example: Chambers of Industry and Commerce, Entrepreneurs Association, Financial Cooperatives and other concerned agencies representing the SMEs sector).

**SMEs Financing in Botswana**

In Botswana, entrepreneurs, particularly the local ones, have continued to complain about the limited access to finance. Their complaints emanated from the conservative attitude of banks and other commercial lenders towards SMEs loan requests (for example, lack of the required information, complicated application procedures, high collateral or security requirements, high interest rates, and imposing harsh loan repayment terms). The GoB established and assigned a high-powered Task Force in 1997 to conduct an in-depth study on the general situation of SMEs in the country. The objective was to respond to the continued complaints and dissatisfaction of SMEs owners about access to finance and other problems related to SMEs in the country. The task force produced a comprehensive Presidential Task Force Report (Task Force Report, 1998). The report contained new and extended promotional approaches and recommendations targeting: the Institutional and Regulatory Framework; Education, Training and Entrepreneurship Development; Access to Finance; and Support for Marketing and Technological Development.

According to the report, the current sources of finance for SMEs in Botswana are: personal and other related sources; government financial assistance mainly through Financial Assistance Policy (FAP); loans from commercial banks; loans from National Development Bank; and loans from other financial institutions. The task force report revealed that personal savings and contributions from family or friends and other unknown informal and semi-formal sources (informal lenders) account for more than 70% of SMEs financing. This shows that the majority of SMEs in Botswana have relatively few opportunities to obtain finance from sources other than the above mentioned non-commercial sources. These limitations continued to have negative impact on SMEs. This phenomenon in turn significantly discouraged other potential entrepreneurs from involvement in establishing entrepreneurial ventures.

The report further indicated that commercial banks are formally ready to provide loans up to Pula 100,0001 to SMEs. However, entrepreneurs frequently criticize commercial banks for their hesitation and excessive

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1 Pula is the name of Botswana Currency (legal tender) and the current exchange rate is: 6 Pula is equivalent to one US Dollar.
conservatism in dealing with lending to SMEs by imposing excessive bureaucracy. Commercial banks complained about the unreliability of SMEs due to lack of collateral, insufficient equity contribution of owners, inadequate financial record and poorly prepared business plans and are hesitant to extend loans to SMEs. It can be concluded that the current commercial banks’ role to alleviate SMEs financing problems has proven to be limited and discouraging. It is in fact accounting for only two percent of the required finance at both start-up and post-start-up stages (Lisenda, 1997). This is unacceptable by any yardstick.

The GoB also facilitated alternative sources of finance for SMEs mainly from the government-owned development banks and special funding agencies in the country. The existing institutions of this kind are: The National Development Bank (NDB), Tswelelo and the Botswana Development Corporation (BDC). Surprisingly, NDB lending policies and regulations are more or less similar to the commercial banks. Its minimum loan is Pula 20,000. This amount is far less than the minimum loan provided by the commercial banks. Tswelelo is no longer functional due to sustained losses emanated from its very poor lending and loan collection processes. The minimum BDC’s loan provision is Pula 200,000. This automatically targets bigger enterprises with higher needs for finance. There are some other nominal financing agencies like Women’s Finance House Botswana (WFHB), Cooperation for Research, Development and Education (CORDE) and Rural Industries Innovation Center. These Non-governmental Organizations (NGOs) mostly limited to a narrower domain. Their objective is just to provide small supplementary loans and financial assistance to cover some of the ad hoc financing needs of SMEs.

The Financial Assistance Program (FAP) was launched by the GoB to provide financial assistance and loan grants to qualified SMEs owned by local entrepreneurs. The objective was to foster grass roots level self-employment and provide more opportunity for the qualified Botswana citizen entrepreneurs to grow further and register success. The GoB introduced FAP in 1982 and amended it in 1995. Compared to other programs, FAP was well organized and intended for a wider coverage. FAP’s maximum financial assistance in term of loan was Pula 75,000 with strict criteria. For example, to qualify for FAP financing the applicant must be a Botswana citizen, aged 18 years or older and should fulfill many other qualifying criteria. The maximum FAB financing is to cover up to 90% of the required investment of the qualified projects. FAP funds gave priority to projects located in rural areas and those venture projects owned by women. The intention was good, but FAP was not successful in meeting its strategic objectives. According to the task force report (1998), only 4% of SMEs got assistance from FAP. This well intentioned scheme suffered from extensive mismanagement, nepotism, corruption and inefficiency. In fact, it played a nominal role in creating sustainable, innovative and viable business ventures in the country. The GoB terminated the program and created the Citizens’ Entrepreneurial Assistance Policy (CEDA) in 2001 (Analytics, 2003). This new agency should continue to dedicate itself to surmount the challenge of initiating government sponsored SME financing schemes based on fulfilling strict and viable requirements. CEDA has also continued to suffer from multiple problems, and its ability to provide adequate services to its clients has continued to suffer as well (Hinton et al., 2006).

The above briefly expressed impediments have played their own role in aggravating the situation. To alleviate these and other problems, the task force gave some comprehensive SMEs financing recommendations. They include the following: lending and credit-guarantees; setting-up mechanisms for improving the capacity of SMEs to access finance; and improving the effectiveness of the financial assistance and lending programs still
currently active. Unfortunately, the task force recommendations are very general and lack specific application modalities and technical and action plan preparations. Successful application in turn demands the design of specific, viable and target-oriented financing schemes. Unlike other governments in SSA, the GoB has a strong financial capacity due to substantial revenue from diamond and other precious mineral exports (Morewagae et al., 1995; Analytics, 2003). This means the GoB has the ability to help SMEs at least to ease their financing problems in a viable way. However, this does not mean that government should solve every SMEs financing problems. In both developed and developing nations, what governments can do is limited. Governments have many other socio-economic related commitments (Chunyun, 2003). However, government support can play a crucial role in the survival and growth of SMEs. This should include helping them to alleviate their financing problems by launching certain target-oriented and wider outreached financing schemes (Chase et al., 1983; Deutsche Ausgleich Bank-DtA, 1996). In line with this assertion, the author formulated some financing schemes that might help GoB policy makers and stakeholders in charge of promoting SMEs in the country. The proposed schemes are not ready-made and are just for brainstorming. Stakeholders need to appraise and substantiate them from their opportunity cost point of view.

**Recommended Government Sponsored SMEs’ Financing Schemes**

As briefly discussed above, GoB indeed participated in promoting SMEs’ financing initiatives through various schemes and programs. All these initiatives are relevant and supportive, but they should be implemented in the best possible way to improve SMEs financing outreach. This means GoB should search for better and more innovative ways of implementing established initiatives as part of its continuous improvement endeavors. Effective implementation requires the capability to streamline, cluster, and properly manage SMEs financing initiatives. The first action is clustering the existing fragmented government sponsored SMEs financing schemes and action programs into SMEs financing packages. Well packaged, organized and clustered schemes and action programs can be easier to implement and offer better management of financing outreach activities. The author therefore proposed seven packages each of which can contain several government sponsored SMEs’ financing schemes (see Figure 1). From the seven packages comprehensively proposed, the author selected the following four packages: Direct Financial Assistance Schemes; Loan Guarantee Schemes; Direct Credit Grant Schemes; and Financing of Technical and Managerial Advisory Services. The author would like to emphasize that it is easy to design and propose schemes and action programs, but the most difficult task is to successfully implement and broaden the outreach to the targeted beneficiaries. This challenge rests mainly on the shoulders of the executing agencies. A systematic approach for the design and implementation of government sponsored SMEs’ financing schemes is shown in Figure 2. Each one of the SMEs’ financing packages proposed in Figure 1 should act as an umbrella for the proposed SMEs financing schemes and action programs related to each of them.

**Direct Financial Assistance Schemes**

As mentioned earlier, national governments in the developing economies control and own a large portion of national wealth and endowments including vital financial institutions like commercial banks. This provides the ability and strength to launch a variety of government sponsored initiatives and action programs including
STREAMLINING GOVERNMENT FINANCING PROGRAMS FOR SMES

providing direct financial support for qualified SMEs. In the same way, the GoB can launch time bounded direct financial assistance schemes to provide non-obligatory funds to qualified SMEs as a contribution to their sustainable development. In line with its commitment, the GoB has already established specialized agencies like Citizens’ Entrepreneurial Development Agency (CEDA) and Small Business Promotion Agency (SBPA) to provide its support through these types of agencies if they continue to function effectively by launching direct financial assistance related schemes and action programs. Table 1 shows the author’s recommendation in this package. The proposed schemes are general in their contents and intended just for brainstorming purpose and adaptation. GoB can also design and launch numerous other schemes under the same umbrella (package). The author needs to emphasize that these and other related schemes should undergo through direct or indirect critical evaluation in the light of their contribution to meeting the anticipated goals in the given environment.

Bank Loan Cost Subsidization and Loan Guarantee Programs

Banks and other formal lenders assume that the cost of processing loan applications submitted by SMEs is excessive. This may be one of the main reasons for their reluctance to grant loans to SMEs. Unfortunately, the majority of commercial banks uniformly consider SMEs as borrowers with unstable credit worthiness and most vulnerable to the risk of default. Therefore, banks usually expect to bear a burden and incur extra costs in dealing with lending to SMEs. Especially if there are central bank imposed interest rate ceilings that do not reflect the actual market, commercial banks assume that lending to SMEs is not affordable. In this situation, government risk sharing programs can motivate banks to lend and provide professional help to SMEs. Concerned GoB agencies can initiate appropriate risk sharing action schemes pertaining to loan cost subsidization and loan guarantee. They should ensure that the designed programs effectively assist qualified banks and other lenders to enable them to serve the needy SMEs as desired. Government subsidies and loan guarantees can help a great deal in building the commercial financial institutions’ confidence and motivation to participate in alleviating SMEs’ financing problems. Just for brainstorming, the author proposed some potentially feasible government sponsored bank loan cost subsidization and loan guarantee schemes as shown in Table 2.

Figure 1. Recommended government sponsored SMEs’ financing schemes in Botswana.
Figure 2. Methodological steps of government sponsored SMEs' financing schemes.

Proposed Government Direct Financing Schemes for SMEs in Botswana

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Objective</th>
<th>Targeted beneficiaries (eligibility)</th>
<th>Possible sources of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Feasibility</td>
<td>Study the general situation of the existing SMEs in terms of:</td>
<td>SMEs at their seed (foundational) stage</td>
<td>Government treasury</td>
</tr>
<tr>
<td></td>
<td>- their types of activities;</td>
<td>SMEs with a concrete expansion project especially in a government declared target zones or sites</td>
<td>Foreign donations</td>
</tr>
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<td></td>
<td>- their locational aspects;</td>
<td></td>
<td>Contributions from the business community through their representative agencies (organizations)</td>
</tr>
<tr>
<td></td>
<td>- their importance in the export promotion and import substitution national development strategies;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- their contribution towards achieving environmental sustainability;</td>
<td></td>
<td></td>
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<td></td>
<td>- their present and potential contribution to job creation;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- their contribution towards the promotion of regional balances in economic development and through narrowing rural-urban developmental gap and the income inequality;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- their contribution towards enhancing indigenous technological, managerial and entrepreneurial capacity;</td>
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<td></td>
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<td></td>
<td>- their contribution to overall industrialisation;</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>- their contribution as a means of overall manpower development.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Coverage Cost</td>
<td>Study the general situation of the existing SMEs in terms of:</td>
<td>SMEs at their seed (foundational) stage</td>
<td>Government treasury</td>
</tr>
<tr>
<td></td>
<td>- their types of activities;</td>
<td>SMEs with a concrete expansion project especially in a government declared target zones or sites</td>
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<td>- their contribution as a means of overall manpower development.</td>
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</tbody>
</table>
(Table 1 continued)

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Objective</th>
<th>Targeted beneficiaries (eligibility)</th>
<th>Possible sources of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Industrial Promotional Zone Development Grants²</td>
<td>One-time financial assistance (grant) to help new enterprises established in localities with low-level human and physical infrastructure (i.e., in socially and economically disadvantaged areas)</td>
<td>For newly established SMEs in areas relatively underdeveloped but designated as target locations for development</td>
<td>Government treasury&lt;br&gt;Community groups of the Targeted areas&lt;br&gt;Contributions from the business community in the targeted location</td>
</tr>
<tr>
<td>Research and Innovation Development Grant (Fund)</td>
<td>To finance partially or fully the technological and innovation works and discoveries conducted by SMEs.</td>
<td>SMEs that can convincingly demonstrate their innovative results (new products) will have practical and purposeful use for the society and a significant market potential in both local and foreign markets</td>
<td>Government treasury&lt;br&gt;Other concerned private and foreign agencies (GOs, NGOs and international organizations) can make supplementary financial contributions</td>
</tr>
<tr>
<td>Energy Problems Alleviation Fund</td>
<td>To encourage SMEs to alleviate their energy supply problems and through that promote industrial efficiency</td>
<td>SMEs located in areas with insufficient energy supply³. SMEs engaged in manufacturing of exportable goods may get priority</td>
<td>Government treasury</td>
</tr>
</tbody>
</table>

Table 2

**Recommended Government Sponsored Bank Loan Cost Subsidization and Loan Guarantee Schemes**

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Objective</th>
<th>Targeted beneficiaries (Eligibility)</th>
<th>Possible sources of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan Cost Subsidization Scheme</td>
<td>To cover partly or fully the extra cost incurred by banks because of their lending (financing) to SMEs</td>
<td>SMEs located in rural and semi-urban areas and principally use locally produced inputs for their production activities</td>
<td>Government treasury&lt;br&gt;Levy from profits of large companies and the SMEs’ through their representative agencies&lt;br&gt;Contributions made by banks</td>
</tr>
<tr>
<td>SMEs Start-up Loan Guarantee Scheme</td>
<td>To provide wider financing accessibility for SMEs at their start-up stages</td>
<td>SMEs at their start-up stage, emphasizing their managerial, technical and other developmental policies related requirements</td>
<td>Government treasury, Contributions from banks&lt;br&gt;Foreign donors&lt;br&gt;Contributions from the existing both SMEs and large-scale firms</td>
</tr>
<tr>
<td>Guarantee Fund for Women Entrepreneurs</td>
<td>To provide guarantee to financial institutions intend to lend to SMEs owned by women for the purpose of covering working capital and investment needs</td>
<td>For SMEs established, owned and operated by women entrepreneurs in both rural and urban areas (however, preferences can be given to those SMEs that have been already established or are to be established in the economically and infrastructurally depressed areas)</td>
<td>Government treasury&lt;br&gt;Foreign and domestic donor agencies and associations (like the National Women’s Association)&lt;br&gt;Private sector&lt;br&gt;Representative organizations (like Chamber of Commerce Industry, and other entrepreneurial and professional associations)</td>
</tr>
<tr>
<td>Special loan Guarantee Scheme</td>
<td>To increase the availability of funding (loan) for the purpose of start-up, expansion, and modernization of SMEs</td>
<td>For SMEs established by disadvantaged and promising citizens</td>
<td>Government treasury&lt;br&gt;Local community at large contributions&lt;br&gt;Bilateral and multilateral donations&lt;br&gt;Contributions from profits of financial institutions and other private, parastatal and fully state owned business organizations (corporations)</td>
</tr>
</tbody>
</table>

² In line with the rationalised development strategy of the country, the objective of this proposed incentive scheme is to motivate entrepreneurs to establish SMEs in “Economically and Socially Depressed Areas”.

³ In remote parts of Botswana where there are shortages of energy supply (particularly electricity), SMEs located there can have their own electricity generators. In this respect, government can make fixed time partial financial contributions to cover the cost of generators, and to subsidise cost of petrol like diesel needed to run generators possessed by the SMEs.
The aim of the above-proposed loan guarantee schemes is to cover in case a borrower defaults. Both the government and the lender can share losses, due to defaults, proportionally. Customarily, loan guarantee schemes usually cover 50% to 95% of the losses incurred from defaulting SMEs (OECD Comprehensive Report, 1995). The success of these types of schemes depends at least on the following general characteristics:

- They should be flexible and responsive to the changing needs and situations of borrowers, lenders, and the national economy;
- They should be appropriate, implementable and less bureaucratic. Potential beneficiaries should be able to benefit from them in the most feasible way;
- They have to be properly designed and efficiently administered in keeping with the spirit of the given legislation;
- They have to be in line with the formulated objectives, eligibility preconditions and working systems as a prerequisite for their success;
- They should have adequate budget necessary for fulfilling their mandated operation goals;
- They have to be effective, efficient and innovative in order to attract and convince client financial institutions to participate in the program and enhance their participation in financing SMEs;
- They should promote prudent responsibility on the part of borrowers and lender institutions.

In general, loan guarantee schemes should achieve financial autonomy without losing their main purposes. The main concern is how to implement the designed schemes related to the program. To streamline the implementation process, the schematic flow chart in Figure 3 might help. The author designed this assuming that it might facilitate the challenging task of implementation. In Botswana, CEDA and SBPA are in the best position to participate in the implementation of loan cost subsidization and guarantee programs.

Figure 3. Schematic flow of implementation process of a loan guarantee scheme for SMEs debt financing.
Direct Credit Grant Programs

These programs are popular in many countries including in the industrialized countries like, the USA, Germany, Canada and Japan. Government initiated direct credit grant programs helped a lot in strengthening fledgling SMEs (OECD Report, 2001; American Recovery and Reinvestment Act of 2009). In the same way, GoB can launch and implement direct credit granting programs through its specialized agencies. As practiced in many countries, GoB can also delegate external organizations like banks and private and public organizations for this purpose. For example, GoB can grant direct subsidized loans to assist eligible SMEs located in rural and semi-urban as well as in economically and socially depressed areas. This helps to narrow disparities among different geographical areas in income, growth, migration and especially unemployment. To run these types of programs, mandated institutional capacities require details of eligibility criteria, loan administration procedures, repayment and security requirements and other loan related provisions. All these should be well formulated in advance. This and other initiatives discussed earlier are relevant and supportive, but they should be implemented in the best possible way.

Financing of Technical and Managerial Advisory and Extension Services

SMEs’ problems are not only access to finance, but also proper utilization of funds at their disposal. Acquiring funds is only one part in the dynamic SMEs financing scenario. Equally important is developing the ability to appropriately utilize and prudently manage the acquired funds. The lack of capacity to obtain funds at the right time, of the right type, in the desired amount, and at various stages is also another important weakness usually observable in many SMEs. We should provide SMEs the desired support for technical and managerial extension services and capacity upgrading programs to develop these capabilities. This means that concerned governmental and parastatal institutional capacities should not only be limited to providing funds. Rather, they should support SMEs to attain the ability to utilize their available funds in a proper and innovative way. Such services may include co-sponsoring management training programs and workshops, providing training facilities (such as trainers, mentors and training kits) and informational materials, offering limited one-to-one counseling services to SMEs owners focusing on how to solve their business problems, providing technical, managerial and professional assistances.

Above all, effective implementation of schemes and focused action programs require possessing the capability to streamline, cluster, and properly manage SMEs’ financing initiatives. In sum, government programs should not be limited to granting finance only. It is imperative that many SMEs in Botswana desperately need professional help focusing on how to use their funds effectively and efficiently. It is a good idea that government and other stakeholders grant financial assistance for providing technical and managerial extension services through capacity upgrading and building programs. Such services may include:

- co-sponsoring management training programs, courses, conferences, seminars and workshops;
- providing trainers, speakers, panelists and moderators for training programs;
- providing training facilities, equipment and informational materials;
- offering limited one-to-one counseling services to SMEs’ owners and managers;
- helping SMEs’ owners/managers to identify and solve their business related problems;
- publicizing available free services to SMEs’ owners at national, state and local levels;
helping to prepare and deliver management assistance through publications, radio, television and the print media (Adapted from SBA co-sponsorship programs, 1996).

Financing of technical and managerial training and advisory services’ schemes can be concentrated around the so-called Software Economic Infrastructure Development Programs. The Software and Hardware Economic Infrastructures can be broken down into two categories as Figure 4 shows. Hence, government can participate in software economic promotional programs as a contribution to the achievement of specified objectives.

Figure 4. Vital economic infrastructures for SMEs’ development. Source: Adapted from Owulah (1988), and re-formulated by the author.
Required Legal and Policy Underpinnings for the Promotion of SMEs Financing

Lack of effective enforcement by a legal infrastructure opens the door for financial dualism. Financial dualism is detrimental for business and economic development. It gives room for manipulation and unproductive rent seeking activities that are harmful for the sustainable development of the national economy. The negative consequences of financial dualism have become a normal phenomenon in the majority of the developing countries of Africa, Asia and Latin America. The developed countries are not spared from this malaise. Todaro (2009) has rightly observed the harmful effect of the financial dualism particularly on the broad activities of SMEs in many developing countries. He said:

Most developing countries operate under a dual monetary system, a small and often externally controlled or influenced organized money market with severely binding legal restrictions on nominal interest rate ceilings, catering to the financial requirements of a special group of upper-class local and foreign businesses in the modern industrial sector, and a large but amorphous unorganized money market, uncontrolled, illegal, and often usurious to which most small and low income businesses are obliged to turn in times of financial need. (Todaro, 2009)

The above statement asserts that highly unorganized, often externally dependent, and spatially fragmented financial system greatly impedes the growth of the national economic infrastructures in general and those of SMEs in particular. Therefore, we need to establish a transparent and effective legal infrastructure to maintain an efficient financial system that fosters the growth of the national economy. This is indeed a major contributor to organized, economically interdependent, and functionally competent financial institutions, financial markets and financial instruments. As a result, prudently managed and leveraged financial resources can continuously flow in and out of savings banks, commercial banks, and other public and private financial intermediaries with a minimum interference. Thus, a fully functional financial system strengthened in such a mode can make a noticeable contribution to the alleviation of SMEs financing problems. One of the chief causes of the economic crises in African countries during the last 40 years is inept governance coupled with the adoption of conventional but largely irrelevant developmental policies and strategies directly copied from the developed countries (former colonial masters). Of course, Botswana has attempted to formulate and implement regulatory policies and legal underpinnings. However, the country should do more to advance, modernize and strengthen the institutional capacity of its financial sector to provide efficient services to the indigenous economic sectors including SMEs. The existence of judicious and workable legal and regulatory infrastructure can help SMEs to have better access to the financial resources available in the country. Figure 5 portrays the important position of the financial sector within the national economic system.

The author recommendations on the legal acts and regulatory policies for facilitating the financing intricacies of SMEs in particular are shown in Table 3. These recommended supporting legal and regulatory frameworks are intended to serve as a stepping-stone for more actions by the responsible government organs, principally the Bank of Botswana, Ministry of Commerce and Industry, Ministry of Finance, Office of the President, and institutions representing the private sector.
Figure 5. The complex of macroeconomic and sectoral relationships. Source: Adapted from Krahnen and Schmidt (1994) and re-formulated by the author.

Table 3

| Proposed Legal Acts and Regulatory Policies Facilitating SMEs’ Financing |
|---|---|
| Proposed act | Purpose (objective) |
| SMEs’ Development Agency Establishment Act | To establish an agency at a national level with the objective of promoting SMEs. This is to stipulate the basic direction and policy of SMEs and accelerate their competitive growth. Additionally, the proposed SMEs’ development agency can establish different departments (or affiliated units) including one directly dealing with SMEs financing. As required, branch offices can also be established in different regions or localities of the country. |
| SMEs’ Financing and Investment Promotion and Regulation Act (General) | To secure the financial resources needed for the promotion of SMEs. The proposed act may contain legal proceedings regulating, supervising, and facilitating financing and investment activities specifically pertaining to SMEs. |
| SMEs’ Start-up Financial Support Regulation and Supervision Act | To provide for business venture start-up in order to contribute to the establishment of a sound industrial structure by promoting the establishment of SMEs. The act may mainly concentrate on issuance of regulations on how to grant financial support to SMEs for start-up purposes. The proposed act can include special legal provisions to encourage the establishment of SMEs in economically depressed regions. |
| Establishment, Licensing and Supervision of the Micro-Financing Institutions and Small Business Investment Companies Act | To encourage the increased flow of finance to SMEs in both rural and urban areas in the form of loans, venture capital and/or equity investments and other means of financing. This is vital for the accelerated and sustainable growth of SMEs and to bring the activities of SMEs and other micro-level financing institutions (mini-banks) within the monetary and financial policies of the country. |
| SMEs’ Credit Regulation and Control Act | As a supplementary to the above proposed SMEs’ Financing Promotion Act, this proposed act can be issued with the aim of regulating, supervising and controlling the effectiveness of lending programs. Lending programs may be designed and implemented by different formal lending institutions, mainly the commercial banks. This is with the objective of ensuring that the special loan programs of banks and other financial institutions targeting SMEs are effective and properly financed. |
| SMEs Export Business Promotional Act | To provide the necessary legal and regulatory framework to assist SMEs engaged in export business to get the necessary finance and to provide for other facilities, which can help them to further promote their export business and enhance their competitiveness and capacity. |

Concluding Remarks

In this paper, the author raised the critical issues of SMEs financing as a pertinent issue. Like in other developing nations, Botswana SMEs have continued to suffer from the lack of access to finance due to multitude constraints. Some of them are discussed in this paper. The GoB is indeed in a better position to resourcefully engage in promoting SMEs. This is in line with its core development agenda. That was the main reason for the President of the country to appoint a Presidential Task Force to investigate and identify core problems hindering
the development of SMEs in the country. The task force comprehensive report identified, among others, some core problems pertaining to SMEs financing. As part of the solution, the author proposed some government sponsored schemes, action programs and legal underpinnings. The author categorized them under four packages namely: direct financial assistance schemes; loan guarantee schemes; direct credit grant schemes; and financing of technical and managerial advisory services. The author is aware that SMEs’ financing scenario is a formidable task that demands continued, joint efforts of all stakeholders. However, it is important to note that the primary goal is to stimulate SMEs to make efforts to meet their financing needs by strengthening their internal capabilities for attracting funds. Thus, we should expect SMEs to demonstrate their innovative endeavors by discovering viable sources of financing. While this is the main thrust of the broader efforts to secure support for SMEs, GoB has also a mandate to promoting SMEs including widening their access to finance at their different stages of developmental continuum. Various governments’ sponsored financing schemes and action programs should be earmarked for this purpose. Realistically, SMEs in Botswana and in other SSA nations cannot solve their financing problem solely through their own efforts, particularly in the current globalized and turbulent business environment. Therefore, respective governments have an important role to play by assisting SMEs to enjoy substantial access to finance as a means for their sustained survival and growth. Government sponsored financing programs have been proved successful in many developed and developing nations. Therefore, government involvement in financing of SMEs can greatly contribute to alleviating financial problems of SMEs as a principal prerequisite for their active involvement in the dynamics of the national economy. It is also important to note that lending or granting money to SMEs is not enough, but government through its relevant institutional capacities should also assist SMEs to develop the ability of efficient utilization of the financial capacity at their disposal. If Botswana needs to achieve sustainable socio-economic growth through efficiency and economic diversification, empowerment of SMEs is fundamental. However, granted assistance should be in its appropriate form and content in order to bring qualitatively measured strength to SMEs that enhances their development and competitiveness. SMEs should note that government is not a panacea for all their problems. They should consider that government sponsored assistance programs are limited in scope and outreach and cannot solve their financing problems entirely. They should deal with their financing problems in accordance with the dynamics of the conventional economic rationality. They should boldly confront the challenge and work harder to enhance their strength and marginalize their weaknesses within the dynamics of organizational competency and growth. They should always find themselves in a continuous improvement endeavors and thereby foster their competitiveness in attracting external finance in the smartest way. The productive alliance of government, SMEs, and financial institutions can be quite supportive for SMEs empowerment. Indeed well integrated, supported and synchronized SMEs will be more capable to lead the socio-economic development continuum in Botswana.

References


Living Environment as Location Decision Factor for Manufacturing Enterprises

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Tallinn University of Technology, Tallinn, Estonia

Space is not homogeneous. Different economic activities take place in different locations. There are many factors which affect the location of manufacturing enterprises. These include raw materials, land, labor supply, markets, transport/communications, energy, capital, markets, government policy, etc. While previously cost and profit were the main determinants in the traditional location theory, nowadays, soft factors such as "quality of life" (housing, environment and infrastructure), "image" of places or "private" reasons are important determinants. A high-quality living environment is an increasingly important location decision factor first of all for companies who need to attract young and talented educated workers. Highly skilled workers/specialists, as a rule, have a well-kept and demanding family for the living conditions. They are willing to live and work only in a region where there is a good housing, environment and infrastructure. Or move to such place from a place that does not satisfy them. Location priorities are also believed to change according to the function of the site (headquarter needs international airport, central city location, hotels, restaurants; research and development unit needs universities, science parks; manufacture and distribution need good transportation system). The main goal of this paper is to summarize the objectives and experiences of knowledge applied by different agents and to study alternatives and opportunities in this process. One task of the current paper is to clarify different concepts with regard to residential attractiveness, urban development and housing policy to formulate research questions for further empirical research.

Keywords: housing, industry, delocalization, relocation

Introduction

The economic landscape has undergone many significant changes in the last few decades, the most extensive of which is globalization. In its wake certain kinds of economic activity have become more and more easily dispersed across space, and distance matters less in the transfer of goods and people. At a political and economic level, globalization is the process of denationalization of markets, politics and legal systems, i.e., the rise of the so-called global economy. Globalization refers to an extension beyond national borders of the same market forces that have operated for centuries at all levels of human economic activity. It means that world trade and financial markets are becoming more and more integrated.

At a business level, we talk of globalization when companies decide to take part in the emerging global
economy and establish themselves in foreign markets. A major aspect of economic globalization is the combination of free trade and free movement of capital. Economic, technological, political etc., processes change the world into an integral whole. The type of business that dominates today’s global economic system operates on the basis of finding the cheapest production (in particular labor) cost. During the past 15-20 years delocalization of labor-intensive industries—international relocation, the shifting of work to low-cost (low-wage) countries—has been a usual (dominating) development in world manufacturing.

The turbulent transformation of economy and society looks to continue. Growing integration of markets, radical new technologies, increasing knowledge intensity of human activity—all point to the emergence of an immensely complex world. Problems are arising in developed countries and also in developing countries. Due to changes in the markets, consumer preferences, environmental regulations, technological progress and so on, firms are constantly adjusting to new situations. This process very often also has a spatial dimension.

While previously cost and profit were the main determinants in the traditional location theory, nowadays, soft factors such as “quality of life” (housing, environment and infrastructure), “image” of places or “private” reasons are important determinants. A high-quality living environment is an increasingly important location decision factor first of all for companies who need to attract young and talented educated workers.

The main starting points of this paper are: (1) living environment depends on location of industries; and (2) location of industries in turn depends on living environment. The paper seeks to cover the living environment as location decision factor for manufacturing enterprises. The main goal of this paper is to summarize the objectives and experiences of knowledge applied by different agents. The research questions have been formulated for further empirical studies.

**Modern Industry Location Theories**

Space is not homogeneous. Different economic activities take place in different locations. According to McCann (2002, p. 3), spatial economic costs can be divided into two types: (1) those that are incurred at a point in space; and (2) those that are incurred in the overcoming of space itself. For example, local labor prices and land costs fall into the former category, whereas transportation costs and telecommunication costs fall into the latter. Both individual changes and changes in relationship between these place-specific costs and transportation costs have impacts on the optimum location of the firm.

A location factor describes the attractiveness of a production location for a trade settlement in the economic life. Location factors are the whole of factors, which affect an enterprise in the choice of a location. There are many factors which affect the location of industry. These include raw materials, land, labor (supply, wages and benefits, skills, education/trainability, unionization/right-to-work, etc.), markets (type of demand, size of market, stability of market, income or economic strength, etc.), transport/communications, energy, capital, government policy, etc..

The problem of locating industry was very actual already at the end of the 19th century when the industrial revolution was well established, and development of rail transport, energy, telecommunications and urban growth provided more options for distributing firms and components of the manufacturing process. With the publication of “Über den Standort der Industrie” (Theory of the Location of Industries) in 1909, Alfred Weber put forth the first developed general theory of industrial location. His model took into account several spatial factors
for finding the optimal location and minimal cost for manufacturing plants. Industry location theories have been
lately thoroughly studied by Dunn, Poleske, and Xiadong (2004), earlier Parr (2002), Krugman (1995), Storper
and Walker (1989) and by many other economists.

Theories respecting the location of firms (Parr, 2002, pp. 32-82) summarize the framework known as a
central place theory, built by early location theorists like Weber, Christaller, and Lösch. The central place theory
carries the assumption that population and resources are uniformly distributed over a homogenous plane, firms
have free entry into the market, and perfect competition exists. In this model, production factors (labor and capital)
and transportation costs represent the keys to understanding firm location: firms locate in such a way as to
maximize profits. Yet, even with the added complexities of hexagonally-shaped markets to capture the entire
market space and a “nested” hierarchy of variably-sized central places, the central place theory “cannot be
regarded as a general theory of the urban system” (Parr, 2002, p. 79).

Krugman (1995) offers four explanations of firm location. First, the notion of social physics is helpful in
constructing economic relationships that are analogous to observed laws of physics. For example, firms will
locate at points of high market potential, where the computation of market potential is some measure of market
access divided by distance (the gravity model). Secondly, cumulative causation suggests a circular relationship
whereby a region attracts firms whose presence attracts other firms, who attract still other firms, and so on. This is
similar to the alternative location theory of clustering. Third, positive local externalities “promote concentration
of production”, and analysis of these externalities can provide insights into optimum city size. Finally, the land
 rents theory of von Thünen assumes a gradient of land values as one moves away from an urban centre. This
model explains “centrifugal” forces quite well, but it has little explanatory power with respect to the existence of

In the second half of the 20th century, alternative theories of location emerged. The principal features of
these attempts to explain firm location are emphasis on the importance of spatial diffusion and consideration of
political and social interactions. In addition, as Storper and Walker (1989, p. 70) argue, “the basic patterns of
industry location and regional growth can be processed endogenous to capitalist industrialization, rather than
exogenous placements of resources and consumers”. In other words, firms can “create economic space”. This
contrasts with the neoclassical theories, in which firm location occurs more or less as a response to economic
conditions in a region.

Similar industries will tend to grow together in particular regions (automobile industry in Detroit; the
high-tech agglomerations in Silicon Valley, California). Such agglomerations owe their self-perpetuation largely
to social and economic factors. The growing cluster attracts sellers, merchant intermediaries, and labor from afar.
Firms of different types will cluster together in an urban region and will form an inter-reliance as the size of the
region becomes large.

Firms may relocate and decentralize in order to separate from the “dwindling profits” of an over-interested
core and to “extend into new growth peripheries” (Storper & Walker, 1989, p. 88). Firms are also motivated by
the prospect of cheaper labor pools and rents. Such movements may be linked with the product cycle, which can
lead to broad decentralization.

Where economic activity will locate in the future is one of the most important and challenging questions in
economics. Progress in technology, changes in demand and moves towards a liberal economic policy and
international economic integration create new challenges for economists, policy-makers and business executives.

According to McCann (2002), Hayter (1997), and Machlup (1967), a division into three types of location theory may be made: a neoclassical, a institutional and a behavioral approach.

The neoclassical approach (McCann, 2002, pp. 112-114), which is derived from the standard classical economic theory, focuses on cost-minimizing and profit-maximizing theories. There may be significant relocation costs. Relocation costs may be the direct costs of moving, as well as the search and information costs of finding new markets, labor, suppliers and deliverers, and so on. A move to another geographical market is to a certain extent similar to a start-up, with large investments and uncertain revenues. There may be also a substantial amount of capital inertia. For instance, many existing buildings and other equipment at the old location may already be written off, and still be operational at low costs.

In the modern globalised economy we have to look not only at the behavior of the firm, but also at the social and cultural context in which this behavior is embedded. Institutional approaches (McCann, 2002, pp. 117-118) have dominated the field so far. Firms have to negotiate with deliverers and suppliers, local, regional or national governments, labor unions and other institutions, about prices, wages, taxes, subsidies, infrastructure and other key factors in production process of the firm. Locational behavior is the result of all these negotiations. The implication of this view is that the geography of enterprise is more suited to large corporations, which have more negotiating power, and are able to exert a substantial influence upon their environment, whereas small firms usually have to accept the restrictions and constraints imposed upon by their environment. Regional systems are important contexts for firms’ growth. There are two types of institutions that are important for (re)location behavior of small and medium-sized enterprises: governments and real-estate market. Governmental facilitating factors are, for instance, infrastructure, zoning, subsidies and tax reductions.

The behavioral approach (McCann, 2002, pp. 114-116) is based on more realistic notations of limited information and bounded rationality. Here, optimizing behavior is replaced by “satisficing” behavior. Apart from the decision-making process, which is made explicit, there are four key elements in behavioral location theory: (1) the role of limited information; (2) the ability to use information; (3) perception and mental maps; and (4) uncertainty. More distant locations are less well known and therefore it is likely that nearer locations are chosen more frequently. Distant locations are more difficult to imagine than nearer places. There is a strong distance decay in mental maps, which is of course partly related to the amount of information, but also to the perceived attractiveness of the place. Firms face uncertainty, not only because they have a knowledge gap or they are unable to digest the available information, but also because investment decisions are based on anticipated future situations, which are by definition uncertain. Anticipating the future for other locations that are not familiar adds to the uncertainty.

Due to changes in the markets, consumer preferences, environmental regulations, technological progress and so on, firms are constantly adjusting to new situations. This process very often also has a spatial dimension (McCann, 2002, p. 110).

Traditionally, the spatial distribution of activities is explained using a model of the product’s life cycle (Federal Planning Bureau, 2000). According to this model, activities are transferred to countries with lower wage costs at that stage of the product’s life cycle where standardization occurs. The cycle begins with the product’s design, followed by its entry into the market, expansion, export and, finally, foreign investments which may lead
to relocation. Production abroad is market-oriented at first, but production costs (including wage costs) play an ever increasing role as the production process undergoes standardization.

Firm relocation differs from firm location because it explicitly takes account of the fact that one location is substituted for another. The firm has history, and this history is likely to have an influence on the locational outcome of the process. This locational outcome is therefore conditional (McCann, 2002, p. 111).

Another way to look at this is to separate the relocalization process into two sequential steps (McCann, 2002, p. 111): (1) the decision to move; and (2) conditional upon a move, to relocate to another location. A similar distinction is between push and pull factors of migration. Push factors are things that are unfavorable about the area that one lives in, and pull factors are things that attract one to another area.

The predisposition of manufacturing industry towards delocalization is a result of operation of three factor groups—the so-called push-factors, pull-factors and keep-factors of delocalization (Ženka & Cadil, 2009; van Dijk & Pellenberg, 1999).

Push-factors are motives leading firms to leave their locality (Ženka & Cadil, 2009; Pen, 1999). They represent a set of regional comparative disadvantages forcing firms to delocalize. Pull-factors are comparative advantages of potential target regions for delocalization. Considering operation of push- and pull-factors, it is possible to categorize the delocalization, by the prevailing motives of companies’ displacement as cost-oriented (most often driven by labor cost reduction), market-oriented (capturing new markets), and resource-oriented (qualified labor force, suppliers, mineral resources, etc.).

Keep-factors favor firm continuance in the current location (financial and organizational intensity of possible delocalization; relations with suppliers, etc.).

The increased importance of scale advantages and greater spatial flexibility have led to a more complicated pattern of spatial activity distribution. Companies are thinking increasingly in terms of multinational networks that no longer duplicate activities in various countries, but integrate them across several countries. In today’s economy, this allows that both research and a part of production—via subcontracting, for example—take place either partially or totally in different countries. Relocation is inevitable in order to come to a global supply chain. Particularly multinational companies (MNCs) are taking advantage of this by concentrating their activities in a limited number of outlets (Federal Planning Bureau, 2000).

According to Ferdows (1997), firms expand internationally for a variety of reasons: (1) reduce direct and indirect costs; (2) reduce capital risks; (3) reduce taxes; (4) reduce logistics costs; (5) overcome tariff barriers; (6) provide better customer service; (7) spread foreign exchange risks; (8) build alternative supply sources; (9) pre-empt potential competitors; (10) learn from local suppliers, foreign customers; foreign competitors, and foreign research centres; and (11) attract talent globally. According to Mohamed and Youssef (2004) these reasons can be broadly classified into marketing factors, barriers to trade, cost factors, investment climate, and general categories.

According to Mohamed and Youssef (2004) many studies have shown that transferring production to foreign locations is a viable alternative to lowering production costs, entry into foreign markets, and avoiding import (export) restrictions to gain competitive advantage in domestic and global markets. MNCs are willing to locate their facilities in any part of the world where they can obtain cheap labor, more reliable materials, parts, subassemblies, vendors, and governments that provide financial incentives. A long time ago, McDonald (1986)
claimed that many manufacturing companies are willing to locate their facilities in any part of the world where they can obtain cheap labor, more reliable materials, parts, subassemblies, vendors, and governments which provide financial incentives.

Where, in the past, a firm relocated whole production process by shutting down operations in one location and opening the same operations in another location, delocalization involves moving components of the firm and/or its production processes outside its operations. Delocalization is generally being undertaken by MNCs focusing on changing the supply chain. This drives inter-firm collaboration around global, decentralized and decoupled supply chains where each node of the value creation process is self-contained, self-directed and in many cases external to the equity structure of the MNC.

Housing, Environment and Infrastructure as Location Decision Factor

While previously cost and profit were the main determinants in the traditional location theory, nowadays, soft factors such as “quality of life” (housing, environment and infrastructure), “image” of places or “private” reasons are important determinants. The climate, low crime, educational system, cost of living, quality and cost of housing, quality of air and water, recreation facilities, etc. (all modern living and work environment) are very important for potential high-technology investors and skilled labor. Knowledge workers prefer places with a diverse range of outdoor recreational activities.

Good living environment means that local authorities are responsible for land use planning and building supervision. Participation in local affairs and the voice of community members are safeguarded both in the preparation of plans and in decisions. Municipal housing policy, public building, the maintenance of the transport infrastructure, public transport, parks and outdoor areas also effect the living environment.

Highly skilled workers/specialists, as a rule, have a well-kept and demanding family for the living conditions. They are willing to live and work only in a region where there is a good infrastructure. Or move to such place from a place that does not satisfy them. A high-quality living environment is an increasingly important location decision factor first of all for companies which need to attract young and talented educated workers.

According to McCann (2002), Hayter (1997) and Machlup (1967), neoclassical approach focuses mostly on the location theory and centres its analysis on profit maximization strategies and minimization of costs (transportation costs, human resources costs and external economies). Institutional approach states that it is important to consider not just the firm’s search for an appropriate location but also the institutional milieu which is part of (clients, suppliers, commercial associations, regional systems, the government and other firms). But behavioral approach focuses on situations of uncertainty and lack of information.

Most important behavioral factors are (Fernandes, Ferreira, & Marques, 2010): (1) Founder decides to live in that locality; (2) Employees wish to live in that locality, (3) Good (high-quality affordable) housing conditions (prices, size, etc.); (4) Recreational and leisure opportunities; (5) Climate in the region; (6) Cost of the land; (7) Quality of air and water; and (8) Good educational system and all infrastructure.

The business sector is a fundamental determinate of a firm’s location choice (Cohen, 2000). Manufacturing companies, for example, need to balance proximity to end-user markets against supplier resources.

Location priorities are also believed to change according to the function of the site (Cohen, 2000):

- Headquarters’ location priorities include: (1) accessible international air service; (2) high-end hotels,
restaurants, entertainment, cultural events, major league sport team/stadium with skyboxes to facilitate heavy
inter-company face-to-face interaction; (3) professional support services; (4) good choice of office space or
availability of land to built-to-suit; (5) diverse professional employee base; (6) attractive housing for executives,
affordable housing for managers; (7) support staff within reasonable commute; (8) strong educational system for
employee’s children; (9) continuing adult education; and (10) central city locations likely. Cost sensitivity is less
important than availability of key requirements;

- Research and development requires: (1) proximity to concentration of universities and science parks; (2)
clusters of highly educated workers, or alternatively, lifestyle amenities that are attractive to this pool of talent.
Some R&D firms want control over their physical environment, to buffer company from nosy neighbors and to
prevent the sharing of secrets by employees. Cost sensitivity is less important than the availability of talent and
other requirements. However, R&D may be more sensitive to cost than headquarters;

- Back office requires: (1) state-of-the-art telecommunications capacity; (2) affordable housing costs; (3)
high-quality labor force with technical skills; (4) good schools for employee recruitment and their children; and
(5) on-going available adult education and training. A back office is sensitive to cost of real estate,
telecommunications, housing, and taxes. Location preferred outside main centres;

- Manufacture and distribution firm needs to be near major interstates, they need strong utility systems
(electric, water, wastewater, gas, etc.). These firms also want a well-educated workforce and strong specialized
training programs. Manufacturing and distributing firms are sensitive to housing costs, taxes, and utility rates.

Location requirements differ depending on the company’s product maturity. A cost structure that works well
at the early stages of product development will not necessarily support its competitiveness as the product matures
(Cohen, 2000). At the R&D phase company may be less sensitive to real estate costs but quite sensitive to the
availability of sophisticated labor markets and talent. Later business will become more cost sensitive and
low-cost regions at the periphery or even offshore locations may provide more cost advantages.

A company’s competitive strategy determines the location choice (Cohen, 2000). Companies trying to
reposition itself in a significant way do not necessarily choose the lowest cost locations.

If living environment is satisfactory only in some regions, investment-intensive new high-technology, high
value-added jobs are created only there. And only top specialists and skilled workers in these regions will benefit
from these, not “ordinary people” in other regions. Such structural changes may even increase economic, social,
regional etc., stratification.

Conclusions

While previously cost and profit were the main determinants in the traditional location theory, nowadays,
soft factors such as “quality of life” (housing, environment and infrastructure), “image” of places or “private”
reasons are important determinants. A high-quality living environment is an increasingly important location
decision factor first of all for companies who need to attract young and talented educated workers.

Highly skilled workers/specialists, as a rule, have a well-kept and demanding family for the living
conditions. They are willing to live and work only in a region where there is a good infrastructure. Or move to
such place from a place that does not satisfy them.

Location priorities are also believed to change according to the function of the site: headquarter needs
international airport, central city location, hotels, restaurants; research and development unit needs universities, science parks; manufacture and distribution need good transportation system.

If living environment is satisfactory only in some regions, investment-intensive new high-technology, high value-added jobs are created only there. And only top specialists and skilled workers in these regions will benefit from these, not “ordinary people” in other regions. Such structural changes may even increase economic, social, regional etc., stratification.

References


Proactive Innovative Strategy

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Innovative proactive strategies are presumption for obtaining of significant market position in comparison with the competition. The presumption consists in external entrepreneurial environment signals perception and evolution of entrepreneurial innovative potential at the same time. It stands to reason that it isn’t enough to anticipate the strategic stamps of competitors, but it is necessary to build and evolve the innovative potential of firm too. The innovative level of potential is qualified from different points of view of enterprise functioning. But the implementation of innovation isn’t only one of business activities, it is a systematically realized group of activities in order to increase of enterprise’s efficiency. We can present the time behavior of every innovation through a sinusoid like an innovation cycle of this innovation. The position of firm is at the same time influenced with the choice of scientific-technological strategy, either offensive strategy producing the technical progress, or defensive strategy which consumes the strategic progress and participates in his mass diffusion. It is necessary to continuously innovate the current methods and processes to reach the competitive advantage thereby there is created an innovative flow. The aim of this paper is to highlight the importance of innovative potentials for the strategic management of firm. In this paper there will be judged the trend of innovative cycles in chosen industrial enterprises and evaluated the science-technological strategy of these enterprises. There will be charted types of innovations on the sample of 27 countries of EU according to the OECD classification of innovations and current methods of evaluation on innovative firms too. Consequently there will be delimitated possibilities of realization of offensive or defensive strategies for technical innovation. As a result there will be introduced a practical sample of innovative strategy of firm Linet.

Keywords: proactive strategy, innovation, innovative potential, innovation cycle

Introduction to Problems

The strengthening competitive fight evoked with the hyper competition and globalization in entrepreneurial environment urge entrepreneurial subjects to change their business strategy which is oriented to quality and price to business strategy based on innovations. Earlier going businesses find that they can fumble with considerable living problems during in applying of current strategies. There can come to cost reduction, impeding of production and in some cases to cancellation of whole workplaces. It is necessary to stop rely on

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the size of entrepreneurial unit, size of market share or another competitive advantages obtaining in the past to prevent the critical scenarios because there isn’t possible in this turbulent time to keep any competitive advantage in the long term. So it’s necessary to start pay considerable attention to strengthen the competitiveness through entrepreneurial innovative activities. To become the best in the marketplace it isn’t enough for the enterprise to obtain the leadership in this marketplace. The key to obtaining the dominance on the market is in continuous necessity to innovate the existing methods and processes, to be before others.

In accordance with authors (Doz & Kosonen, 2011) there must be firms oppose the real challenge in form of speed and complication of system changes in partial branches of industry. As a branch of fast changes we can consider informational and communication technologies. The significant transformation originates in branch of health care. The reason of changes in these two branches are new science pieces of knowledge at most. Less changes we can record in branch of nutrition and food accessories, branch of pharmaceuticals without the prescription, branch of up keeping of fitness. Some branches of industry are still waiting for these changes—for example the energy industries with reference to power sawing and car industry with reference to the growth of fuel prices and global warming. On the other hand there exist branches which go through the principle but slow change, for example system of control, reporter or weapons systems. Despite their technological complexity there is the change reached slowly.

The new accesses for entrepreneurial strategies we can characterize like a transition from reactive to proactive strategies. The reactive strategies are based on analysis of competitive conditions and profit-oriented strategic plans. The principle is SWOT analysis which results from what is now and find how to improve. Consequently there is defined some competitive advantages. On the other hand the proactive strategy focused on change the competitive space in which is the firm situated or in which the firm pursues the creating quite new space for satisfaction of unknown need so far. They are strategies resulting from innovative potential.

Besides this the proactive strategy can encounter the delimitation of dynamic strategy too. It means the ability to change its strategy thereby obtain the lead before the competition. According to Doz and Kosonen (2011) the base is in strategic agility which is qualified with three dimensions: strategic sensibility, integrated group participation and flexibility of resources. Assumption of these competences makes it possible to ensure and keep the grow potential.

Business strategy based on innovative potential is the presumption to reach the competitive advantage in the chosen market. The aim of this paper is in examination of creation of entrepreneurial strategy based on innovative potential of firm but not from the side of its strategic advantage which is reset of ex post analysis these all applied on the example of concrete firm.

**Entrepreneurial Strategy Based on Innovative Potential**

The successful realization of chosen kind of innovation depends (Peterková & Gruberová, 2011) on range of conditions and presumptions which change over time. One of the main conditions is existence of innovative potential. The innovative potential poses the potential of change, one of competitive potentials empowering mechanism of mobility (Mikoláš, 2005). This potential displays “the general qualification of enterprise for success, permanent pursuance of own vision” (Pittner & Švejda, 2004). The fruitfulness of innovation requires “this potential to have high innovative level and create a spine of comprehensive effectively functioning
proinnovative enterprise system” (Švejda, 2004). The innovative level of potential is judged from different points of view of functioning of enterprise namely in light of technical and technological (use of high tech, new effective technologies etc.), material equipment (use of intelligent multifunctional materials, recyclable materials etc.), economical and financial (for example efficiency of spent financial sources or sources of financing of innovative plan), business activity and marketing (for example ability to sell customers, forms of promotion), R&D (for example investment range to R&D, quantity of inventive stimulations for innovations), social (for example quality of relations inside the firm, way of remuneration and motivation of employees) and management above all the ability to provide for development of innovative potential (Pittner & Švejda, 2004).

One of accesses which comprise the innovative potential is the access of Kiernan. He sees the competitive advantage of firm in the innovative potential. The point of departure for formulation of 11 commencement for obtaining of future competitiveness is so-called iceberg balance of potential value (see Figure 1) and an innovative infrastructure of firm.

![Figure 1. Iceberg balance of firm value. Source: Kiernan (1995).](image)

The potential value of company he compares to iceberg where only 10 percent sticks out of the water surface and remaining 90 percent of the iceberg he calls intellectual capital base of company. It is formed from three elements:

- human capital (skills, knowledge, values and innovative potential of individuals in the firm, ability of team work);
- special-interest capital (distributional and marketing channels, network of strategic allies and partners, loyalty and customers’ ideas);
- structural capital (innovative and educational potential of enterprise, ability of team work, strategy, vision, culture, informational systems and numberless another intangible elements which are the real source of creating of value and of comparative benefits). The structural capital is a tool which connects human and special-interest potential and which equalizes and finally transforms these potentials to the financial capital and profit. The
structure capital can increase or decrease the intellectual capital base. So it’s called an innovative infrastructure of firm.

The approach considering the innovative potential to be a basis of competitiveness is a conception of Senge too. He elaborated the theory of learning organization whose functioning is based on application of five disciplines¹. The determined disciplines (Schwalbe, 2007) shall help to evolving abilities and skills which run the learning cycle. They are:

- personal championship representative ability to create calculated results during an exercise of acceptable effort;
- mental models reflective opinion notions or images of perceived world;
- team learning whose base is a dialog if you like ability of team members to put away all presumptions and to begin the real collective thought;
- creating of collectively shared vision takes effect in that people excel and learn because they want not must;
- system thinking isn’t concentrated on the basic building blocks but rather on basic principles of organization.

To understand these things in the system sense means to place them to the context, determine the character of their relations. The unit is more than the sum of its parts.

### Characteristic and Classification of Innovations

Innovations preset “a specific instrument of entrepreneurs, a tool with which we can use changes like opportunities for business in different area or in rendition of different services” (Drucker, 2007). Under the term innovation according to J. A. Schumpeter we can find “an evolutionary form of invention which is ready to be produced and sold on the market” (Keklik, 2003), so an introduction of new product, technology, technological change in production of already existing products, an assignment of new markets or new assistant sources or an introduction of new organization. But currently the most widespread and in the framework of European Union the most widely used is definition resulting from document of European committee COM (2003) 112 where is:

The innovation a resumption and enlargement of scale of products and services and accompanying markets, a creation of new methods of production, supplies and distribution, an introduction of management changes, an organization of work, working conditions and qualification of work force.

According to Švejda (2004), there plays an important role creativity, invention and innovation. He says:

The substance of creativity is in ability of man to create values. It has two interdependent relative independent aspects. Partly a cognitional, gnoseological aspect which is liked with existence of rational activity and with ability to think up new opinions, ideas, theories, artistic or scientific etc. and partly an aspect oriented to creation of values from practical viewpoint—implementing. (Švejda, 2004)

On the other hand the invention is closely linked with the cognitional aspect of creation and it’s based on new ideas, ingenuity and mind inventiveness. The intuition is complementary to these three building stones of innovation: Intuition in mental suggestion, illumination or occasional intuition which assists the striking to heart of problem. From the point of view of level of degression of novelty we can distinguish these four basic sources of innovation: acceptance, imitation, adaptation and absolute invention (Štrach, 2009).

But the innovation isn’t an unified change. In the framework of this paper we appeal from next two methods

¹ The discipline is a set of theories and methods which are necessary to study and master them to be apply in practice.
of classification of innovations. The first of them is based on the degree of innovation so the measure of affinity or on the contrary on relation of products (see Table 1).

Table 1

<table>
<thead>
<tr>
<th>Degree</th>
<th>Mark</th>
<th>What will change</th>
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<tbody>
<tr>
<td>n</td>
<td>degeneration innovation</td>
<td>decrease of features, spontaneous changes</td>
</tr>
<tr>
<td>0</td>
<td>regeneration innovation</td>
<td>returning of structure to the original condition aimed at overcoming of trend to degeneration</td>
</tr>
<tr>
<td>1</td>
<td>quantitative innovation</td>
<td>increase of frequency of elementary changes = necessary and long term process of internal adaptation</td>
</tr>
<tr>
<td>2</td>
<td>organizational innovation</td>
<td>regrouping of elementary components and relations among them</td>
</tr>
<tr>
<td>3</td>
<td>qualitative innovation —adaptation change</td>
<td>applying of progress in interaction of material factors and human qualification</td>
</tr>
<tr>
<td>4</td>
<td>—functional change</td>
<td>entry of new variety, the attention is paid to product solution</td>
</tr>
<tr>
<td>5</td>
<td>—creation of new variety</td>
<td>overcoming of several parameters and functional proprieties, original conception is conserved</td>
</tr>
<tr>
<td>6</td>
<td>—change of conception</td>
<td>overcoming of parameters and constructional and functional conceptions</td>
</tr>
<tr>
<td>7</td>
<td>specific innovation</td>
<td>change of constructional conception</td>
</tr>
<tr>
<td>8</td>
<td>generic innovation</td>
<td>change of principle of used technology</td>
</tr>
<tr>
<td>9</td>
<td>essential innovation</td>
<td>change of access to environment</td>
</tr>
</tbody>
</table>

The second kind of classification which is used for purposes of this paper is classification according to manual OECD (Oslo manual, 2005). In this conception there are innovations divided to technical and nontechnical.

Technical innovations pose a performance of new products or an improvement already existing products (e.g., increase of quality) and services (= innovation of product), introduction of new production processes or use of new till unknown source of raw material or intermediate products (= innovation of process). As a nontechnical innovation there is classified obtaining of new market (= marketing innovation) or change in operating management or organization of production (= organizational innovation).

Despite of increasing sense of innovations in the entrepreneurial activities there is possible to find out from gained information on the basis of researched exponent of 27 EU countries (ČSÚ, 2010) that in most of countries there are predominate noninnovative enterprises over the innovative enterprises. According to analyzed dates from EUROSTAT there is about 40% of all entrepreneurial subjects considered to be innovative firm. It’s necessary to mention that in this research there were classified only firms from manufacturing industry which have more than 10 employees. This fact isn’t in some publications accented enough or it is totally failed (see paper “Six community innovation survey: More than half of EU27 enterprises are innovative”). If we would include all entrepreneurial subjects in this research we can find that the number of innovative firms will be only in the frame of percents or even tenths of percent. The presumption of choose of firm with more than 10 employees is in higher innovative potential of this firm. And in the framework of partial groups of enterprises there is proportion of innovative firms markedly different. Generally we can say that the bigger enterprise the higher is proportion of innovative firms in sum total of enterprises in a given group. In the concrete among enterprises with from 10 to 49 employees there is only about 34% of innovative firms in the framework of enterprises with from 50 to 249 employees increases this proportion to more than 50% and in the framework of enterprises with more than 250 employees is this proportion of innovative firms more than 70%.
Interestingly in the framework of Czech Republic dominate enterprise, with nontechnical innovations, whereas small firms focus on marketing innovations above all and on organizational innovations focus middle and big firms. In foreign corporations there obtain nontechnical innovation in the shape of organizational innovation too (see Table 2).

Table 2

<table>
<thead>
<tr>
<th></th>
<th>Innovation of product</th>
<th>Innovation of process</th>
<th>Marketing i.</th>
<th>Organizational i.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Czech Republic in total</strong></td>
<td></td>
<td></td>
<td>32.1%</td>
<td>29.2%</td>
</tr>
<tr>
<td>According to the size of firm:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>small (10-49 empl.)</td>
<td>14.8%</td>
<td>21.5%</td>
<td>30.5%</td>
<td>25.4%</td>
</tr>
<tr>
<td>middle (50-249 empl.)</td>
<td>27.2%</td>
<td>32.0%</td>
<td>36.1%</td>
<td>39.7%</td>
</tr>
<tr>
<td>big (250 and more empl.)</td>
<td>49.5%</td>
<td>53.3%</td>
<td>44.2%</td>
<td>56.4%</td>
</tr>
<tr>
<td>According to the ownership:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>domestic enterprises</td>
<td>16.2%</td>
<td>22.3%</td>
<td>31.4%</td>
<td>26.1%</td>
</tr>
<tr>
<td>foreign enterprises</td>
<td>29.0%</td>
<td>36.4%</td>
<td>35.4%</td>
<td>44.2%</td>
</tr>
</tbody>
</table>

Options of Measuring of Innovative Potential

If we appear from the presumption that the base of competitive power isn’t only the financial, business and procedural potential but above all the innovative potential it’s necessary to ask the question how is the competitive force measured. In finding of answers there will be engaged created research team in our workplace which would realize a probe into the life of entrepreneurial activity of global firms (Peterková & Franek, 2010).

The objective of research activities there would be to get some view of accesses and methods of measuring of competitive power of enterprise. For examination of accesses of measuring of competitive force there was realized a probe into entrepreneurial activities of 100 global firms acting in 19 branches of industry. The realization of probe proved that on the one side there is the evaluation of competitive power continuously identified with evaluation of productivity in entrepreneurial praxis. The productivity of enterprise is measured above all from the point of view of achieved efficiency of financial potential. It is assessment of competitive force from the point of view of past if you like from the point of view of result or in past achieved competitive power. On this access there are based all chart of TOP global firms (Ernst & Young Top 300, Financial Times Global FT500, Forbes Global 2000, Fortune Global 500). But on the other hand there is effort to take down the influence of human, procedural (technological) potential through of partial indicators for example number or patents realized with the firm, share of spending on R&D or through index of innovativeness. The index of innovativeness is created in cooperation with Boston consulting group. This method is based on evaluation of achieved financial results and on expert’s evaluation of enterprises (CEO). The expert’s evaluation has a stress of 80% and evaluation of financial factors only 20%. So results are influenced with financial respect as well as with subjectively-objective evaluation CEO.

Results of this probe showed that good results are achieved in firms which don’t underestimate their innovativeness, spending on R&D and patents for example Samsung, General Electric, Intel, Toyota, Google. They are firms doing their business in branch of information technology and car industry. On the other hand firms
which record only small financial results aren’t on the first places, for example Royal Dutch, Wal-Mart etc. They are doing their in branches of raw materials and business activities. Above all in the industrial branch of Oil and Gas there is evident that the competitive force is result of ownership of source of raw material. It turns out that the evaluation of competitive force must be realized from the point of view of evaluation of financial potential as well as from the point of view of human, procedural, business and innovative potential.

**Way of Evaluation of Innovative Firms**

At present, there exist different ways of evaluation of innovative firms. There set up, for example, a chart of the fifty most innovative firms, created with Journal Fast Company which addresses innovations in the branch of technologies, ethics of economy, management and design. It is the chart of TOP 50 most innovative firms in chosen branches including energetic, information technologies, internet, biomedicine and materials. Every firm is judged by three criteria: business model, strategy of implementation and diffusion of technologies and probability of success. In current year (2011), there are gaining ground firms which were on rear positions in this chart. According to Prahalad it is the principle of success of these firms in ambitions of firm and subsequent diffusion of sources’ background. The most innovative firms are characterized with a quite new business (new kind of business) which haven’t been presented yet, they create a new framework of use of some findings or invention and new models of market (for example business and entrepreneurial models). The sequence of firms in this chart of TOP 50 is shown in Table 3.

**Table 3**

**Short List of First 10 Firms From TOP 50 Firms (Innovation Policy, 2003)**

<table>
<thead>
<tr>
<th>List of firms</th>
<th>Sequence 2011</th>
<th>Sequence 2010</th>
<th>Way of innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>1</td>
<td>3</td>
<td>For dominating the business landscape, in 101 ways</td>
</tr>
<tr>
<td>Twitter</td>
<td>2</td>
<td>50</td>
<td>For 5 years of explosive growth that have redefined communication</td>
</tr>
<tr>
<td>Facebook</td>
<td>3</td>
<td>1</td>
<td>For 600 million users, despite Hollywood</td>
</tr>
<tr>
<td>Nissan</td>
<td>4</td>
<td>-</td>
<td>For creating the Leaf, the first mass-market all electric car</td>
</tr>
<tr>
<td>Groupon</td>
<td>5 (new in list)</td>
<td>-</td>
<td>For reinvigorating retail, and turning down $6 billion</td>
</tr>
<tr>
<td>Google</td>
<td>6</td>
<td>4</td>
<td>For instantly upgrading the search experience</td>
</tr>
<tr>
<td>Dawning Information Industry</td>
<td>7 (new in list)</td>
<td>-</td>
<td>For building the world’s fastest supercomputer</td>
</tr>
<tr>
<td>Netflix</td>
<td>8 (new in list)</td>
<td>-</td>
<td>For streaming itself into a $ 9 billion powerhouse (and crushing Blockbuster)</td>
</tr>
<tr>
<td>Zynga</td>
<td>9</td>
<td>33</td>
<td>For being the $ 500 million alpha dog of social gaming</td>
</tr>
<tr>
<td>Epocrates</td>
<td>10</td>
<td>12</td>
<td>For giving doctors and nurses instant drug reference</td>
</tr>
</tbody>
</table>

The sequence of the most innovative firms is changing in accordance with the chosen chart criteria. This implies that there is a different evaluation in chart of the 100 most innovative firms (The World’s Most Innovative Companies).

In every firm there is projected the future income (cash flow) from current business plus expected grow on the basis of current position at first. This income is counted to net present value. This value is consequently compared with the current market value of firm. The amount with which is the market value higher than the current value of cash flow presents the premium additional charge from reached innovation.

The Innovation Premium is a measure of how much investors have bid up the stock price of a company above the value of its existing business based on expectations of future innovative results (new products, services
and markets). Members of the list must have $10 billion in market capitalization, spend at least 1% of their asset base on R&D and have seven years of public data.

Except dates introduce in EUROSTAT and statistics executed with Czech statistical office there are concerned with analysis of innovative firms in Czech Republic Agency of innovative entrepreneurship. This agency takes example of definition of innovative firm in the National innovative strategy of Czech Republic from March 24, 2004 which is: The innovative firm is generally a small and middle firm whose main subject of enterprise is to realize a project of new product to commercial age and to place it on the market. The range of surveyed firms as evidenced with this definition is confined to small and middle firms and it’s cramped to innovations of product.

**Types of Innovative Strategies Based on Technical Innovations**

In the event that the firm has technical innovation it can realized two types of innovative strategies. According to Slávik (1999) the realization of innovative business strategy influences the technical level of realized products and technologies. Whereas the technical level is influenced with originality and newness of technical innovations. The firm can invoke ether offensive or defensive strategy. The firm which is an initiator of offensive strategy is an initiator of technical improvement and it sets the trend of technical development of whole branch. On the other hand, the firm asserting the defensive strategy makes use of results of technical improvement and ensure its diffusion. The type of used strategy is dependent upon the entrepreneurial power of producer and upon the attractively of branch. The growth of entrepreneurial force of producer and the attractively of branch makes it possible to realize the offensive strategy and vice versa loss of entrepreneurial force and attractively of branch rather urge firms to invoke the defensive strategy.

To the group of offensive strategies according to Slávik (1999) is ranged a front-end and an adaptive strategy. The front-end strategy is typical for innovative leader on the market in particular industrial branch which produces a product on the top technical level which is destined only for particular customer segment. In the case of adaptive strategy of firm it can produce a product on Loir technical level and it focuses on a broad group of customers. This strategy is realized with firms which want to forbear the risk related to high spending on research and development of new products or processes. They adapt and make up results of innovative leader and derive it for their own benefit. The offensive strategy is realized above all in global pilot enterprises which have character of transnational firms. They bear their activities on their own research and development and support of scientific-technological parks and universities.

The second group of defensive strategies is formed with imitative, license and accepting strategy. The imitative strategy is based on fast imitation of results of global pilot enterprises realized a top and an adaptive strategy. It is the imitation of results for different segments of customers or the imitation subsisting in lower production spendings etc.. Firms in this strategy produce products with standard or substandard quality. It can become that the imitation can improve the original innovation. This strategy is elected with firms which haven’t strong research and development. The enterprise which have no research and development favors the license strategy. Peking is the results of research and development for a fee for example a franchise. The use of this strategy can lead to technical backwardness of firm. The enterprise which finally takes up products and technologies of produces which leaved the market to meet another demand realize the accepting strategy. This
strategy poses for the enterprise a strategy of innovative lag. The defensive strategy is realized generally in satellite firms which haven’t strong or even no research and development background. The accepting strategy is realized often in firms of types entrepreneur-selfemployer.

Slávik (1999) presents that research and development activities of firm are influenced with the life cycle of firm. In the initial stage of life cycle, it is firm developer on the base of applied and basic research. After some time, it is the original knowledge potential spent and another research can meet the knowledge limit in the framework of some fading. Continuing of the research is realized in the way of existing fading and user possibilities (see Figure 2).

From the view of realized strategy (first moving or following) and from the view of plain strategy description, of value creation Afuah (2009) divides firms to four groups: firms of Stars type, firms of Explorer type, firms of Exploiter type and firms of Me-too type (see Figure 3).

According to this classification the clearest strategy of value creation and strategy of first moving have firms of Stars type. The same strategy of first draw have firms explorer type too, but they have one absence consisting in fortunately of realized activities. Firms of Exploiter and Me-too types realize strategy of following, they are waiting for decline of technological and market incertitude. And firms of Me-too type haven’t a clear strategy.

![Figure 2. Lifecycle of firm and its R&D activities. Source: Slávik (1999, p. 216).](image)

<table>
<thead>
<tr>
<th>Timing</th>
<th>First mover</th>
<th>FOLLOWER</th>
<th>SUPERSTAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follower</td>
<td>ME-TOO</td>
<td>EXPLOITER</td>
<td></td>
</tr>
<tr>
<td>NO</td>
<td>YES</td>
<td>Pursued the right strategy?</td>
<td></td>
</tr>
</tbody>
</table>

**Practical Example of Innovative Business of Firm Linet**

For evaluation of innovative strategy there was chosen Czech firm Linet ČR, global firm with activities in 25 countries and with amount of turnover of 1.7 milliard. This firm is ranked among leaders on the market of clinical beds. It is a producer applying technical innovation of product in the form of a new system of lifting of clinical
beds. The innovative strategy in the line of products ELEGANZA is evaluated through the life cycle.

**Characteristics of Innovative Business Activity of Firm Linet**

The firm Linet ČR is a producer of special equipment destined for hospitals, rest homes or home care, especially the positioning beds. In its branch, this firm belongs among the most dynamically developing firms in Europe. This firm is through of world leader of innovative solving for health and nursing technology and at it group the pendant the biggest producers of clinical beds all over the world of the same time.

This firm started its business in 1990 with the aim of building up a modern clinical beds plant which is going successfully well. In 1992 this firm already realized its first big contracts and in 1994 it build up its own developing department. Thanks to enlargement of factory building it was able to produce in 1998 already 10,000 pieces of products and thanks to quality of its products this firm obtained the certification of ISO 9001 EN 46,001. In 1999, the firm developed a new system of lifting of clinical beds which applied already in production of new type of beds ELEGANZA and Multicare in 2000. Thanks the quality of its products and at the same time with the individuality of firm this firm exported in the next year already to 25 countries.

At present the firm exports its products to 75 countries of world whereas the key market stays in Europe with the share of export of production of 74%. The next engaged markets are in Latin America with 14% share of export of firm production, Middle East with 10% and Asia with 2%. The total export of production presents 81%. The remaining volume of production is seen on the market in Czech Republic and in Slovakia.

**Life Cycle of Innovative Activity of Firm Linet**

For display of the life cycle of innovative activity of firm Linet we focused on clinical beds of line ELEGANZA whose production represents at present almost 50% of volume of production of whole firm. For confrontation there are stated total earnings of firm (see Figure 4).

![Figure 4. Lifecycle of innovation activity of firm Linet (annual reports of Linet).](image-url)

In the picture there is evident an upward trend of earnings which comes from fruitfulness of firm on the market. The slump in earnings is evident only in 2003. This slump caused with continuing recession in branch of production which is showed up in sharpening of competitive fight and in expressive pressure for price reduction. The same growth trend has earnings form sale of the most considerable products of line ELEGANZA too. These products were placed on the market in 1999 and already in next year they achieved 32% of total production with 3,964 produced pieces. At present their share on production is over 46% and in 2010 there were produces almost
23,000 of this product.

Regarding to the fact that the firm is continuously innovating its production we chose to illustrate the innovative cycle of product ELEGANZA ICU. This product is ranked among the most considerable line of products ELEGANZA. Despite of the low share on volume of production (only 2% of total production of line ELEGANZA) this produce a participant in whole 32% of earnings of line ELEGANZA. The introduction of product on the market was in the same year like the introduction of the whole line ELEGANZA. As evidenced by the picture, the progress of earnings grew until 2007. In 2008, there finished the development of product ELEGANZA XC which is an improvement of ELEGANZA ICU. So in 2009 the production of ELEGANYA ICU was stopped and at present there is offered only the innovated variation ELEGANZA XC.

**Conclusion**

From before-mentioned analysis of innovative activity of firm Linet we can judge that the firm implements a front-end innovative strategy. It is given with the position of firm on the market of clinical beds and the use of original technical innovation of product. Lined could develop the clinical bed which can move in few seconds to medical table on which can be the patient weighted or radiographed. The bed relieves every manipulation with the patient. From the view of Afuah (2009) we put this firm class to the group of Stars type firm, it means that this firm has clearly defined strategy, and it implements the strategy of stroke. Linet established itself in inland and foreign trade too.

From the curve of life cycle of innovative activity it is possible to derive particular steps of innovation of product ELEGANZA. On the entering to the market the innovation of product of firm Linet based above all of the basic research, later after the remedy of shortage the firm hit against the knowledge limit in the area of system of lifting and consequently the last innovative step in research with the view of modification of products in the shape of introduction of new product ELEGANZA XC. It turns that the proactive strategy based on innovative potential is the basis of competitive advantage of firm on chosen market.

It turns out that the proactive strategy based on innovative potential is the principle of competitive advantage of firm on several markets. It is found that in the framework of development of innovative potential enterprises focus on nontechnical innovations which relate to realization above all the marketing and organizational innovations. For obtaining the position of innovative leader it’s necessary to realize the technical innovation. With the application of technical innovations, the firm goes to choose reasonable offensive or defensive innovative strategy. Through the probe into the life of global entrepreneurial subjects there was verified on the basis of the sample of 100 global firms doing their business in 19 branches that good results are achieved in firms which don’t downgrade their innovativeness, expenditures to research and development and patents. The evaluation of innovative enterprises isn’t unifies and it differentiate according to chosen criteria. The concrete evaluation of innovative activities in the framework of business strategy is realized in firm Linet through the life cycle of product line ELEGANZA.

The concrete evaluation of innovative activities in the frame of business strategy was realized in the firm Linet through the lifecycle of product line ELEGANZA. The above-mentioned analysis shows the innovative strategy of firm which reflects realization of innovations in the framework of the product line ELEGANZA. This firm pursues to overtake its competition and to satisfy the customer through technically unique clinical beds.
References


Model for Quality Improvement and Sales

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Many papers have discussed quality improvement, both in product quality or process quality. For companies, efforts to improve quality need to be viewed from a commercial perspective. This becomes important, because those efforts take time and considerable to be expensive. Therefore, we need to integrate all efforts have been made to improve the quality with the increase of product sales. Some studies have focused on these linkages. A study of this linkage was discussed in the form of mathematical models. The mathematical model of quality improvement and sales were critically analysed. The study indicated quality notions that related to sales is at the time that customers receive the products. In the stage the product is received by customers, there are three notions involved, namely: claimed quality, actual quality and perceived quality. In this paper we study the effect of these three quality notions on product sales. The basic theory of the model was investigated and analyzed to determine the variables that affect the models. Then these variables, studied further in order to see linkages with dimensions of product quality improvement. The diffusion theory provides a basis to develop a new model that characterises this effect. From the model data analysis, it can be concluded that from those three notions, the actual quality is the most affecting to the product sales. While, perceived quality mainly determined by the reliability performance of the products.

**Keywords:** claimed quality, actual quality, perceived quality, diffusion theory, quality improvement and sales

**Introduction**

There were many papers discussed several different notions of product quality. In context of marketing a new product, the three different notions of product quality of importance are the following: (1) claimed quality ($q_c$); (2) actual quality ($q_a$); and (3) perceived quality ($q_p$). These three are quality notions associated with the finished product sold to customers.

Our focus with regards these three notions of quality is in the context of the reliability of a product. Reliability cannot be assessed immediately at the time of purchase as reliability is performance over time. Operating the product over time provides data regarding failures and this is used to assess the reliability of the product. The time needed to assess product reliability depends on several factors. One of these is the speed at which customers can evaluate the relevant reliability characteristics of the product. As such the perceived quality is a dynamic variable. The initial value depends on several factors such as manufacturer’s reputation,
technological feasibility etc. As time progresses, the customers get a better feel for the quality of the product.

The claimed quality can differ from the actual quality. This could be for two reasons. First, the manufacturer has not done enough testing to assess the actual quality. In this case, the claimed quality is based on the manufacturer’s judgment about the actual quality. Second, the manufacturer might know the actual quality but the claimed quality can differ from this for marketing purposes. The claimed quality can be lower or higher than the actual quality. The sales rate is influenced by the difference between the dynamically changing perceived quality and the claimed quality. This in turn has an effect on sales.

The outline of the paper is as follows. We begin with a brief review of the literature dealing with perceived quality where we discuss the relationship between perceived quality and some other marketing elements on product sales. In the next part we review the different diffusion models that have been reported in the literature, and following with the details of the new model formulation and carry out a qualitative analysis of the model.

**Perceived Quality: Review of Literature**

Perceived quality can be defined as the consumer’s judgment on the overall product excellence and superiority (Lewin, 1936). Hence, the concept of perceived quality is more subjective compared to claimed or actual quality. Perceived quality encompasses product performance, reliability and services associated with the product.

Several papers on perceived quality focus on the interaction between perceived quality and other marketing variables such as product prices, customer satisfaction, purchase intention, market share, and sales. Customers mostly indicate their preference regarding product quality based on the price and their satisfaction with the product. Etgar and Malhotra (1981) and Gerstner (1985) state that the price of product is commonly used as an indicator of product quality.

The relationship between price and quality (the P-Q relation) has received some attention. Geisfeld (1988), Hjorth-Andersen (1992), and Ratchford and Gupta (1990) examine this topic. They suggest that P-Q relation is influenced by the market condition—product competitiveness and how effective customers use their resources. Jackson and Narasimhan (2010) explored the price-quality connection in the context of competition, particularly for durable goods.

Zeitham (1988) deals with the relationship linking product price and perceived quality with perceived value of the product. Value can be defined as a comparison between what customers get and what they give. He classifies the consumer definition of value into four different groups: (1) value is low price; (2) value is whatever the customer wants in a product; (3) value is the quality the customer gets for the price paid; and (4) value is what the customer gets for what he/she gives. Sjolander’s (1992) research deals with product price and the perceived quality relationship taking into account the cultural boundaries (country and customer ages). He suggests that these two variables play an importance role in consumer behaviour.

Another quality notions, besides perceived quality, that grouped into the customer perspective is aesthetics (Sebastianelli, 2002)

Perceived quality impacts on customer purchase intention and as such provides a means for assessing it. The interaction of perceived quality and customer purchase intention is influenced by customer satisfaction. Boulding
et al. (1993) states that perceived quality influences the customer purchase intention, while Cronin and Taylor (1992) state that the relationship of these two variables is indirectly through satisfaction. Taylor and Baker (1994) mention that the interaction between perceived quality and satisfaction has an effect on customer purchase intention.

Other variables that influence customer perception of quality are the brand and store name (Dodds, Monroe, & Grewal, 1991; Rao & Monroe, 1989), and the market share of a product (Hellofs & Jacobson, 1999). They indicate three mechanisms through which perceived product quality affects market share. These are: (1) network externalities; (2) signaling; and (3) inclusion as an attribute in consumers’ quality functions.

Models to evaluate the effect of influencing customer’s perceived quality on the profit generated need a sound methodologies. The methodologies to assess perceived quality in the service sector include SERVQUAL (Parasuraman, Zeitham, & Berry, 1988), SERVPERF (Cronin & Taylor, 1992), and EP (Teas, 1993). The methodology to measure consumer’s relative preference toward the different dimensions of a product’s quality using Analytical Hierarchy Process (AHP) has been studied by Karnes, Sridharan, and Kanet (1995). Llusar, Zornoza, and Tena (2001) proposed a method for measuring perceived quality with taking into account aspects related to service and product quality.

**Product Sales: Review of Diffusion Models**

Manufacturer needs to predict or forecast the sales over time for new products. Many different types of models have been developed (for example, see Chambers, Mullick, & Smith, 1971; Tseng, 2008) but we focus on a class of models based on the diffusion theory.

The study of diffusion theory began more than half century ago. The theory has been used in many different contexts as it can be seen from Rogers (1995). See also, Kalish and Sen (1986), and Mahajan and Muller (1979) where they discuss this briefly but focus mainly on the models based on diffusion theory in the context of marketing. The earliest model, based on diffusion theory, in marketing was proposed by Fourt and Woodlock (1960), and Mansfield (1961). The underlying principles of these two models were integrated into a single model by Bass (1969) and this in turn triggered an avalanche of new models.

The objective of diffusion models in the context of marketing is to describe the adoption rate (level of spread) and sales growth of new products. The model is to depict the successive increase in the number of adopters and predict the continued development of the diffusion process already in progress (Mahajan & Muller, 1979). The Bass model has been successfully implemented in retail industry, industrial technology, agricultural, education and consumer durable products (Mahajan & Wind, 1986). Also the model has been implemented in the release of new products (Yalcinkaya, 2008) and remanufactured products (Debo, 2006).

There are several hundred papers dealing with refinements, extensions and applications of the Bass model. A major review and discussion of these models has been carried out by Mahajan and Muller (1979) and Mahajan and Wind (1986). A more recent work by Mahajan, Muller, and Bass (1990) presents a framework to link this vast literature. Reviews of diffusion models dealing with marketing mix (i.e., pricing and advertising) can be found in Kalish and Sen (1986) and Mesak (1996) and market-share dynamics and market-size dynamics (Nguyen & Shi, 2006)
Mahajan and Peterson (1985) categorize diffusion models into the following three categories:

1. Fundamental diffusion models;
2. Flexible diffusion models;
3. Extensions of diffusion models.

In the remainder of the section we discuss some of these models and conclude with their limitations.

**Fundamental Diffusion Models**

Also known as basic diffusion models, these models consist of three types of models: the external-influence, the internal-influence and the mixed-influence diffusion models. These models deal with the first purchase of new products.

**External-Influence Diffusion Model**

This model was proposed by Fourt and Woodlock (1960). Here the adoption of the product diffuses in a specified buying population is influenced mainly by the effect of mass media communication or advertising. The cumulative number of adopters, \( N(t) \) increases in an exponential manner so that the rate of adoption is given by the following differential equation:

\[
\frac{dN(t)}{dt} = a[L - N(t)]
\]

where \( \frac{dN(t)}{dt} \) is the adoption rate at time \( t \), \( N(t) \) the cumulative number of new adopters by time \( t \) and \( L \) is the total number of potential adopters. \( L \) can be a function of the sale price and product quality. \( a \) is called the “coefficient of innovation” and represents the effect of direct advertising (such as on television or in newspapers). Note that \( N(0) = 0 \) and \( N(t) \) is monotonically increasing and approaches \( L \) as \( t \to \infty \).

**Internal-Influence Diffusion Model**

This model was proposed by Mansfield (1961), and assumes that adoption is only influenced by word-of-mouth or interpersonal/communication and interaction from adopters and potential adopters. The model is given by the following differential equation:

\[
\frac{dN(t)}{dt} = bN(t)[L - N(t)]
\]

where \( b \) is the coefficient of imitation or represents the “word-of-mouth” effect. As before \( N(0) = 0 \) and \( N(t) \) is monotonically increasing and approaches \( L \) as \( t \to \infty \).

**Mixed-Influence Diffusion Model**

The mixed-influence model was initially proposed by Bass (1969) and takes into account the diffusion processes of the earlier two models. The model is given by the following differential equation:

\[
\frac{dN(t)}{dt} = [a + bN(t)][L - N(t)]
\]

Note that when \( b = 0 \) it reduces to the external-influence diffusion model and when \( a = 0 \) it reduces to the internal-influence diffusion model. Bass (1969) used this model successfully forecast the sales of consumer durables such as television sets, dishwashers, and clothes dryers. This model is often referred to as the Bass model.
The Bass model contains two parameters and the shape of \( dN(t)/dt \) versus \( t \) (or of \( N(t) \) versus \( t \) depends on the values assigned to the two parameters. Initially, one assumes some nominal values (based on earlier products and the intuitive judgment of the model builder) and as sales data is collected the estimates are revised. For more details, see Mahajan and Wind (1986).

**Flexible Diffusion Models**

Flexible models are models which contain additional parameters. As such, they allow more complex shapes for \( dN(t)/dt \) versus \( t \) (or of \( N(t) \) versus \( t \)). For most of these models, the diffusion is modelled using \( F(t) = N(t)/L \) which is the fraction of population who have adopted the product by time \( t \) relative to the total potential adopters.

Finally, the inflection point occurs at the time instant when the second derivative \( d^2N(t)/dt^2 \) changes sign. A flexible diffusion model is said to be symmetric if the model \( F(t) \) corresponding to the inflection point is 0.5. If not, it is called a non-symmetric model. Let \( t_i \) denote the inflection point.

**The Floyd Model**

This first flexible diffusion model was proposed by Floyd (1968) and is given by the differential following equation:

\[
\frac{dF(t)}{dt} = bF(t)(1 - F(t))^2 \tag{4}
\]

The model is a non-symmetric model since \( F(t_i) = 0.33 \).

**The Sharif-Kabir Model**

This model was first proposed by Sharif and Kabir (1976) in the context of modeling the diffusion of industrial innovation. The model combines the internal-influence diffusion concept with the Floyd model and is given by the following differential equation:

\[
\frac{dF(t)}{dt} = \frac{bF(t)(1 - F(t))^2}{1 - F(t)(1 - \sigma)} \tag{5}
\]

where \( \sigma \) is a constant with \( 0 \leq \sigma \leq 1 \). The model can be symmetric or non-symmetric since \( 0.33 \leq F(t_i) \leq 0.5 \).

**The Jeuland Model**

Jeuland (1981) proposed a model to overcome the assumption of Bass model that the potential adopters are homogeneous in their inclination in adopting the new product. He proposed the following model:

\[
\frac{dF(t)}{dt} = [a + bF(t)][1 - F(t)]^{1+\gamma} \tag{6}
\]

where \( \gamma \geq 0 \). When \( \gamma = 0 \), the model gets reduced to Bass model. The model can be symmetric and non-symmetric depending on the model parameters.

**Non-symmetric Responding Logistic (NSRL) Model**

This flexible model was proposed by Easingwood, Mahajan, and Muller (1981) which was to overcome the assumption that the impact of internal-influence between adopters and potential adopters remains constant over the entire diffusion process.
\[ \frac{dF(t)}{dt} = bF(t)^\delta [1 - F(t)] \]  
where \( \delta = (1 + \alpha) \) and known as the non-uniform influence factor. The model can be symmetric and non-symmetric model and with the points of inflection lie between 0 to 1.0, which means the maximum purchase may occur at any time during the diffusion.

**Non-Uniform Influence (NUI)**

This Non-Uniform Influence (NUI) model was proposed by Easingwood, Mahajan, and Muller (1983). He proposed the following model:

\[ \frac{dF(t)}{dt} = [a + bF(t)^\delta][1 - F(t)] \]  

The model has similar advantages to those of NSRL model and with the addition of external influence coefficient \( a \) in the model. The model reduces to NSRL model when \( a = 0 \).

**The Von Bertalanffy Model**

This model was developed by Von Bertalanffy (1957) and addresses the coefficient of internal influence as systematically changing over time as a function of penetration level. The model is given by the following differential equation:

\[ \frac{dF(t)}{dt} = b \frac{F(t)}{1 - \theta} [1 - F(t)]^{(1-\phi)} \]  
with \( \theta \geq 0 \) and the model reduces to Mansfield model when \( \theta = 2 \) and Gompertz curve as \( \phi \) approaches 1. This model gives both symmetrical and non-symmetrical curves with the range of the points of inflection throughout the adoption process, from 0 to 1.0.

However, unlike the NSRL and NUI models which cannot provide simple explicit solution, this model gives solution of \( F(t) \) as follows:

\[ F(t) = \left[1 - e^{-(c + bt)}\right]^{\frac{1}{\theta}} \]  
where \( c \) is a constant.

**The Nelder Model**

This model is proposed by Nelder (1962) and later addressed by McGowan (1986). The model is identical to Von Bertalanffy model when substituting \( \phi = \theta - 1 \) into the model. The model is given by the following differential equation:

\[ \frac{dF(t)}{dt} = bF(t)[1 - F(t)^\phi] \]  
with an explicit solution as follows:

\[ F(t) = \frac{1}{[1 + \phi e^{-(c + bt)}]^{\frac{1}{\phi}}} \]

**Flexible Logistic Growth (FLOG) Model**

This model was suggested by Bewley and Fiebig (1988). The model deals with dynamic internal influence in the diffusion process and given by:
\[
\frac{dF(t)}{dt} = q \left(1 + k_t t^k\right)^{\mu - k}
\]

(13)

where \(\mu\) and \(k\) are constants. This model offers a closed-form solution and at the same time, allows flexibility in the internal influence like NSRL and NUI models.

A more detailed study on the comparison of flexible diffusion models, see Mahajan and Peterson (1985) and Mahajan et al. (1990).

**Diffusion Models’ Extensions**

Although the flexible diffusion models have provided better fits of new product growth curves. Bass model only includes advertising and word-of-mouth parameters and has a fixed number of potential adopters. Therefore the efforts to extend and refine both the fundamental and flexible diffusion models are enormous as discussed below.

**Market Potential**

The Bass model also assumed that the number of potential adopters, \(L\) is constant. However, there are various causes of the change of the market potential, such as the change of price (Kalish, 1985), number of households (Mahajan & Peterson, 1978), population growth (Sharif & Ramanathan, 1982), product profitability (Lackman, 1978), growth in the number of retailers (Jone & Ritz, 1991), as well as income distribution, price, and product uncertainty (Horsky, 1990).

In this category, where the market potential, \(L\) is dynamic function of time, the rate of adoption is given by the following differential equation:

\[
\frac{dN(t)}{dt} = [a + bN(t)][L(t) - N(t)]
\]

(14)

and when \(L(t_0) = L_0\), \(N(t_0) = N_0\), the explicit solution (Mahajan & Peterson, 1978, 1982) is given as follows:

\[
N(t) = -\frac{a}{b} + \frac{b}{a + bN_0} e^{a(t-t_0)+bW(x)} + b \int_{t_0}^{t} e^{a(x-x_0)+bW(x)} dx
\]

(15)

where \(W(t) = \int_{t_0}^{t} L(x) dx\).

The function \(L(t)\) will vary and in many cases, has to be determined empirically in the parameter estimation. In this case, in evaluating the adoption of washing machines in the United States, Mahajan and Peterson (1978) relate \(L(t)\) to the number of the households which depends on the growth of population \(P(t)\) which is given by:

\[
L(t) = k_1 + k_2 P(t)
\]

(16)

This function is to provide a more accurate forecast on the adoption of innovations.

Kalish (1985), however, explored the occasion when the change in price would affect the number of potential adopters in the following way:

\[
L(t) = N_0 \int_{v=0}^{\infty} F_v(v) dv
\]

(17)
where $F_1(v)$ is the proportion (density) of individuals with valuation of product $v$.

These potential adopters are spread over uncertainty of product's experience attributes, that $v$ is represented by the ratio of the value of the uncertain product to the value under certainty. In the further model proposed by Kalish (1985) with the risk reduction over time, the potential adopters become:

$$L(t) = L_0 e^{-k_1 P(t)}$$

where $P(t)$ is the product price at time $t$ and $k_1$ and $k_2$ are constants.

Horsky (1990) further the development of potential adopter estimation by involving the income distribution and willingness of the potential adopters to purchase based on the market price of products and given by:

$$L = \frac{1}{\overline{w} + k - \frac{p}{\delta}}$$

where $\overline{w}$ is the average wage rate in the society, $\overline{p}$ is the average market price of the durable, $K$ represents the importance or necessity of the product and $\delta$ is the dispersion parameter on the distribution of individual wage.

Marketing Mix

This extension on marketing mix has been more widely studied than the other extensions due to the nature of the diffusion models themselves, which will include advertising, promotion and personal selling in both external and internal influences. As the presence of the price, advertising, promotion and personal selling, as well as distribution will affect the growth and diffusion of products directly. A review on price and advertising is conducted by Kalish and Sen (1986) but Mahajan and Wind (1986) argued that they lack empirical validation. Other extended models represent promotion or advertising (Horsky & Simon, 1983; Horsky & Mate, 1988; Simon & Sebastian, 1987), brand positioning (Krishnan & Bass, 1990), the impact of price (Horsky, 1990; Kalish, 1983a; 1985; Bass, et al., 1994; Mesak & Berg, 1995), distribution and integrated price, advertising and distribution (Mesak, 1996).

Promotion/Advertising. This is one of the most important components and has been integrated in the fundamental of diffusion model. However, the promotion and advertising is merely represented by a parameter for the external influence.

Horsky and Simon (1983) specifically evaluated the diffusion model in the advertising variables by looking into the relationship between the advertising expenditure and adoption of products. The model is given by the following differential equation:

$$\frac{dN(t)}{dt} = (a + \zeta \ln A(t) + bN(t)) \left[ L(t) - N(t) \right]$$

where $\zeta$ is the parameter to measure the effectiveness of the advertising and $A(t)$ is the level of producers' advertising expenditure at time $t$.

Based on their research they also derived an optimal advertising policy, which shows that the manufacturer should advertise heavily in the initial periods to inform innovators about the existence of their products. Later, when the word-of-mouth effect become more significant, the advertising may be gradually reduced.

Simon and Sebastian (1987) further conducted an empirical study on the effect of advertising (based on the
expenditure of advertising) using data from an advertising campaign of the German telephone company. This model is improved in providing more general case in the advertising expenditure by Dockner and Jorgensen (1988) and given as follows:

\[
\frac{dN(t)}{dt} = (a + \zeta f(A) + hN(t) + \tau f(A)N(t))] \left[ L(t) - N(t) \right]
\]

(21)

where \( f(A) \) is the advertising efficiency function at time \( t \) while \( \zeta \) and \( \tau \) are parameters to describe the effectiveness of the advertising on respective targets.

The proposed model fits the previous model by Horsky and Simon (1983) where \( f(A) \) is a logarithmic function and the value of \( \tau \) is zero. In the case of the model proposed by Thompson and Teng (1984), the advertising efficiency function, \( f(A) \) is linear or \( f'(A) \) equals 0.

**Price.** In the previous studies, research on the influenced of price have focused in the way price affects the decision making in adopting innovations. The main groups in the affects are based on the influence of price change to the size of potential market, to the rate of diffusion, and to the coefficients of internal and/or external influences.

From the first group, Mahajan and Muller (1979) divided the total market into three categories:

1. untapped market, which thinks that the innovation is at an unaffordable price, i.e., the price is higher than the reservation price at time \( t \);
2. potential market, which thinks that the innovation is at an acceptable price but hopes that the price will decline, i.e., the price is equal to the reservation price at time \( t \);
3. current market, which has already adopted the innovation at time \( t \).

This is further elaborated by Kalish (1983b, 1985) who demonstrated the demand as a function of price and cumulative sales, representing the word-of-mouth and saturation effects. He proposed a model in which customers buy if the price of the product is less than its value to the customers, \( v \). He proposed the function of the market potential at price \( P \) as follows:

\[
N(P) = N_0 \int_{v=\bar{P}}^{\bar{v}} F_v(v)dv
\]

(22)

where \( F_v(v) \) is the proportion (density) of individuals with valuation \( v \).

This second group of studies on how price effects the diffusion model was initiated by Robinson and Lakhani (1975) who introduced price into Bass (1969) model as follows:

\[
\frac{dN(t)}{dt} = [a + bN(t)] \left[ L - N(t) \right] e^{-\omega P(t)}
\]

(23)

where \( \omega \) is a price sensitivity parameter and \( P(t) \) represents the price at time \( t \).

Parker (1992) proposed the diffusion model to include the price elasticity dynamics in either of the following cases:

\[
\frac{dN(t)}{dt} = [aP(t)N(t)] + bN(t)] \left[ L - N(t) \right]
\]

(24)

\[
\frac{dN(t)}{dt} = [a + bP(t)N(t)] \left[ L - N(t) \right]
\]

(25)

where the price elasticity is defined as follow:
With these two groups of price effects, we should be able to combine them to obtain a more accurate estimation in the diffusion process.

**Distribution.** There are only few of papers dealing with the extension of diffusion models in distribution. The Bass (1969) model assumed that consumers are in control of their adoption process while the manufacturer functions only as provider of products. However, in the real life, adoption process is highly influenced by the distribution link in the market.

The difficulty in observing the distribution influence on the fundamental diffusion models is due to the lack of data in the retailers and/or distributors adoptions. Jones and Ritz (1991) proposed a study with the assumption that there are two similar adoption processes for any new product, one with the retailers adoption and another one with the consumers adoption processes. Internal and external information will flow from manufacturing to influence potential market of retailers in order to sell the product. Once the retailer has adopted the product for sale, they will influence potential market of consumers to purchase the product.

In their model, Jones and Ritz (1991) dealt mainly with the external-influence (advertising) diffusion model. The external-influence diffusion model applied here is given by:

\[
\frac{dN(t)}{dt} = a[pR(t) - N(t)] \tag{27}
\]

where \( R(t) \) is the cumulative number of retailers at time \( t \), and \( p \) is the number of adopters available through each retailer.

They proposed two mathematical models to describe the adoption process of distribution of new products:

First, simple mathematical model:

\[
R(t) = \overline{R} + (R_0 - \overline{R})e^{-rt} \tag{28}
\]

The explicit solution becomes:

\[
N(t) = p\overline{R}(q - e^{-at}) + \frac{pa(\overline{R} - R_0)}{a - r}(e^{-at} - e^{-rt}) \tag{29}
\]

where \( R_0 \) is the initial penetration among retailers, \( \overline{R} \) is the total maximum potential retailers, and \( r \) is the individual transfer rate for retailers.

Second, advance mathematical model:

\[
R(t) = \overline{R} + (R_0 - \overline{R})\left[ \frac{1 - e^{-rt}}{1 + k e^{-at}} \right] \tag{30}
\]

The explicit solution becomes:

\[
N(t) = pe^{-at} \int_0^t R(u)e^{au} \, du \tag{31}
\]

In the same case, this model was found to provide a good fit to combined retailer-consumer data. As Jones and Ritz have recognized, this field of research requires more data in the retailer adoptions of new products to enable interactive model above to be effective.
**Model Limitation**

From the above discussions on the review of diffusion models and the assumptions, there are many limitations to the models. However, further studies and research in diffusion models will grow and improve these models.

Since diffusion models have been primarily used to forecast and model product life cycle (Boswijk & Franscess, 2005), Mahajan and Wind (1986) compared the Bass model with other forecasting techniques, such as the Box-Jenkins approach. Although both of them can be used for short-term forecasting, diffusion model is theory-based with only a few data points required for parameter estimation while the Box-Jenkins is a data-driven model with more sophisticated parameter estimation.

For the derivations of diffusion models, Bass et al. (1994) provided some outline of principles:

1. The model should reduce to the Bass model under commonly observed conditions;
2. Diffusion curve with different set of decision variables would have similar shape to the Bass model, although curve would have been shifted;
3. Model should track irregular deviations of actual data from the smooth curve of the Bass model;
4. Model should maintain the essential carry through properties of the Bass model, such as an adoption today would increase adoption tomorrow through the influence of imitation (internal influence);
5. Model should yield a closed-form solution;
6. Model should be flexible and encompass a great variety of shapes.

Since the application of diffusion models is very extensive, the above principles should be used as guidelines for further extensions and refinements of the models.

Another important limitation of the models which has not been addressed is the uncertainty because new products lack of predictability, of structure, of information on the performance (i.e., success rate) of the product or technology. Consumers as potential adopters must often choose from among several available products to satisfy a particular need.

**A New Model for Sales and Quality**

In this section, we develop a new model for sales which incorporates the effects of claimed quality \( q_c \), actual quality \( q_a \) and perceived quality \( q_p \) on new product sale.

**Potential Buyer Population**

The potential population is comprised of two groups—“initiators” and “adopters”. Let \( L_1 \) and \( L_2 \) denote the number of potential initiators and adopters.

**Initiators.** The initiators buy the product based solely on the advertising and promotional effort of the manufacturer through the claimed quality. The total number of potential initiators, \( L_1 \), is a function of \( q_c \) and other marketing variables such as sale price \( p \), advertising effort etc. In the simple model we only consider quality and price as these two to capture the notion of value for money in the purchase decisions of initiators. As a result let the total potential initiators is given by \( L_1(q_c, p) \) with \( \frac{\partial L_1(q_c, p)}{\partial q_c} > 0 \) and \( \frac{\partial L_1(q_c, p)}{\partial p} > 0 \). \( L_1(q_c, p) \) is bounded (has an upper limit \( \bar{L}_1 \)) to reflect the fact that only a small fraction of the population are initiators.

** Adopters.** These are the potential buyers who buy the product only after the initiators have used the product
and communicate their perceived assessment of product quality. As such, the sales for adopters does not start till time $\hat{t}$ by which time the initiators who have purchased the product are able to assess the quality. $\hat{t}$ depends on the actual quality ($q_a$). As an example, if product quality refers to product reliability then $\hat{t}$ could depend on mean time to first failure or some other reliability measure. The total number of potential adopters, $L_2$, is a function of $q_p(\hat{t})$ and other marketing variables such as sale price ($p$), advertising effort etc. As before, in the simple model we only consider quality and price as these two to capture the notion of value for money in the purchase decisions of adopters. As a result let the total potential adopters is a function of $(q_c,q_a,q_p(\hat{t}),p)$. The form of this will be discussed later in the section.

**Perceived Quality**

Perceived quality, $q_p(t)$, changes with time. The initial perceived quality, $q_p(0)$, is influenced by several factors and these can include manufacturer’s reputation as seen through the quality of earlier products. As the initiators use the product, they learn more about its actual quality. As a result, the perceived quality at time $t$, $q_p(t)$ is a function of the actual quality and a learning parameter ($\lambda$). We assume that $q_p(0) < q_a$ so that the initiators, although willing to try the new product, are conservative in their initial perceived quality. A simple way of modeling the learning effect is through a first order differential equation given below:

$$q_p(t) = q_p(0) + \left( q_a - q_p(0) \right) [1 - e^{-\lambda t}]$$

Note that as time progresses $q_p(t) \rightarrow q_a$ so that the true quality is revealed. $\lambda$ ($> 0$) is the learning parameter. Smaller the value of $\lambda$, longer is the time that customers need to get a good assessment of the actual quality. Note that $\hat{t}$ and $\lambda$ are inversely related to each other and we assume $\lambda = 1/\hat{t}$.

**Effect of Actual and Claimed Quality on Potential Adopter Population**

The claimed quality can be different from the actual quality for reasons discussed earlier in the section. This has a significant impact on the potential adopter population. The perceived quality at $\hat{t}$ provides information whether $q_c > q_a$, $q_c = q_a$ or $q_c < q_a$. If $q_c > q_a$, then it should lead to a reduction in $L_2$ due to the negative effect since the manufacturer’s claimed quality is not true. However, when if $q_c < q_a$, it should lead to an increase in $L_2$ due to the positive effect that the actual quality is better than the manufacturer’s claimed quality.

We model this as follows through a variable $z$ defined as follows:

$$z = \left[ \frac{q_p(\hat{t}) - q_p(0)}{q_c - q_p(0)} - \frac{e - 1}{e} \right]$$

(33)

From equation (32) we have:

$$\frac{q_p(\hat{t}) - q_p(0)}{q_a - q_p(0)} = \frac{e - 1}{e}$$

(34)

Using equation (34) in equation (33) yields:

$$z = \left[ \frac{q_p(\hat{t}) - q_p(0)}{q_c - q_p(0)} \right] \left[ q_a - q_c \right] \left[ q_c - q_p(0) \right]$$

(35)

As a result, we have the following:

1. $z = 0$ when $q_c = q_a$;
2. $z > 0$ when $q_c < q_a$;
(3) \( z < 0 \) when \( q_c > q_a \).

We model \( L_2 \) as a function of \( z \) (an indicator of manufacturer’s claimed quality relative to the actual quality) and the sale price \( p \) so that is given by \( L_2(z, p) \). \( L_2(0, p) \) represents the potential adopter population when the manufacturer reveals the true quality so that the claimed quality is the same as the actual quality. \( L_2(z, p) \) decreases as \( z \) gets more negative (capturing the negative effect resulting from claiming the quality better than the actual) and increases as \( z \) gets more positive as shown in Figure 1.

Note that there is an upper limit, \( L_{2,\text{max}} \), to \( L_2(z, p) \) as \( z \) gets more positive implying that the manufacturer can increase his potential sales only by a finite amount by using the strategy \( q_c < q_a \). If \( q_c >> q_a \) then the potential adopter population can become zero.

![Figure 1. Effect of z on the potential adopter population.](image)

**Modelling Sales Over Time**

**Sales to initiators.** The sales to initiators start from the time instant at which the product is launched on to the market. Let \( t = 0 \) represent the time of the launch and let \( N_1(t) \) is the number of sales to initiators by time \( t \geq 0 \). We model this using the Fourn and Woodlock model so that the sales rate at time \( t \) is given by the following model:

\[
\frac{dN_1(t)}{dt} = a_1[L_1(q_c, p) - N_1(t)]
\]

with \( N_1(0) = 0 \). The parameter \( a_1 \) is a function of advertising effort but in the simplest model it can be treated as a constant. \( L_1(q_c, p) \) is the total initiator population and its structure has been discussed earlier.

**Sales to adopters.** The adopters do not buy till time \( \bar{t} \). Let \( N_2(t) \) be the number of adopters who have bought the product by time \( t \geq \bar{t} \). The sales rate is modeled by the Bass diffusion model so that it is given by:

\[
\frac{dN_2(t)}{dt} = [a_2 + b_1N_1(t) + b_2N_2(t)][L_2(z, p) - N_2(t)]
\]

with \( N_2(\bar{t}) = 0 \). The parameters \( b_1 \) \( b_2 \) represent the word-of-mouth effect resulting from the initiators
[adopters] who have bought the product by time \( t \). In the simplest model these can be treated as constants. In a more complicated model, they can be functions of variables such as \( z \) and others.

**Total sales over time.** The total sales over time is given by:

\[
N(t) = \begin{cases} 
N_c(t) & t < T \\
N_c(t) + N_z(t) & t \geq T
\end{cases}
\]  

(38)

**Model analysis.** It is not possible to derive analytical expressions for \( N(t) \). One would need to use computational scheme to obtain a plot of it for a specified set of parameter values.

**Conclusion**

In this paper we studied the effect of the three product quality notions that are associated with marketing of a new product—claimed quality \( (q_c) \), actual quality \( (q_a) \) and, perceived quality \( (q_p) \), on product sales. Our focus with regards to these three notions is in the context of the product reliability. As reliability is performance over time, then perceived quality \( (q_p) \) changes with time.

There are two groups of potential buyer population, initiators and adopters. The first group is the one who buy the product based on the advertising and promotional effort of the manufacturer through the claimed quality. The second group is the potential buyers who buy the product only after the initiators have used the product and communicate their perceived assessment of product quality.

In our simple model the total number of potential initiators, \( L_1 \), is a function of \( q_c \) and sale price \( (p) \). While the total number of potential adopters \( L_2 \), is a function of \( q_p(t) \), \( q_c \), and \( q_a \). Perceived quality at time \( t \), \( q_p(t) \) is a function of \( q_a \) and customer’s learning. The \( q_c \) can be different from the \( q_a \), it could be either \( q_c = q_a \), \( q_c > q_a \) or \( q_c < q_a \). If \( q_c > q_a \), then it should lead to a reduction in \( L_2 \) due to the negative effect since the manufacturer’s claimed quality is not true. However, when if \( q_c < q_a \), it should lead to an increase in \( L_2 \) due to the positive effect that the actual quality is better than the manufacturer’s claimed quality. Therefore, the study shows that to improve the total number of sales, in the context of product quality improvement, manufacturers need to increase the actual quality \( (q_a) \).

**References**


Geisfeld, L. V. (1988). *The price-quality relationship: The evidence we have, the evidence we need*. In E. S. Maynes, & A. R. Committee (Eds.), *The frontier of research in the consumer interest* (pp. 143-172). Columbia, American Council on Consumer Interests.


Corporate Governance and Audit

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According to statistics during 2007, public expenditure in Albania exceeded 360,000 million Albanian Lek. How this money is spent and the quality of services it provides is critically important to us all as users of services and as taxpayers. Because of that we all need governance of our public services to be of a high standard. The main aim of this paper is to show how good governance leads to good management, good performance, good stewardship of public money, good public engagement and, ultimately, good outcomes. Under such situation, corporate governance is being examined more closely than ever before. Media coverage of corporate crises increasingly focuses on the highest management; what are managers doing and do the relationships they have with the company weaken the effectiveness of their oversight? In this paper the authors have utilised standard research methods of questionaries collecting data from to 120 internal audit units in different organisations in Albania. Findings of the study indicates that: There is clear evidence that many managers have difficulties in fulfilling their responsibilities. To help them with their tasks, there is an urgent and ongoing need to be clear about the purpose of governance and the role of the governor, expand the supply of governors, improve induction programs and encourage good relationships between governors and the executive teams who are accountable to them. Internal auditors, by having an objective view from inside the organization, can play a vital role in the governance process by keeping management, the board, and external auditors aware of risk and control issues and by assessing the effectiveness of risk management. Effective corporate governance requires a system of checks and balances, assuring that the right questions get asked of the right people. An effective system of corporate governance will establish a link among management, the board, the external auditor, and the internal auditor in a way that creates a structure (with incentives and disincentives) that enables people with overlapping but not entirely congruent interests to have a sufficient level of confidence in each other and the organization as a whole. As result of a changing governance environment, the role of auditors is increased. They must continue to monitor such changes and evaluate how they impact the role of internal auditors in the future. Internal auditors also should be encouraged to seek different tools.
Corporate Governance and the Role of Auditing

Corporate Governance

Corporate governance is the system by which companies are directed and controlled. Boards of directors are responsible for the governance of their companies. The shareholders’ role in governance is to appoint the directors and the auditors and to satisfy themselves that an appropriate governance structure is in place. The responsibilities of the board include setting the company’s strategic aims, providing the leadership to put them into effect, supervising the management of the business, and reporting to the shareholders on their stewardship. The board’s actions are subject to laws, regulations, and the shareholders in general meeting (United Kingdom)\(^1\)

**Internal auditing.** Internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization’s operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.\(^2\)

**Governing body.** The body with overall responsibility for directing and controlling an organization.

Governing has become a hot topic as evidence mounts on the critical role it plays in determining societal well-being. Not surprisingly, governance as a term has progressed from obscurity to widespread usage, particularly in the last decade. “Good governance is perhaps the single most important factor in eradicating poverty and promoting development”—stated ex Secretary General of UN Kofi Annan.\(^3\)

The topic of organizational governance (often referred to a corporate governance) is important for many key stakeholders in the political and business worlds. Typically, auditors operate in two capacities in this area. First, auditors provide independent, objective assessments on the appropriateness of the organization’s governance structure and the operating effectiveness of specific governance activities. Second, they act as catalysts for change, advising or advocating improvements to enhance the organization’s governance structure and practices. By providing assurance on the risk management, control, and governance processes within an organization, internal auditing is one of the key cornerstones of effective organizational governance. This paper will introduce the concept of the importance corporate governance and auditing in its assurance and advisory role with regard to specific aspects of organizational governance. Corporate governance is a complex topic that overlaps with other audit subjects. Various companies, governments, research organizations, regulatory bodies, and other organizations have addressed aspects of the broad topic of corporate governance through various means.

The concepts outlined in this paper are intended to point to the role of audit (without differentiating between external and internal), methods by which those roles can be fulfilled and the essential ingredients necessary to

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2 IIA Standards.
support an effective audit function.

What Is Corporate Governance?

Exactly what is governance? More specifically, what is corporate governance, and how can an internal auditing activity be used to improve corporate governance?

Definitions can be challenging, subtle, complex and powerful. Let begin by the definition of what governance is not: Governance is not synonymous with government. This confusion of terms can have unfortunate consequences. A public policy issue where the heart of the matter is a problem of “governance” becomes defined implicitly as a problem of “Government”, with the corollary that the onus for “fixing” it necessarily rests with government.

Since governance is not about government, what is it about?

We frequently use the term corporate governance and many of us understand that one of the main responsibilities of boards is to ensure that the governance processes are effective; however, the term is rarely defined.

Partly it is about how governments and other organizations interact, how they relate to citizens, and how decisions are taken in a complex world. Thus governance is a process whereby societies or organizations make their important decisions, determine whom they involve in the process and how they render account. Since the process is hard to observe students of governance tend to focus our attention on the governance system or framework upon which the processes rest, that is the agreements, procedures, conventions or policies that define who gets power, how decisions are taken and how accountability is rendered.

Corporate governance means the process and structure used to direct and manage the business and affairs of the corporation with the objective of enhancing shareholder value… The process and structure define the division of power and establish mechanisms for achieving accountability.

There is no single, comprehensive, universally accepted definition of organizational governance. However, certain common elements are present in most definitions of organizational governance that describe it as the policies, processes, and structures used by organizations to direct and control its activities, achieve its objectives, and protect the interests of its diverse stakeholder groups in a manner consistent with appropriate ethical standards.

An often-used definition of organizational governance comes from the Paris-based forum of democratic markets, the Organization for Economic Co-operation and Development (OECD, 2004):

Corporate governance involves a set of relationships between a company’s management, its board, its shareholders and other stakeholder. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined.

This structure should be a system of checks and balances designed to permit the appropriate scope of authority (power) and limit the abuse of that authority (accountability). Effective corporate governance is based upon strong working relationships among four groups: management, the board, external auditors, and internal auditors. Internal auditing is integral to good corporate governance. The internal audit activity’s unique fulltime focus on risks and controls is vital to a sound governance process. Take, for example, WorldCom, where the internal auditor, who called the matter to the attention of the audit committee chairman after the then-chief
Financial officer resisted taking corrective action, discovered $3.8 billion of dubious accounting. The need for internal auditing as an element of corporate governance has never been more clearly demonstrated than by recent events.

Financial reporting is not the only important responsibility of boards. Other areas relating to safeguarding of corporate assets, operational efficiency and economy, and compliance with rules, regulations, and policies are also extremely important. While effective internal controls are management’s responsibility, it requires the participation of everyone in an organization, the board, management, external auditors, and internal auditors to be effective. Given the current environment it is surprising that management would choose to operate without internal auditing. All organizations should have a fully resourced, independent internal auditing activity that is professionally staffed and chartered to evaluate the risk management, control, and governance processes.

Role of Auditing in Governance

Auditing typically operates in two capacities. First, auditors provide dependent, objective assessments on the appropriateness of the organization’s governance structure and the operating effectiveness of specific governance activities. Second, they act as catalysts for change, advising or advocating improvements to enhance the organization’s governance structure and practices.

In an organization, management and the board establish and monitor companywide systems for effective governance. Internal auditors can support and improve these actions. In addition, although auditors should remain independent, they may participate in the establishment of governance processes. By providing assurance on the organization’s risk management, control, and governance processes, auditing becomes a key cornerstone for effective organizational governance.

Which capacity is most relevant for auditing is highly influenced by the maturity level of the organization’s governance processes and structure, and the organizational role and qualification of auditors. In an organization with a less mature governance structure and process, the internal audit function may be focused more on advice regarding optimal structure and practices, as well as comparing the current governance structure and practices against regulations and other compliance requirements. In organizations with more structured and mature governance practices, auditors and specifically internal auditors could focus more on:

- Evaluating whether companywide governance components work together as expected;
- Analyzing the level of reporting transparency among parts of the governance structure;
- Comparing governance best practices;
- Identifying compliance with recognized and applicable governance codes.

Internal auditing will often be most effective in dealing with governance activities by doing more than performing discrete audits of specific processes. An internal auditor’s unique position in an organization allows him or her to observe governance structure and design, while not having direct responsibility for them. Often, internal auditors can assist organizations better by advising the board of directors and executive management on needed improvements and changes in structure and design, not just whether established processes are operating. This is different, however, from providing objective assessment of specific governance activities through discrete audits. Ultimately, internal audit assessments regarding governance activities are likely to be based on information obtained from numerous audit assignments over a period of time. Optimally, internal auditors should
aim to provide assessments on the effectiveness of key organizational governance elements, either separately from, or combined with, assessments on the effectiveness of risk management and key controls. These governance activity assessments should take into account: specific governance assignments, the results of specific board-level governance review work, governance issues arising out of myriad audit assignments performed during a specific period of time, other information available to or known by the internal auditor.

Internal auditors may operate most effectively for the board as an agent of the board who provide independent, objective information and evaluation. Internal auditors can inform the board on matters such as culture, tone, ethics, transparency, and internal interactions. In addition, contemporary internal auditing is based on the organization’s framework for identifying, responding to, and managing the different strategic, operational, financial, and compliance risks facing the organization.

**Specific Activities of Organizational Governance**

Governance activities exist to help the organization meet its objectives in being well-run and accountable to its stakeholders. Just like in any other activity, management and the board will want to articulate their objectives in each area and put in place programs to achieve those objectives. The following sections provide suggestions of the objectives and programs related to different governance activities. Recognizing the significant overlap between governance activities and other organizational initiatives, this document focuses on the tasks that are not typically associated with other initiatives.

There are other common elements of effective governance in organizations.

The IIA’s definition of internal auditing refers to “... bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes”. This definition incorporates the broad advisory and assurance role that internal auditing can have regarding an organization’s governance processes.

The internal audit activity should assess and make appropriate recommendations for improving the governance process in its accomplishment of the following objectives:

- Promoting appropriate ethics and values within the organization;
- Ensuring effective organizational performance management and accountability;
- Effectively communicating risk and control information to appropriate areas of the organization;
- Effectively coordinating the activities of and communicating information among the board, external and internal auditors, and management.

Internal auditors can perform specific tasks that assist organizations in regard to governance structure and processes, and should consider assisting management and the board by assessing the following areas:

**Board structure, objectives, and dynamics.** The board and its committees should be appropriately structured and chartered to operate effectively. There should be healthy board and management interaction; adequate board meeting time devoted to open discussion; a full range of issues considered at board meetings; appropriate board composition (e.g., number of board members, absence of conflicts of interest, capabilities of board members); sufficient frequency of meetings; and meetings in private executive sessions. A board should devote sufficient attention to risks, the organization’s risk appetite, and risk management practices. It is not commonplace for internal auditors to evaluate these topics. However, organizations and their boards should
consider whether internal audit involvement would be beneficial and accepted.

**Board committee functions.** Internal auditors can review board meeting schedules, establishment of agendas, dissemination of advance information, and adherence to the committee charters. Internal auditors also can evaluate whether the board committees maintain a calendar of responsibilities and regularly monitor performance to published responsibilities.

**The board policy manual.** Internal auditors could assess the process of developing and maintaining the board governance policy or policy manual (or assist in these activities); evaluate compliance procedures; and make recommendations for improvement.

**Processes for maintaining awareness of governance requirements.** Governance obligations vary from country to country and industry to industry. Internal auditors could develop networks and processes to maintain awareness of governance requirements and evaluate and monitor the organization’s processes for maintaining external awareness. Internal auditors also could interface with roundtables, professional trade associations, internal and external subject matter experts, and internal compliance or risk assessment committees. Auditors can assess whether the organization is in compliance with governance codes and specific criteria found in a governance code; if the entity is not in compliance, auditors can evaluate the impact and cause of the noncompliance. Internal auditors can assess the adequacy of the disclosures relating to the organization’s governance system in its annual report.

**Board education and training.** Board members need ongoing education on the significant issues facing the organization, changing technology, and emerging risk areas. New board members frequently need education to prepare them properly for their new responsibilities. Internal auditors can assist the board in these efforts by providing development of training content, delivery of training, and administrative support. Alternatively, internal auditors could assess the adequacy of the education provided to board members compared to best practices from other organizations.

**Proper assignment of accountabilities and performance management.** Organizational governance responsibilities are assigned to different parties within the company, and each party is accountable for fulfilling its responsibilities. If critical responsibilities are not assigned or assigned to the wrong party, governance suffers. Internal auditors can review whether all the key responsibilities related to organizational governance have been assigned, assigned to the proper parties, and whether the performance management system and disciplinary action processes are effective.

**Completeness of ethics policies and codes of conduct.** Most organizations have ethics policies and codes of conduct that govern acceptable employees’ behavior and represent a key part of the organization’s governance structure. Internal auditors can assess whether their organization’s policies and codes include appropriate subjects and guidance. A number of codes of conduct are available for comparison. Most contain sections addressing conflicts of interest; confidentiality; fair dealing; proper use of organization assets; compliance with laws, rules, and regulations; and reporting of illegal or unethical behavior.

**Communication and acceptance of ethics policies and codes of conduct.** To be effective, ethics policies and codes of conduct need to be communicated clearly to, and understood and accepted by, employees. Internal auditors can assess whether this communication is occurring and whether the information is understood by employees. Internal auditors can use surveys, interviews, and other means to determine the effectiveness of this
communication process. Internal auditors can assess the effectiveness of the processes established to enable employees to communicate concerns they have regarding an inappropriate behavior to management or the board (e.g., a whistle-blower process). Internal auditors can also facilitate discussion of ethics topics and processes to resolve ethical issues.

**Ethics investigations and related employee discipline.** Violations of ethics policies or codes of conduct are investigated usually; if wrongdoing is substantiated, the involved employees are disciplined. Internal auditors can conduct these investigations or, alternatively, assess the adequacy of investigations performed by others. As part of this assessment role, internal auditors should consider whether the investigations were impartial, performed by competent personnel, supported adequately by pertinent facts, and concluded with appropriate actions by management personnel.

**Management evaluation and compensation.** Compensation of management is coming under increased scrutiny. The concern is over not just reported cash compensation, but also indirect forms: stock compensation programs, personal use of the organization’s resources, and reimbursement of excessive expenses. Internal auditors could focus on the accuracy and completeness of information provided to the board, the judgment exercised by management when classifying indirect executive benefits, and adequacy of the board’s attention to this topic.

**Recruitment processes for senior management and board members.** Internal auditors can review recruitment standards and policies and evaluate whether practices meet organizational objectives. Although internal auditors should not influence individual decisions, patterns or extended deviations can be reported to the board.

**Employee training.** Effective organizational governance will normally require employees to be trained on topics such as internal controls, ethics policies, disclosure and compliance requirements, and board policies. Internal auditors can assess the adequacy of this training, and its frequency, effectiveness, and impact.

**Governance self-assessments.** The board should perform or provide oversight for assessments of their performance, appropriateness of their charter, adequacy of their calendar, and other governance structures and activities. Internal auditors could assist the board in these responsibilities by facilitating data collection and reporting results to the board. Alternatively, internal auditors can assess the adequacy of these efforts, and their compliance with applicable regulations for reporting back to the board.

**Comparison with governance codes or best practices.** It is becoming more common for governments or stock exchanges to establish governance codes. These codes can include a wide range of topics such as financial reporting practices, organizational structure, and social responsibility. They range from being required practices of the organization to suggested best practices. Internal auditors can provide assurance that their organization is in compliance with these codes.

**External communications.** External communications include financial reports, press releases, and communication during crises. Internal auditors can assess whether the organization’s stated strategies and objectives for reporting to stakeholders are being accomplished. The focus would include not only accuracy, but also full transparency, truthfulness, and timeliness.

**Oversight of external auditors.** Internal auditors can assist the board in their management of external auditors by evaluating external auditor performance, their relationship with management and ways of handling
disputes, the extent of additional work outside the normal audit engagement, and fees. Involvement in this area is not likely to take the form of an audit; rather providing advice and support.

There is no one-size-fits-all method to optimizing organizational governance. Each organization must tailor an individual solution that considers industry, maturity, business strategy, capabilities, culture, and competitive position.

**Corporate Governance Principles: Who are the Players and Who Has the Influence?**

Good governance is a journey that begins with a broad, organizational perspective. Making steady progress requires committed senior leadership, integrated planning, coordinated execution, and constant monitoring. Monitoring is one area where internal audit can add significant value, and still be true to its mission, objectives, and standards. Internal audit’s responsibilities are growing due to increased regulatory scrutiny as well as directives from organizational executives to strengthen controls and improve risk management. Increasingly, business leaders expect internal audit to play a more strategic—rather than merely tactical—role in the governance process. At a high level, corporate governance can be thought to have seven interrelated components: Board of Directors and Committees, Disclosure and Transparency, Business Practices and Ethics, Legal and Regulatory, Risk and Performance Management, Monitoring, and Communication.

**Commonly Identified Organizational Governance Principles**

Companies should establish and disclose the respective roles and responsibilities of board and management. Organizational governance is a broad concept.

Fundamental to any corporate governance structure is establishing the roles of management and the board:

**Principle 1.** Lay solid foundations for management and oversight. Companies should establish and disclose the respective roles and responsibilities of board and management.

- **Recommendation 1.1.** Companies should establish the functions reserved to the board and those delegated to senior executives and disclose those functions.
- **Recommendation 1.2.** Companies should disclose the process for evaluating the performance of senior executives.
- **Recommendation 1.3.** Companies should provide the information indicated in the Guide to reporting on Principle 1.

The board and management should have a balance of skills, experience and independence appropriate to the nature and extent of company operation:

**Principle 2.** Structure the board to add value. Companies should have a board of an effective composition, size and commitment to adequately discharge its responsibilities and duties.

- **Recommendation 2.1.** A majority of the board should be independent directors.
- **Recommendation 2.2.** The chair should be an independent director.
- **Recommendation 2.3.** The roles of chair and chief executive officer should not be exercised by the same individual.
- **Recommendation 2.4.** The board should establish a nomination committee.
- **Recommendation 2.5.** Companies should disclose the process for evaluating the performance of the board, its committees and individual directors.
Recommendation 2.6. Companies should provide the information indicated in the Guide to reporting on Principle 2.

There is a basic need for integrity among those who can influence a company’s strategy and financial performance, together with responsible and ethical decision-making which takes into account not only legal obligations but also the interests of stakeholders:

**Principle 3.** Promoting ethical and responsible decision-making companies should actively promote ethical and responsible decision-making.

Recommendation 3.1. Companies should establish a code of conduct and disclose the code or a summary of the code as to:

- The practices necessary to maintain confidence in the company’s integrity;
- The practices necessary to take into account their legal obligations and the reasonable expectations of their stakeholders;
- The responsibility and accountability of individuals for reporting and investigating reports of unethical practices.

Recommendation 3.2. Companies should establish a policy concerning trading in company securities by directors, senior executives and employees, and disclose the policy or a summary of that policy.

Recommendation 3.3. Companies should provide the information indicated in the Guide to reporting on Principle 3.

Meeting the information needs of a modern investment community is also paramount in terms of accountability and attracting capital. Presenting a company’s financial and nonfinancial position requires processes that safeguard, both internally and externally, the integrity of company reporting:

**Principle 4.** Safeguard integrity in financial reporting. Companies should have a structure to independently verify and safeguard the integrity of their financial reporting.

Recommendation 4.1. The board should establish an audit committee.

Recommendation 4.2. The audit committee should be structured so that it:

- Consists only of non-executive directors;
- Consists of a majority of independent directors;
- Is chaired by an independent chair, who is not chair of the board;
- Has at least three members.

Recommendation 4.3. The audit committee should have a formal charter.

Recommendation 4.4. Companies should provide the information indicated in the Guide to reporting on Principle 4.

And provide a timely and balanced picture of all material matters:

**Principle 5.** Make timely and balanced disclosure. Companies should promote timely and balanced disclosure of all material matters concerning the company.

Recommendation 5.1. Companies should establish written policies designed to ensure compliance disclosure requirements and to ensure accountability at a senior executive level for that compliance and disclose those policies or a summary of those policies.

Recommendation 5.2. Companies should provide the information indicated in the Guide to reporting on
Principle 5.

The rights of company owners, that is shareholders, need to be clearly recognized and upheld.

**Principle 6.** Respect the rights of shareholders. Companies should respect the rights of shareholders and facilitate the effective exercise of those rights.

Recommendation 6.1. Companies should design a communications policy for promoting effective communication with shareholders and encouraging their participation at general meetings and disclose their policy or a summary of that policy.

Recommendation 6.2. Companies should provide the information indicated in the Guide to reporting on Principle 6.

Every business decision has an element of uncertainty and carries a risk that can be managed through effective oversight and internal control.

**Principle 7.** Recognize and manage risk. Companies should establish a sound system of risk oversight and management and internal control.

Recommendation 7.1. Companies should establish policies for the oversight and management of material business risks and disclose a summary of those policies.

Recommendation 7.2. The board should require management to design and implement the risk management and internal control system to manage the company’s material business risks and report to it on whether those risks are being managed effectively. The board should disclose that management has reported to it as to the effectiveness of the company’s management of its material business risks.

Recommendation 7.3. The board should disclose whether it has received assurance from the chief executive officer (or equivalent) and the chief financial officer (or equivalent) that the declaration provided in accordance is founded on a sound system of risk management and internal control and that the system is operating effectively in all material respects in relation to financial reporting risks.

Recommendation 7.4. Companies should provide the information indicated in the Guide to reporting on Principle 7.

Principle rewards are also needed to attract the skills required to achieve the performance expected by shareholders.

**Principle 8.** Remunerate fairly and responsibly. Companies should ensure that the level and composition of remuneration is sufficient and reasonable and that its relationship to performance is clear.

Recommendation 8.1. The board should establish a remuneration committee.

Recommendation 8.2. Companies should clearly distinguish the structure of non-executive directors’ remuneration from that of executive directors and senior executives.

Recommendation 8.3. Companies should provide the information indicated in the Guide to reporting on Principle 8.

Each principle is of equal importance.

**Participants and Roles**

There are, broadly speaking, five parties that participate in an organization’s governance activities and each has specific responsibilities.
Role and Responsibilities.

Board plays the following role:

• The focal point for all governance activities;
• Ultimately accountable and responsible for the performance and affairs of the organization, effective risk management practices, and establishing a risk appetite level;
• Oversees all organizational activities (e.g., risk management, strategic direction setting, compliance with laws, good business, and ethical practices), but does not have direct management of any of them;
• Establishes the “tone at the top” and implements best governance practices for organizational performance.

Senior management which is under the oversight of the board and:

• Sets strategic direction and establishes an entity’s value system;
• Provides assurance that risks are managed as part of a risk management process, operations are monitored, results are measured, and corrective actions are implemented in a timely fashion.

Operating management that:

• Deploys strategy, enforces internal control, and provides direct supervision for areas under its control;
• Accountable to executive management, and ultimately the board, for implementing and monitoring the risk management process and establishing effective and appropriate internal control systems.

Internal auditing which:

• Performs assessments to provide assurance that governance structures and processes are properly designed and operating effectively;
• Provides advice on potential improvements to governance structures and processes.

External auditing provides independent assurance on the financial statement preparation and reporting activities, in accordance with applicable standards, regulations and accounting principles.

The roles of the parties are separate, and the responsibilities of each role are different. Effective governance is diminished if role boundaries are not respected. Good governance results from effective synergy generated among the activities of these differing roles, while maintaining their separation.

Organizational Initiatives Impacting Governance

A number of different initiatives within organizations overlap with the area of governance. Additionally, there are organizational initiatives that primarily may be directed at operational or compliance concerns, but which nonetheless impact governance activities. The organization’s core values and ethics are the foundation for all activities, such as:

Compliance with legal or regulatory requirements. Various requirements are imposed by stock exchanges, industry regulators (e.g., banks, insurance companies), legislative bodies (e.g., the U.S. Congress with the U.S. Sarbanes-Oxley Act of 2002), etc. In these cases, organizations typically have responded by implementing certain structures and processes to ensure compliance. Often, responses to these requirements define the key elements of the governance structure (e.g., composition of the board, role of external auditors).

Internal control assessment and reporting. Internal controls help organizations ensure that management’s strategies and directions are carried out, often to mitigate risk. Many organizations have robust activities to document, assess, and report on the adequacy of these internal controls using established control frameworks
such as the Committee of Sponsoring Organizations of the Treadway Commission (COSO), Criteria of Control (CoCo), etc. Elements of these frameworks clearly overlap with elements of governance, including the control environment, monitoring, and detailed control activities.

**Enterprise risk management.** Organizations face a variety of risks, and many organizations are evaluating the adequacy of their risk management processes. COSO issued a framework for understanding and evaluating an organization’s ERM structures and activities. Adequate understanding and assessment of risk and the effective implementation and functioning of appropriate risk mitigation strategies are key elements of governance processes.

**Quality initiatives.** Initiatives for improving quality processes in an organization include International Standards Organization (ISO) certification, European Foundation for Quality Management European award, Six Sigma, and the Baldrige award model. The various means these initiatives use to measure the effectiveness of an organization overlap with many structural elements of governance.

**Transparency and disclosure.** Organizations commonly report financial results and information to key stakeholders and increasingly are reporting more than financial results. Reporting on social responsibility, efforts to preserve the environment and other social issues are becoming common. Communicating an organization’s values regarding stewardship, management practices, employee relations, and other topics often shows an organization’s culture and tone. The transparency of financial and non-financial disclosures to stakeholders is a key element of governance.

**Governance structures and processes.** Although many of the initiatives listed above overlap with the general concept of organizational governance, some aspects are unique to organizational governance. These often relate to management structure, organization oversight, actions taken to set the tone of the organization (e.g., disciplinary actions taken by the board or management against those who violate organizational values), and specific processes related to the activities of executive management and the board.

There are undoubtedly other initiatives and activities that support governance. Based on the organization, the methods of pursuing those initiatives, and interaction of initiatives within an organization, there is often significant overlap among the activities of the various initiatives. There is nothing inappropriate with this overlap, but internal auditors need to understand these overlapping objectives and activities, clarify how they impact organizational governance activities, and understand the assessment or consulting work they perform in these other areas before fully executing their organizational governance activities.

**Conclusions and Recommendations**

**Conclusions**

Management is counting on internal auditors more than ever to improve governance processes. Internal audit profession has many opportunities to become a strategic player in corporate governance in response to increased government regulations and management directives to strengthen controls and improve risk management. Internal auditing standards calls on auditors to evaluate and offer recommendations to improve governance processes and affirms their importance in risk management activities.

However, internal audit will always have the challenge of remaining independent and objective, yet being
part of the organization. In this age of intense scrutiny over business motives and ethics, the last thing a company needs is a passive internal audit function. But no organization wants an internal auditor group whose only response to risk is to eliminate it entirely. There are risks in any business venture, and closing off all risks means no rewards. Internal auditing requires business knowledge, insight, good judgment and effective communications. Organizational governance is a complex topic that may take internal auditors into areas not previously explored. Some key considerations to keep in mind are:

- Management may not have formally considered governance matters as part of a larger organizational governance strategy. Before embarking on exploring the proper role of internal auditors related to governance, internal auditors may need to work with management to ensure there is a proper understanding and definition of the governance processes and structure in the organization;
- A key role of the board and management is the establishment of the organization’s strategy. Internal auditors typically do not challenge these key strategic elements or whether the primary organization’s strategy is appropriate for the key organization stakeholders. However, this does not mean the internal auditor must remain silent on all items related to strategy. It could be beneficial to the organization for internal auditors to make observations on major issues related to strategy implementation, key risks not adequately addressed by the strategy, conflicts among various strategy elements, or the impact of the strategy on the organization or its stakeholders;
- Internal auditors must be careful to consider not only the results of individual audit tasks in assessing organizational governance, but also the overall structure of governance within the organization. At times, each part may appear appropriate, but could present serious issues when combined. Internal auditors should be aware of the limitations of performing specific governance review procedures without also having considered the broader (e.g., board) governance processes. Many elements of governance are driven from the top, and internal auditors should consider a top down review of governance to ensure that designed processes are adequate and embedded effectively throughout the organization;
- The governance environment is changing rapidly in many countries and industries. The internal auditor must continue to monitor these changes and evaluate how they impact the role of internal auditors in the future. Auditing organizational governance requires skills and competencies that internal auditors may not possess. Before undertaking audits in the governance area, it is critical to ensure that internal auditors possess the relevant skills or obtain appropriate training. Internal auditors also should be encouraged to seek different tools, resources, and best practices.

An additional challenge is the increasing need organizations have to attract and retain experienced chief audit executives. More organizations are establishing internal audit functions while there are a limited number of experienced professionals to fill these positions in the short term. Staffing levels and expectations in internal audit departments are increasing so as to enable a more meaningful role in sustaining the governance process. There is increasing demand for seasoned, experienced advisers who have the ability to differentiate between various shades of gray. Consequently, auditors must also continue to increase their skill levels in order to add greater value, help strengthen governance, and improve company performance.

The biggest challenge facing companies and their auditors is there is no one-size-fits-all method to improve
CORPORATE GOVERNANCE AND AUDIT

corporate governance. Each organization will be required to tailor an individual solution that considers industry, maturity, business strategy, capabilities, corporate culture, and competitive position. Since there is no quick solution for addressing this multifaceted challenge, keeping the focus on good governance over the long term will be an important challenge for most organizations.

Recommendations

Investors and other stakeholders value companies that anticipate problems and show evidence of strong internal oversight. Internal audit should be a champion in assessing opportunities where corporate governance can be strengthened and suggesting corrective action as needed. But, first, a definition to clarify the concept of governance:

Corporate governance is the systems and processes an organization has in place to protect the interests of and create value for its diverse stakeholder groups. The best governance addresses the needs of all stakeholders—shareholders, employees, customers, lenders, vendors, and the community—because all of these groups share a common interest in the perpetuation of the business. Well governed organizations recognize that satisfying all stakeholders’ interests is compatible in the long run, vital for sustaining the organization and enabling it to prosper. Auditing the effectiveness of an organization’s corporate governance systems, practices, and performance requires a reliable framework and methodology. Having an overview of governance trends and challenges internal auditors face, the management bears primary responsibility for ensuring effective governance.

Internal audit performs these critical roles in all aspects of corporate governance by:

- Supporting the audit committee in fulfilling its heightened responsibilities;
- Addressing disclosure and transparency objectives in annual audit plan;
- Reviewing the effectiveness of the organization’s code of conduct, ethics policies, and whistle-blower provisions;
- Helping assess risks and gauge performance across the organization;
- Monitoring corporate governance activities and compliance with the organization’s policies;
- Facilitating and enhancing communications with the chief operating officer, chief financial officer, chief information officer, and other oversight executives.

The rewards of improved corporate governance are not merely a greater sense of personal accomplishment or of company pride. Researchers, along with several other business and academic studies, have found a strong correlation between effective governance and profitable investment opportunities. Internal audit plays a pivotal role in this process by fostering an integrated, well-planned, and progressive governance program.

References


The Importance Knowledge Management for the Improvement of Crisis Management

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The current economic crisis has prompted great interest in the relatively new management discipline crisis management and pointed out the necessity for its further development and greater applying. This contributed to the review of the possibility of its improvement based on the application of concepts from other management disciplines. One of them is the knowledge management. The fields of crisis management and knowledge management have been evolving separately despite their potential for synergistic integration. With that in mind, the goal of this paper is to point out the importance of developing capacity and improving the capabilities of organizational learning from crisis in order to contribute to the effective implementation of crisis management. Thus, we survey, classify and synthesize different theoretical concepts and empirical studies that examine the process approach of crisis management in order to identify knowledge appropriate to each stage of crisis.

Keywords: crisis management, knowledge management, organizational learning

Introduction

In the course of modernisation and globalisation the demands in crisis management have changed rapidly. Both public and private sector organizations have to prepare for potential crises. It is no longer a question of if a major crisis will strike an organization, but only when. The effects of crises and disasters are often multiple, so interdisciplinary and scientific methods are required.

Although it is known much about the types and modes of learning and recognizes the connection between learning and crisis management, what appears to be missing in current knowledge of managers is how learning can be applied and how it contributes to effective crisis management. With that in mind, in this paper it would be examined how organizations learn from the crises and present a three-stage approach to organizational learning in crisis management. In the first stage, it would be explained how an organization adapts during an initial crisis event to an extreme situation. In the second stage, it would be examined how an organization adjusts its
established plans and procedures to achieve a desired outcome during the crisis. In the third stage, it would be considered how an organization develops a new course of action to achieve a desired outcome before, during, or after an extreme situation, and how they learn from the crisis. There would be also presented a model of crisis management system in order to ensure a new management mechanism for enterprises to effectively deal with the crisis.

**Defining the Term Crisis**

In the contemporary literature, crises have been conceptualized as an event and a process. Shrivastava (1995) opposed clearly the event versus process approach of crisis. As he (1995, p. 2) stated, “Crises are not events but processes extended in times and space”. In spite of efforts to distinguish these twofold aspects of crises, what remains striking is that most of the authors understate that crises are processes but still treat them as if they were events (Roux-Dufort, 2007a).

**The Event Approach of Crisis**

In the event approach, crises are usually defined as a major occurrence with a potentially negative outcome affecting an organization, company or industry as well as its publics, products, services or good name (Fearn-Banks, 1996). Pearson and Clair (1998, p. 60) suggests that: “An organizational crisis is a low-probability, high-impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly”. Definitions focus on the triggering properties of the event (Shrivastava, 1992). Preconditions for this triggering event are created by organizational and environmental conditions. Triggering events are seen as an active constituent that put the organization to the test.

The very nature of crisis is precisely defined by the inability to plan or to measure the probability of occurrence and the potential risks. A crisis is a sudden and unexpected event that threatens to disrupt an organization’s operations and poses both a financial and reputational threat (Coombs, 2007). The surprise effect is therefore a key feature of the event view (Reilly, 1993).

The event perspective is helpful to grasp the dynamics of a crisis in its acute phase and contributes to nourish the literature on how to react in times of crisis in order to reduce its impact and resume activity as soon as possible. In spite of this contribution, this view privileges a reactive stance amongst managers and is not the most adapted approach to improve prevention measures and learning capacities (Roux-Dufort, 2007a).

**The Process Approach of Crisis**

In the process approach, crises are seen as being the result of a long period of incubation which bluntly occur through the influence of a triggering event (Roux-Dufort, 2007b). They are composed of many loosely coupled interdependent events, each of them setting the stage for the next one to occur in a chain reaction. Krystek (1987) defines crisis as an unwanted and unplanned process of limited duration and influence ability with an ambivalent starting point which ends in non-achievement of dominant goals and may ruin the company.

The tenets of the process perspective mostly lie on the idea that crises manifest in phases. This view suggests the existence of a genealogy of crises that may be potentially tracked long before the acute phase. The process perspective thus acknowledges that crises are the ultimate moment of a continuous cumulative process of organizational failures (Bowonder & Linstone, 1987).
Mitroff and Pearson (1993) argued that a business crisis was composed of five main crisis phases of signal detection, prevention/preparation, containment/damage limitation, recovery, and learning. The first four phases are sequentially arranged, while the last phase of learning feeds back into the first phase of signal detection. Mitroff and Pearson (1993) also pointed out the main tasks of an organization at each of the different phases to cope with a particular crisis, and the strategies decision makers could employ to achieve these tasks. In the signal detection phase, organizations focus on seeking signals that might warn of a crisis. Organizations need to take steps to isolate these warning signals from the normal signals that occur in the daily operations of organizations. The main task of the second phase of prevention/preparation is to eliminate or minimize organizational weaknesses based on the warning signals from the previous phase. The purpose of this phase is to prevent a crisis from happening or to be well prepared if it does occur. The third phase, the containment/damage limitation phase, occurs when a crisis is unavoidable. Having well-prepared plans is crucial to efficiently and effectively prevent the damage that can result when a crisis begins to spiral out of control, since organizations usually have limited time to make an intensive crisis management plan for damage control while a crisis is unfolding. In the fourth phase of recovery, organizations mostly focus on fixing the damage caused by the crisis by consideration of two important issues. The first is to determine the most crucial procedures and operations needed to ensure that the organization will survive, and the second concerns what the organization should do in order to serve its most important customers well after the crises. During the final phase of learning, organizations should examine what happened before, during, and after the crisis, and then identify what lessons have been learned. In this way, organizations can use the experience of a crisis to enhance their capacity to prevent and mitigate the effects of a similar event. Learning is particularly important among these five phases, since it is crucial for organizations to avoid making the same mistakes as they deal with similar crises in the future. By means of appropriate learning practices, organizations can use the experience of a crisis to enhance their ability to prevent and mitigate the effects of a similar event.

Treating crises as processes rather than events influences the analysis of consequences. As abovementioned, in the event view, consequences are mostly treated according to their negative outcomes and threats. In a process approach, rather than considering the outcomes as entirely negative, the systemic study of crises seems particularly relevant to show that crises have revealing properties and uncover hidden factors that the organization would not have been aware of if the crises had not occurred (Shrivastava, 1995). Crises bring forth changes and transformations at different levels. These revealing and transformation properties are triggered by a sudden collapse of the basic assumptions of the organization that prove to be inefficient to cope with the crisis situation (Pauchant & Mitroff, 1992).

The event and process-oriented approaches are naturally complementary. Nonetheless, the crisis management literature has mostly developed the first approach. The event perspective has the advantage of being directly operational inasmuch as it encourages individuals to develop reflexes and ways of reducing the consequences of the event. The process approach of crisis requires that we understand how organizational conditions build up to lay a favorable ground for crisis to be triggered (Roux-Dufort, 2007a).

**Crisis Management**

Economic development and the dynamic environment of enterprises today make crisis management more
and more important. It is essential to implement effective strategies of problem-solving, appropriate prevention strategies and a comprehensive crisis management. Fearn-Banks’ (2001, p. 480) definition of the concept is as follows: “Crisis management is strategic planning to prevent and respond during a crisis or negative occurrence, a process that removes some of the risk and uncertainty and allows the organization to be in greater control of its destiny”.

The objective of organizational crisis management is to make timely decisions based on best facts and clear thinking when operating under extraordinary conditions (Pearson, 2002). Companies have to develop adaptation strategies for discontinuously shifting conditions in short term. A dynamic management of strategic and operational risks is necessary to be able to solve complex problems. An environmental analysis (identification of potentially threatening external influencing factors in the macro-economic, ecological, sociocultural, political, legal and technological field) as well as a business analysis (identification of threats within a business) are necessary to develop effective strategies of prevention and intervention. By having the right plans and capabilities in place before a crisis occurs, crisis damage to an organization can be minimized and the time to recover from it can be shortened immensely (Mitroff & Anagnos, 2001). Organizational crisis management effectiveness is evidenced when potential crises are averted or when key stakeholders believe that the success outcomes of short- and long-range impacts of crisis outweigh the failure outcomes (Pearson & Clair, 1998).

Organizational Learning in Crisis

Developing strategies to mitigate vulnerability is organization learning in its most basic form (Toelken, Seeger, & Batteau, 2005). Organizational learning theory is an extension and refinement of systems perspectives (Seeger, Sellnow, & Ulmer, 2003) and is rooted in a balance between stability and change (March, 1991). Concepts of organizational learning can be placed along a continuum with cognition at the one end and behavior at the other.

Argyris and Schon (1978) define organizational learning as the process of detection and correction of errors. In their view organizations learn through individuals acting as agents for them: “The individuals’ learning activities, in turn, are facilitated or inhibited by an ecological system of factors that may be called an organizational learning system” (Argyris & Schon, 1978, p. 117). Argyris and Schon (1978) were among the first to propose models that facilitate organizational learning. They distinguish between single-loop and double-loop learning. In single-loop learning, individuals, groups, or organizations modify their actions according to the difference between expected and obtained outcomes (Argyris & Schon, 1978). In double-loop learning, the entities (individuals, groups, or organization) question the values, assumptions, and policies that led to the actions in the first place. If they are able to view and modify those, then second-order or double-loop learning has taken place (Argyris & Schon, 1978). Huber (1996) detailed a synthesis of processes and kinds of organizational learning. Learning involves four basic processes: (1) acquisition of knowledge; (2) distribution of information among various sources; (3) interpretation of information when commonly understood interpretations are available; and (4) storing knowledge for future use in organizational memory. Within this framework, learning is a change behavior through information processing.

Learning is crucial in order for organizations to improve their chances of surviving future crises. Although the literature on organizational learning is vast, the amount of literature that focuses on learning for crisis
management is relatively small. Since organizational learning is a dynamic process that occurs over time and
across levels of the organization, and creates a tension between exploration and exploitation, crises may present a
unique opportunity for organizational learning (Crossan, Lane, & White, 1999).

Drawing upon Argyris and Schon’s (1978) notion of single and double-loop learning, Simmons (2009)
develops a three-stage crisis management model that facilitates the mitigation of extreme crisis events, utilization
of standard operating procedures, and detailed planning procedures before, during, and after crisis events.
Namely, organizations must develop systems, which enable them to execute tasks rapidly. Simmons (2009)
proposes that in extreme situations, organizational learning occurs during three distinct stages: stage I—adaptive
learning, organizations are responding to situations as they occur; stage II—single-loop learning, organizations
 modify their actions according to the difference between expected and obtained outcomes; and stage
III—double-loop learning, organizations modify the state based on prior events, experience, and training to
develop a new course of action. According to Simmons (2009), organizations can learn in three ways from crisis
situations. First, organizations can learn by adapting to extreme events, as they occur, which leads to mitigation
of the crisis events. The mitigation of extreme circumstances prevents the situation from escalating and creating
additional financial loses, physical property loses, or worst case loses of life. Second, organizations can use
established standard operating procedures and adjust them using single-loop learning to achieve the desired
outcome. It is in line with findings of J. E. Hale, D. P. Hale, and Dulek (2006), who argued that the presence of a
written crisis management plan, even one created for a dissimilar event, aids in quickly identifying feasible
actions. Without such a plan, organizations function less efficiently and may spend precious time attempting to
create solutions that they cannot identify (Hale et al., 2006). Third, organizations can create new standard
operating procedures based on lessons learned from a crisis situation. Double-loop learning enables organizations
to analysis adaptive and single-loop learning that occurred during a crisis event.

Robert and Lajtha (2002) proposed that performing structured and continuous learning activities could help
organizations to minimize uncertainty about business crises and equip key managers with the capability,
flexibility and confidence to deal with unusual events. A structured learning activity should lead to the
restructuring of company policies and actions to correspond to the changes in both the internal and external
environments of organizations (Wang, 2008). Furthermore, a structured learning activity must be capable of
embedding what is learned into elements of organizational systems, such as rules, regulations, or technology.
Individuals are then empowered by not only their own perceptions, but also these external control agents to make
use of their acquired knowledge in the real operations of the organizations. By performing this learning activity,
the organization can continuously enrich its understanding about its prospective crises and enhance its capacity to
anticipate and either prevent or mitigate their impact if they do occur (Wang, 2008).

In the purpose of supplying a new management mechanism for enterprise to deal with crisis effectively, Li
and Wang (2009) have developed a crisis management system model architecture that is based on three layers:
knowledge resources layer, management process layer and organizing layer. Knowledge resource system
includes expert panel and database storing crisis management knowledge. Process layer consists of process
system of crisis management. According to knowledge acquisition method and utilization, crisis management
process system is divided into three subsystems: crisis early-warming subsystem, crisis processing subsystem
based on knowledge demand and crisis evaluation subsystem, respectively. As a whole system, every subsystem
and function module joins each other during the crisis lifecycle with knowledge transferring (Li & Wang, 2009). A knowledge-based management organization system is the base and guarantee of crisis management, which involves many departments (Li & Wang, 2009). Previous research results support the importance of the existence of crisis management teams in organizations (Smits & Ally, 2003). Taking business crises as opportunities to bring new configurations into play in order to facilitate change of organizational structures for improvement is a preferable result of an organization’s learning practice in responses to a business crisis. Namely, change/improvement of organizational structures is an appropriate indicator to assess an organization’s learning effectiveness in times of crisis (Wang, 2008).

**Conclusion**

In the uncertain market situation, knowledge becomes more and more important. Thus, the theory and technology of knowledge management that are used in enterprises have potential application in the management of crises. Applying knowledge management to crisis management is significant to both enterprise and theoretical studies. However, research on knowledge management in crisis management is still at its start level, and needs more scholars research on it. The perspective of organizational learning effectiveness concerns how well an organization can manage to eliminate its weaknesses by taking the occurrence of a business crisis as an opportunity for organizational changes and learning. How to make good use of knowledge management to improve the efficiency of crisis management will become an issue in strengthening enterprise management capability.

**References**


Applying Importance-Performance Analysis to the Management of Health Care Services

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Importance-performance analysis (IPA) is a strategic approach to measure users’ satisfaction and simply and functionally identify the strengths and the areas of improvement in a particular service. By first ascertaining the importance that users assign to the most relevant attributes of a service and subsequently evaluating the performance of each service, we can obtain a (Cartesian) graph with four quadrants. This graph allows an intuitive assessment of its operation and the implementation of appropriate recommendations for brand management. Therefore, IPA is widely used nowadays, especially in the health services. The present work is a part of a larger study that analyzes satisfaction among the professionals in the health services of Feira-Arouca, Portugal. In this sense, our main objective is to illustrate the considerable potential of IPA in health management in order to enable professionals and managers to identify some of the weaknesses of the health services and management of the Group Health Centers of Feira-Arouca. In this way, the study was based on 189 professionals working in the health sector. The results show that although financial accounting and the provisioning service are the two most important attributes, their performance is very low as compared to their importance. Simultaneously, representing the results on the basis of the classic model of IPA does not allow a clear and strategic interpretation and development of strategies. Thus, by applying a form of representation that was proposed more recently, we can reflect more deeply and improve the efficiency of service management. Consequently, the latter representation clarifies that financial accounting and the provisioning service have the highest priority in terms of management.

Keywords: health services management, strategic analysis, importance-performance analysis

Introduction

The U.S.A.’s public investment in the health sector represents 14% of the country’s gross domestic product (GDP). The proportion of Portugal’s national GDP that was spent on health increased to 5.6% in 1990 and to
10.2% in 2005 (Silva & Simões, 2009). Evidently, these figures are already above the averages of the EU-15 (8.9%). In this regard, concerted efforts are needed to not only maximize the utility of available resources but also optimize their use. The clinical, management, and health-related policies and practices of National Health Service should be based on scientific evidence. In this sense, the Portuguese Health Regulation, specifically Base XXX, particularly mentions the quality of care, efficient use of resources, users’ satisfaction, and professional satisfaction. Consequently, the NHS needs to periodically evaluate or measure these four criteria. Thus, the analysis of the satisfaction of health professionals was established as an indicator of organizational climate and, ultimately, a critical success factor (CSF) for the performance of the elements of the NHS. In this context, several studies mention the importance of professional satisfaction in the perceived quality of service (Hespanhol, 2008) and particularly the causes of extremely high levels of stress (Lipp, 2000). Hence, we aim to illustrate the importance of applying an R+D+I policy, that is, market research and development of innovative strategies and methods, in order to improve the performance of services.

**Conceptual Framework**

Importance-performance analysis (IPA) is based on a set of theoretical contributions, particularly the multi-attribute and expectancy-value models (Fishbein & Ajzen, 1975; Rosenberg, 1956; Wilkie & Pessemier, 1973). From a cognitive perspective wherein human beings are information processors, the above models assume that each service is equipped with a set of attributes and attitudes of its consumers or users, and this set is configured by aggregating the weighted ratings for each of these attributes. In this context, all the elements of a service should be analyzed in detail (Varela, Braña, & Picón, 2004; Varela, Prat, Voces, & Rial, 2006). Therefore, we can estimate the general evaluation of consumers by combining the importance or relevance of the attributes perceived by the consumers have in mind and the performance of each of these attributes by the entity that provides the service. In this context, several studies show that not all attributes occupy the same proportion in explaining overall consumers’ satisfaction toward a particular service. Consumers tend to evaluate the performance of a service by using only a limited number of characteristics (Edwards & Newman, 1983; Myers & Alpert, 1968; Wilkie & Pessemier, 1973). Thus, the importance of each attribute should be measured in order to calculate the weight of its performance, by which we can identify an indirect measure of consumer satisfaction on which a graphical representation can be based. Further, the analysis of this representation will help formulate an action plan aimed at providing a better and uninterrupted service by optimizing the use of available resources in the areas of improvement that have been identified. Ultimately, the strategies implemented on the basis of the results thus obtained become a competitive advantage. Figure 1 shows the classic representation of the IPA (Martilla & James, 1977).

In particular, professionals should focus more on attributes and their priorities in order to optimize the use of existing resources within their organizations in order to increase customers’ satisfaction. Ultimately, the analysis of customers’ satisfaction also becomes a key element in predicting consumer loyalty (Cronin, Brady, & Hult, 2000; Marzo, Martinez-Tur, Peiró, & Ramos, 2002).
Fields of Application of IPA

IPA has been applied in various fields (Eskildsen & Kristensen, 2006) especially, in studying the performance of IT services (Ainin & Hisham, 2008), assessment of consumers (Sampson & Showalter, 1999), marketing management (Ford, Josep, & Joseph, 1999), health (Hawes & Rao, 1985; Dolinsky & Caputo, 1991; Skok, Kophamel, & Richardson, 2001; Yavas & Shemwell, 2001; Ábalo, Varela, & Rial, 2006), banking (Yeo, 2003; Joseph, Allbrigh, Stone, Seknon, & Tinson, 2005), industrial marketing management (Hansen & Bush, 1999; Matzler, Bailom, Hinterhuber, Renzl, & Pichler, 2004), marketing (Novatorov, 1997), tourism (Evans & Chon, 1989; Hollenhorst, Olson, & Fortney, 1992; Duke & Mont, 1996; Zhang & Chow, 2004; Dominique-Ferreira & Silva, 2011), and service quality (Ennew, Reed, & Binks, 1993; Matzler, Sauerwein, & Heischmidt, 2003). However, the final location of the axes of the quadrants is one of the main difficulties in IPA. This location will influence the interpretation of the results and the strategic management of the entire organization. In this sense, our main objective is to illustrate the advantages of the application of simple methods in services management and quality improvement and thereby showing that bivariate and/or multivariate techniques need not always be applied in an R+D+I policy. Therefore, this work specifically aims to analyze the importance and performance of the different attributes that characterize quality health services and simultaneously provide some specific advice to health care managers in order to improve the perceived quality and efficiency of their services.

Methodology

Sample
This work is part of a larger research with study regarding the satisfaction of health professionals. Therefore, the universe studied was from the Group Health Centers of Feira-Arouca of the Northern Regional Administration of Health. The sample comprised 189 health professionals (33 men and 143 women), with an average age of 42.99 years (standard deviation = 10.677). From this sample, 25% were doctors, 37.5% were nurses, 27.8% were administrative officers, 8% were auxiliary personnel, and 1.7% were other professionals. The confidence level was 95% (Z = 1.96; p = q = 50) with a sample error of ±4.87%.
Data Analysis

Data were collected in March and April 2011 through an ad hoc survey, that is, using a questionnaire developed specifically for the present study. However, the questionnaire has some good psychometric properties as the analyses were carried out using another measurement (Cronbach’s alpha).

Results and Discussion

Classic Representation of the Results

On the one hand, the results seem to indicate that investment in medical, nursing, may be an overkill because in these services, the level of performance is higher than the importance.

On the other hand, the classic representation of the results show that the other five services (see Figure 2)—the administrative service, financial accounting, provisioning service, service support at home, administrative services and cleaning service—appear in the “keep up the good work” quadrant.

![Figure 2. Classic representation of results of IPA.](image)

However, these results and their consequent interpretation show some natural limitations of the classic representation of IPA. A more detailed analysis of the discrepancy values (see Table 1) shows that financial accounting, the provisioning service, service support at home, and the cleaning service are far from efficient, even though these services are listed in the “keep up the good work” quadrant. This disadvantage is clearer if we observe financial accounting and provisioning service with their discrepancy values of -1.98 and -1.51 respectively. The level of performance of these two particular services becomes even more negative when we observe that financial accounting is the most important service and that the provisioning service is the third most important service.

Representation of the Results With the Diagonal Model

Two main services need particular attention—financial accounting and the provisioning service—because
their importance is higher than their performance. Particularly, financial accounting is the most important service and its performance is one of the worst; therefore, some measures should be implemented in order to counter this trend. Nevertheless, the identification of these results (see Figure 2) with the proposed classic representation (Cronin, Brady, & Hult, 2000) of Martilla and James (1977) would suggest that the management of both services (administrative service and financial accounting) should remain the same.

Table 1

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Performance mean</th>
<th>Importance mean</th>
<th>Discrepancy (performance-importance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Medical service</td>
<td>7.92</td>
<td>3.63</td>
<td>4.29</td>
</tr>
<tr>
<td>2. Nursing service</td>
<td>8.23</td>
<td>4.31</td>
<td>3.92</td>
</tr>
<tr>
<td>3. Administrative service</td>
<td>7.50</td>
<td>5.17</td>
<td>2.33</td>
</tr>
<tr>
<td>4. Financial accounting</td>
<td>5.24</td>
<td>7.22</td>
<td>-1.98</td>
</tr>
<tr>
<td>5. Provisioning service</td>
<td>5.18</td>
<td>6.69</td>
<td>-1.51</td>
</tr>
<tr>
<td>6. Service support at home</td>
<td>6.08</td>
<td>6.17</td>
<td>-0.09</td>
</tr>
<tr>
<td>7. Cleaning service</td>
<td>6.54</td>
<td>6.72</td>
<td>-0.18</td>
</tr>
<tr>
<td>Mean</td>
<td>6.67</td>
<td>5.70</td>
<td></td>
</tr>
</tbody>
</table>

However, we doubt the appropriateness of this approach in improving both the effectiveness and the efficiency of the entire institution. Nevertheless, in order to solve the problem of representation and the limitations of the interpretation of the results, some authors suggested that the axes should be located in the middle of the scale, that is, 7.5 for both performance and importance (Hollenhorst, Olson, & Fortney, 1992; Havitz, Twynam, & Lorenzo, 1991; Richardson, 1987; Williams & Neal, 1993); Unfortunately, the problem frequently persists. Consequently, other authors suggested that the axes should be located in the mean of each dimension, that is, performance and importance (Alberty & Mihalik, 1989; Guadagnolo, 1985; Hollenhorst, Olson, & Fortney, 1992). Accordingly, the axes would be 6.67 for performance and 5.70 for importance. Thus, the lower the value, the greater the priority that each attribute will have at the time of using human resources, materials and/or economic means (Sethna, 1982). Moreover, some works suggested representing the results differently, whereby all the points represented above the diagonal (45°) are attributes with a higher importance than performance, that is, the attributes whose management requires top priority. In this sense Bacon (2003) studied some works that used this representation and found that the diagonal models better represent the priorities expressed by the study subjects. Hence, the results are presented on the basis of a diagonal model (see Figure 3) in order to improve the interpretation of the results. Therefore, the main problem regarding the interpretation of the results with the classic representation can be solved since financial accounting and the provisioning service are located in the quadrant marked “concentrate here”, that is, an area that suggests priority in investments. Consequently, both financial accounting and the provisioning service are the top priorities for improving efficiency in the resource management.

In this sense, the discrepancy values of these attributes, that is, the difference between performance and importance, are negative (see Table 1). This value reiterates that the level of importance of a service is higher than the level of performance this service achieves.
Currently, the recent international economical and financial crisis requires companies and public institutions to manage various existing resources such as human and economic resources more efficiently. Consequently, adopting an R+D+I strategy become increasingly relevant for a better understanding of how to improve efficiency. Therefore, multivariate methodologies are quite relevant when predicting the most relevant attributes for improving the efficiency of services. The methods most frequently identified in this context are regression models, structural equation modeling, factorial analysis, etc. However, these are not always the only feasible methods of organizational research. In this sense, we aim the present work the authors want to illustrate the advantage of using univariate analysis as it is necessary in the application of IPA. The most important advantages of the application of IPA are its usability and the intuitive interpretation that results from the graphic representation. However, sometimes, the traditional way of representing IPA graphically has a considerable disadvantage: it does not clarify the top priorities of the management because some authors suggest fixing the axes with the value of the mean.

In this context, both types of representation were used in the present work, and the classic representation did not clarify the priorities in improving global service efficiency. However, the second type of representation of the results gave a better feedback, showing that financial accounting and the provisioning service were two of the most important services/attributes but also two of the worst services in terms of performance. These are the conclusions that can be drawn through direct calculation, but they are also based on the second representation, which indicates that both services lie in the area of concentration; that is, the services/attributes that are located in this area are indicated as top priorities in investment management. Thus, we recommend a careful analysis to determine whether the number of professionals in financial accounting is sufficient because a shortage in this regard could probably be the main cause of the poor performance of this particular service. Financial accounting is a fundamental and central service to the financial and human management of all Group Health Centers (reflected by its importance); therefore, concerted efforts must be made to improve its performance, which ultimately affects the efficiency of the Group Health Centers. Finally, IPA is very simple
to apply and allows researchers and managers to identify in a simple way, the top priorities of any company or institution.

**Limitations**

One of the main limitations of the present study may be the absence of a qualitative approach, which could have identified some specific strategies suggested by the professionals associated with the Group Health Centers studied. Thus, through a qualitative approach, we could identify some specific strategies that would solve the problem of poor performance of some services more efficiently.

**References**


