



Towards understanding the impeders of strategy implementation in higher education (HE)

A case of HE institutes in Iran

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Abstract

Purpose – To identify the impeders of strategy implementation in the higher education (HE) sector of Iran.

Design/methodology/approach – A structured questionnaire was distributed to the academic staff from Iranian Universities. The questionnaire consisted of closed and open questions. Data were gathered from the major universities in different regions of the country.

Findings – Major impeders towards strategy implementation in the HE sector of Iran are outlined and the nature of these impeders are explained and the relationships among them are explored.

Research limitations/implications – The research, through the use of the structured questionnaire, delivered a set of generic impeders; however a detailed picture of implementation of strategies needs further investigation.

Practical implications – Through the analysis of the most prevalent impeders, this paper informs Iranian academics about possibilities for change and improvement.

Originality/value – The case of the HE sector development in Iran is something rarely dealt with in the literature; hence the paper fills this gap. Moreover, we look closely at the growth of research activities as the main strategy and indicate the impeders of strategy implementation in the HE of Iran.

Keywords Strategic management, Higher education, Universities, Middle East

Paper type Research paper



Introduction

Today's organisations work in a dynamic, complex environment that continually changes. Hence organisations are forced to revisit their strategic planning – and the higher education (HE) sector is not an exception. The HE sector has begun to recognise that strategic planning is necessary in order to maintain its own responsiveness to a rapidly changing environment (Streib and Poister, 1990; Smith *et al.*, 1987). Ostar (1989) claims that colleges and universities have experienced rapid changes associated with ageing facilities, changing technology, changing demographics, increasing competition, rising costs, and funding cuts. Educational administrators are

challenged to anticipate changes and to formulate proactive responses that will enhance the educational processes within college and university campuses.

There is an abundance of literature on different aspects of HE sector development. However, the case of the HE sector in Iran is something rarely dealt with in the literature. In this paper, we endeavour to bridge this gap and we look closely at the growth of research activities as the main strategy guided by the Ministry of Science, Research and Technology (MSRT) of Iran. Our investigation comprises 11 Iranian HE institutions and our aim is to identify the impeders that are prevalent during the strategy implementation. To fulfil this aim, we firstly discuss strategic management issues in relation to the HE sector and, consequently, the impeders to strategy implementation. Then we focus on Iran and discuss in-depth the Iranian HE sector. We, furthermore, present the information about our sample, research method and findings and conclude with a discussion on the findings and limitations of the research.

Higher education and strategic management

Strategic planning was developed initially in the private sector and spread later into public and non-profit organisations to help these types of organisations to anticipate and respond effectively to their dramatically changing environments (Bryson, 1988, p. 43; Duncan, 1990; Wilson, 1990). Some studies even indicate that similar types of strategies have been found across fundamentally different organisations (textbook publishing, automotive firms, hospital administration, electronics, air transportation, information-service companies, and universities) as a result of facing similar environmental conditions and despite their internal organisational differences (Comeron, 1983). Hence the research into HE can be well informed by the research findings from other sectors. Consequently, in the theoretical underpinning of our research, we combine the research results from several sectors.

Based on the work of David (2003), Kriemadis (1997) and Salhieh and Singh (2003), a generic strategic management process can be defined (Figure 1).

The illustrative model in Figure 1 describes three major stages in the strategic management process, which are inseparable and continually influencing one another. The relevant stages are:

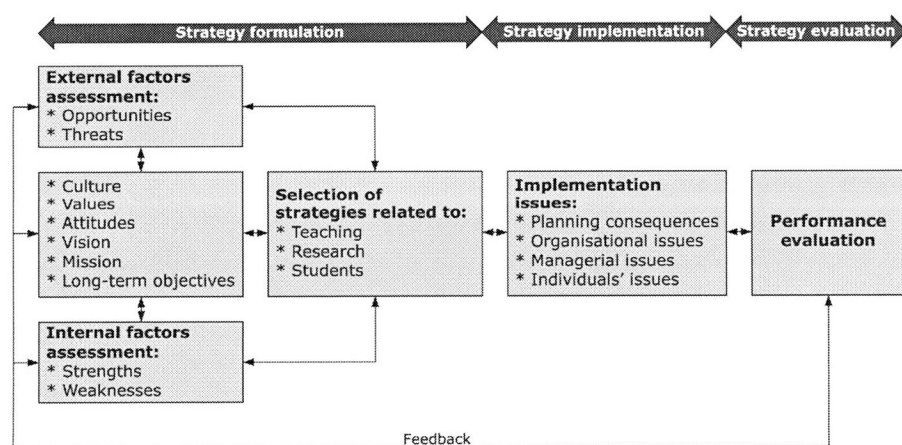


Figure 1. Strategic management process in HE



- *Strategy formulation.* Kriemadis (1997), David (2003) and Salhieh and Singh (2003) believe that strategists should consider certain activities to achieve a suitable strategic decision. Firstly, the situation of the main elements of strategic management such as culture, values, attitudes, vision, mission and long-term objectives must be determined because these have a different worth and importance in every society. Secondly, the social, political, economic, technological, demographic and educational changes are assessed in order to identify environmental opportunities and threats especially in HE. Then, top management can find alternatives to respond effectively to changes. Thirdly, institutions of HE should evaluate their strengths and weaknesses, which could influence their survival and growth in future such as financial resources, human resources, academic validity, and social reputation. Finally, after analysing the internal and external factors, top management will be able to decide on appropriate strategies to meet the organisational mission and objectives related to three main HE streams of activity including quality of teaching, research and student body. As Chadwick (1996) suggests, as universities have become increasingly accountable for the quality of their teaching and learning, alongside the quality of their research, academics need to improve their understanding of the educational process.
- *Strategy implementation.* Once the means and methods for achieving objectives and mission have been identified, the next step is to begin “doing”. This step involves the continuation of some ongoing strategies as well as the beginning of some new strategies (Brewer *et al.*, 2000). As a result, managers should consider analysis of organisational structures and systems before strategy implementation, as well as the analysis of culture, power and conflict (Ellis and Dick, 2000, chapter 7). A thorough analysis of these organisational issues should contribute to successful planning in any kind of organisational intervention. The strategy implementation and its impeders will be discussed in more detail in the next section of this paper.
- *Strategy evaluation.* The final stage in the strategic management process is strategy evaluation and control. This is necessary to ensure that stated objectives are being achieved. Reviewing internal and external factors, measuring performance, and taking corrective actions are the activities associated with this stage (Kriemadis, 1997; David, 2003, chapter 9). Thus, any organisation must periodically review the implementation process, assess progress, and make decisions concerning corrective action. In order to answer the question “how are we doing?” For universities and colleges, assessing the areas of teaching, research, and service in light of achieving goals and fulfilling the mission is the ultimate measure of success (Brewer *et al.*, 2000).

In our research, we focus specifically on the case of the strategy implementation stage. This is because the strategy formulation (a preceding step to strategy implementation – see Figure 1) is provided in Iran by the MSRT. Our aim is to identify the impeders of the strategy implementation regarding the growth of research activities within the HE institutions in Iran. However, before we explain particulars of the HE in Iran, in the next section we look closely at the strategy implementation details and outline a set of impeders from the literature.

The impeders of strategy implementation

Alexander (1991) states that the strategic management process can be compared to a two-headed coin. On one side is strategy formulation, which defines what an organisation's game plan will be to compete successfully within a specific context. The other side of the coin represents strategy implementation, which takes the formulated strategy as given and then decides how to achieve its goals. Strategy implementation addresses the issue of how to put a formulated strategy into effect within the constraints of time, an organisation's financial and human resources, and its capabilities. Consequently, these two integral parts of strategic management answer both, what the strategy shall be and how it should be put into effect.

Although there is a vast amount of literature around the strategic management process, the majority of the literature has been on the formulation side of the strategy (Aaltonen and Ikavalko, 2002) and most of them are about private sector rather than public sector. Alexander (1991) claims several reasons for this gap:

- strategy implementation is less glamorous than strategy formulation;
- many academics and practitioners tend to overlook it because of a belief that anyone can do it;
- people are not exactly sure what strategic management process includes, where it begins and where it ends;
- there are only a limited number of conceptual models of strategy implementation.

Organisations typically face difficulties during any kind of intervention such as the strategy implementation. Here, as mentioned in the previous section of this paper, a thorough understanding of organisational structures, systems, culture, power and conflict is critical for success (Ellis and Dick, 2000, pp. 123-70). Hence, firstly, systems thinking (Senge, 1990; Checkland, 1981) is critical for successful implementation of any kind and is often referred to in the literature dealing with system intervention. For instance, Johnson *et al.* (1973, p. 42) argue that an organisation is an open, social system composed of a number of subsystems and interaction with its environmental suprasystem including goals/values, technical, structural, psychological, and managerial subsystem. Although understanding the system and subsystems is critical for successful intervention, this analysis is often critiqued as highly rational, hence assuming that organisational subsystems work harmoniously together (Ellis and Dick, 2000, p. 141). To overcome this weakness, Ellis and Dick (2000, chapter 7) suggest analysing culture, power and conflict. In a similar vein, total system intervention (TSI) outlined by Ragsdell (1996) and Flood (1996) emphasise critical factors for successful implementation as understanding of the whole; meaningful involvement by as many parties as possible; reflection on the dynamic relationships in organisations; selection of models and methodologies and relevance for a particular context; reflection on chosen models and methodologies and their appropriate style of facilitation; reflection on outputs and their suitability for subsequent phases. Hence TSI combines systems thinking with analysis of power relations in organisations.

There are a limited number of impeders to the strategy implementation in the strategic management literature. If closely examined, these impeders could be linked to at least one of the issues discussed above (organisational structure, system, culture, power, conflict). Figure 2 uses a systems approach and in particular

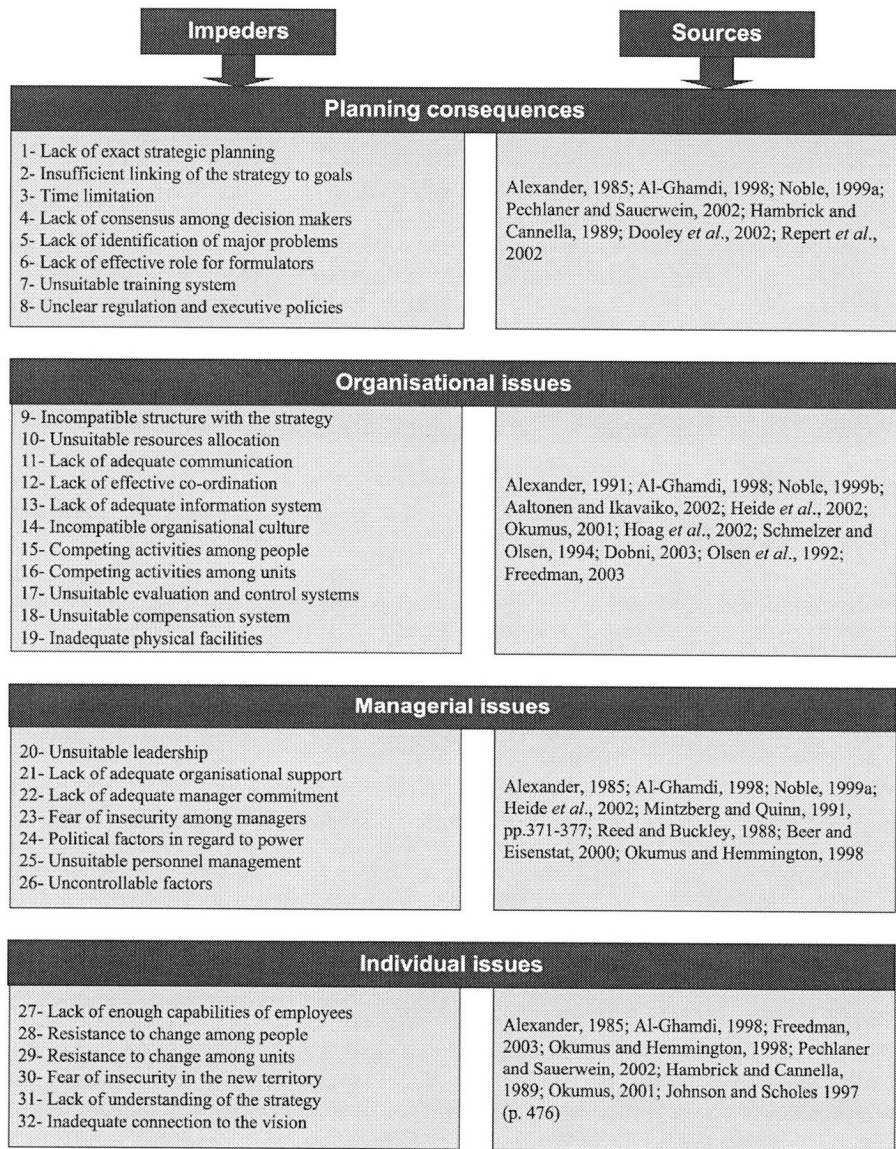


Figure 2.
Impeders to strategy implementation

Johnson *et al.*'s (1973, chapter 2) definitions of subsystems to categorised impeders, referred to in the literature, in order to simplify and visually present them.

Strategic direction within higher education in Iran

Iran is an important country in the Middle East region. With a population of 65 million, it is the most populous country in the region and the 16th most densely populated country in the world after Germany (82), Vietnam (78), and Egypt (68) and before

Turkey (65), Ethiopia (66), Thailand (61), France (59), United Kingdom (59) and Italy (57). This country is the second largest OPEC oil producer and has the world's second largest reserves of gas. Iran, with an ancient civilisation, has an internationally important cultural significance in both the region and the world (World Bank, 2001).

According to the cultural antecedent of the country, HE and research activities have long records in Iran, that can be traced back to the third century to Gondishapour University, which was regarded as the greatest scientific centre for centuries. Under the Sassanid dynasty in ancient Iran, education was an exclusive right of the nobility and the royal family. After the advent of Islam nearly 1500 years ago, some institutes of HE were established namely "Madrassa" which could be translated as school or college (Sedig, 1975).

Centuries later, under the Safavid dynasty, due to increased national solidarity and security, advanced programs were developed. Amir-Kabir, the Prime Minister at the time, founded Dar al-Fonoun (which could be translated as "polytechnic") in the mid-19th century and sent students to study abroad. He also invited foreign lecturers to teach at various technical colleges in Tehran, Tabriz and Oroumieh (Ganimeh, 1993).

In 1910, the Ministry of Education, Endowments and Fine Arts was established, including several offices for general education, endowments, and research, evaluation and accounting. Subsequently, the Supreme Council for Education in 1921, the Supreme Council for Culture in 1941, Central Council for Universities in 1965, and Central Council for General Education in 1969 were established. The University of Tehran and other universities were established in the 20th century, about one century after Dar al-Fonoun. The Prime Minister appointed the chancellor of the University of Tehran in 1934 for eight years. The organisational structure of Tehran University was used as a role model for other HE institutions in Iran (MSRT, 2001).

In 1979, Parliament approved an act for the establishment of the Ministry of Culture and Higher Education (MCHE). With the establishment of MCHE, all institutions of HE, public and private, followed the same administrative structure, including board of trustees, chancellor, the executive board, the administrative board, university council, faculty councils, and departments. In 1980, in order to make essential educational reforms and to develop an educational system, the Supreme Council for Cultural Revolution (SCCR) was formed. Since then, the SCCR has played a key role in HE policy making. In 1985, medical education was delegated to the Ministry of Health, Treatment, and Medical Education (MHTME) and all duties and responsibilities of the MSRT in the area of medical education were transferred to the new ministry for the purpose of efficient use of facilities and hospitals under the MHTME. In the last two decades, the population has almost doubled (33 mil in 1976; 65 mil in 2000) and, similarly, HE activities have increased and developed: HE institutions spread across Iran and closer attention was paid to the research activities and development of postgraduate degrees. At the same time, the number of state universities has grown from 22 in 1978 to 98 in 2000. Nevertheless, this phenomenal growth also meant that changes in the HE system were inevitable (MSRT, 2002).

According to the third five-year development plan (2000-2005; a generic strategic direction plan for the whole country), change and reformation in the structure, strategies and functions of HE was considered necessary. Firstly, in order to integrate and co-ordinate science and technology strategies, policies and functions, the MCHE was transformed into the MSRT to best meet the requirements of the country in the

third millennium. The Ministry is responsible for non-medical HE in Iran. Secondly, the ministry paid attention to research and development of postgraduate degrees to improve research activities as a strategic direction in HE institutes. Presently, 54 universities and institutes of HE are active in teaching and research under the MSRT. They conduct both educational and research activities (MSRT, 2001).

Universities under the supervision of the MSRT are governed by a board of trustees to make decisions and co-ordinate research and teaching activities. At the moment, they have nearly 630,000 students at different levels. Additionally, more than 22,000 academic staff are employed full-time in universities. According to the third five-year development plan (2000-2005) in Iran, the MSRT paid particular attention to growing of research activities as the main strategy for HE institutes (see Table I for more details). This has resulted in universities developing academic enterprise activities in relation to research, development of postgraduate degrees and conducting research activities by academic staff as their formal duty. Similarly, growth of science, research and technology is one of the main aims of the country and thus, the government is responsible for supporting research projects and activities in both governmental and private research centres (Management and Planning Organisation, 2003).

According to clauses number 100 and 101 in the third five-year development plan, the government should carry out supportive enterprising activities in order to develop and improve the research activities. Additionally, based on the 103rd clause, the government should provide all of the required facilities to access the needed information, for placing the country in the world network of information, improving the relevant services to propagate the use of new information technology. Based on the above clauses, the budget required is to be considered for information technology to help and support the research in the country (Majlis Research Centre, 2002).

Table I outlines three executive objectives for strategy implementation related to research development in Iran. These objectives are carefully monitored and disseminated (Majlis Research Centre, 2002, 2003; Mousavi, 2004). Based on objective 1 of the third five-year development plan, the share of financial resources from gross national product (GNP) will be increased up to 1 percent of GNP by the end of the third plan (2005). However, the performance reports reveal a gap between this and the actual performance. The research budget allocated was less than planned; for instance in 2001 and 2002 less than half a percent (nearly 0.42 percent) of GNP was

The main policy features	Executive objectives
Improvement of the mechanisms to support research activities in the country	To increase GNP percentages for research activities
Development of research activities especially in non-governmental institutes based on applied and basic research	To create and develop a number of research institutes
Development of information technology	To involve more human resources for research activities in different sectors
Improvement of dissemination and use of research outcomes	

Source: Management and Planning Organisation (2003)

Table I.
General characteristics of the strategy for research development in HE of Iran

allocated to the research activities in the country and in 2003, it was approximately 0.30 percent of GNP while the objective was 0.75 percent of GNP (Majlis Research Centre, 2003).

As regards objective 2 and 3, in 2001, the number of research institutes was 216 and 12,363 people worked as researchers or research assistants (these numbers have nearly doubled over the past two decades). In total, 2,705 research projects were completed and 4,603 research projects were in progress (Majlis Research Centre, 2002). In 2003, based on the research output, Iran was ranked 42nd out of 150 countries by the Institute for Scientific Information (ISI). This was an improvement in comparison to 1993, when Iran was ranked as 55th by ISI (Mousavi, 2004). However, this growth has not been split evenly among all academics fields. For instance in 2002, the majority of papers were published in science and engineering, with much less papers in the areas of art, social, and human science (Sabboury, 2003).

Nevertheless, studies by Majlis Research Centre (2002, 2003) and Mousavi (2004) looked at the overall performance and execution of the strategy implementation. However, the HE institutes have been faced with a variety of problems and difficulties in the implementation stage on which the previous studies did not focus and, as mentioned in the introduction, this is the aim of this study.

Research methodology sample

In order to achieve the research aim, we used a questionnaire that was distributed to a sample of respondents from Iranian Universities. Our questionnaire consisted of 32 closed questions (five Likert type scale with choices ranging from 5 for strongly agree to 1 for strongly disagree) and two open questions. The 32-items (questions), derived from the literature, are presented in Figure 2. The remaining two open questions included "Please add any other impeders in strategy implementation that you may be aware of" and "If you have any additional ideas and suggestions about the issues in strategy implementation, please feel free to write and explain them"

The data were gathered from the research sample of 15 respondents from 11 big and popular universities in different regions of the country. All respondents were academics with knowledge of strategy implementation and with relevant experience in strategy implementation in different positions such as lecturer, senior lecturer or research deputy, teaching deputy in various faculties. Table II provides more details about the research sample.

Findings

To analyse the data, we firstly calculated the average in order to assess, which of the 32 impeders were considered as important. These most important implementation impeders are shown in Table III in descending order according to mean value. Findings reveal two main issues which are "lack of exact strategic planning system" (item 1) and "lack of suitable training programs in the universities of Iran" (item 7) as those that respondents in our sample picked as the most important ones. Additionally, four issues were indicated by respondents as lowest mean value that those include "insufficient capabilities by academic staff", "resistance to change among individuals", "fear of insecurity into the new territory by people", "resistance to change among units". The other impeders are not discussed or considered further due to their moderate influence.

No.	Name of University	Departments	EL (1)	Sex (2)	M.P. (3)	L. W. (4)	Research activities				
							A (5)	R.P. (6)	B (7)	C (8)	O (9)
1	Ferdowsi	Management	M.	M	yes	6-10	2	3	1	2	-
2	Shiraz	Agriculture	PhD	M	no	16-20	40	5	8	25	15
3	Azahra	Physics	M.	F	no	11-15	1	-	-	1	-
4	Mazendaran	Sociology	M.	M	no	6-10	6	-	-	4	-
5	Ferdowsi	Economic	PhD	M	yes	16-20	8	6	2	-	-
6	Amirkabir	Engineering	PhD	M	yes	21-25	8	5	2	5	-
7	Sabzevar	Languages	M.	M	no	6-10	1	-	-	1	-
8	Tarbiat-M	Basic sciences	M.	M	yes	6-10	3	1	-	7	-
9	Gilan	Physics	M.	M	no	11-15	-	1	-	1	-
10	Ferdowsi	Law	M.	M	yes	6-10	-	3	-	2	-
11	Kerman	Agriculture	M.	M	no	6-10	3	2	-	2	-
12	Ferdowsi	History	PhD	M	no	6-10	7	-	-	8	-
13	Ferdowsi	Statistics	M.	M	yes	6-10	1	5	-	2	-
14	Mazendaran	Sciences	M.	M	no	6-10	1	3	-	-	-
15	Hamadan	Sciences	PhD	M	yes	6-10	4	3	1	20	-

Table II.
Sample demography

Notes: (1) Educational level of academic staff M-Masters or PhD level, (2) Sex, (3) Managerial position, (4) Length of work, (5) Articles, (6) Research projects, (7) Books, (8) Conferences, and (9) Others

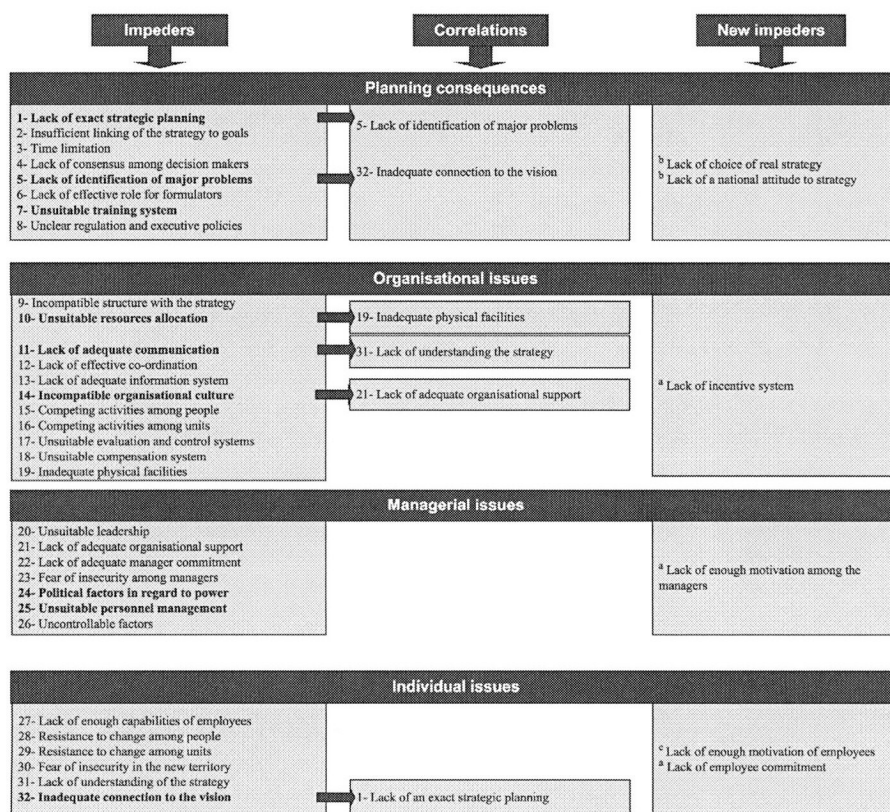
Item no.	Impeders	Average value
1	Lack of exact strategic planning	4.14
7	Unsuitable training programs	4.07
10	Insufficient resources allocation	3.93
24	Political factors in regard to retention and distribution of power	3.87
14	Organisational culture is incompatible	3.86
5	Major problem were not identified before implementation	3.86
11	Lack of suitable communication in the university	3.80
32	Inadequate employees' connection to the vision	3.80
25	Unsuitable personnel management for developing incentives	3.79

Note: Item numbers correspond with those in Figure 2

Table III.
The most prevalent impeders to strategy implementation

Further to the analysis of the mean values, we performed a correlation analysis of the answers. The rationale behind this exercise was to reveal which impeders could possibly be correlated. We were aware that this exercise does not have any statistical relevance yet it has an analytical and indicative value for our research. The results are shown in Figure 3.

Figure 3 lists all impeders and the most prevalent are highlighted in bold. This corresponds with the research results presented in Table III. Furthermore, Figure 3 shows the most important correlations among 32 items (for instance item number 1 "lack of exact strategic planning" is correlated to "lack of identification of major



Notes:
 Impeders in bold are the most prevalent ones (see Table 3)
 Arrows show correlations with other items
^a In new impeders section establishes the importance of the item according to the respondents (^c the most important)

Figure 3.
 Overview of the results

problems” etc.). Finally, Figure 3 also lists a number of “new impeders”, which were derived from the two open questions. All of these issues are discussed in the following section.

Discussion

In this section of the paper, we discuss the results of this research. For the purpose of the discussion, we use four categories, outlined in Figure 2, and results as presented in Table III and Figure 3.

The lack of exact strategic planning (item 1; Figure 3) and the unsuitable training system (item 7) were the two most significant impeders among 32 issues within the four categories and both of these fell within the planning consequences category. This result is of little surprise because these impeders were indicated by previous research, though in other sectors (Pechlaner and Sauerwein, 2002; Noble, 1999a; Alexander, 1985; Al-Ghamdi, 1998; Noble, 1999b). In addition, the lack of identification of major problems (item 5) before the implementation stage was another impeder



mentioned often. Moreover, the lack of exact strategic planning (item 1) and lack of identification of major problems (item 5) are very positively correlated. This result demonstrates that not only does the strategy lack sufficient detail but also there is a clear lack of contingency approach among strategy creators and implementers. Moreover, from the open question results, the respondents pointed out that the national specifics and culture elements were not considered in the strategy plan. Respondents labelled these problems as “lack of choice of real strategy” and “lack of a national attitude to strategy”. Particularly, wider societal issues were highlighted, for instance, respondents often mentioned that academic jobs are undervalued in Iranian society, which somehow contradicts the importance of the task academics are asked to achieve for the whole society within the five year development plan (2000-2005). Hence, the linkage between systems and systems intervention (in line with TSI approach; Ragsdell, 1996; Flood, 1996) is also missing. As a result, universities will be faced with some unpredictable issues in the implementation stage that may take more time and require additional resources to control and overcome these impeders.

The “unsuitable resources allocation” (item 10, Figure 3), “incompatible organisational culture” (item 14) and “lack of adequate communication” (item 11) were indicated by respondents as the most important organisational impeders and similar organisational impeders were reported in other research (Alexander, 1991; Al-Ghamdi, 1998; Noble, 1999a; Aaltonen and Ikavaiko, 2002; Heide *et al.*, 2002; Okumus, 2001; Hoag *et al.*, 2002; Dobni, 2003; Olsen *et al.*, 1992). Again, some organisational impeders showed positive correlation to other impeders. For instance, “unsuitable resources allocation” (item 10) was correlated “unsuitable physical facilities” (item 19). Here the most repeated resource was physical facilities in experimental departments such as physics, engineering and other sciences. Yet the core of the problem seems to be in ineffective resource allocation and according to our respondents, a systematic and transparent approach to resource allocation is not established. In addition, an unstable economic and political environment creates further problems; for instance, planned 0.75 percent of GNP for research activities (see section of Table I) were not fulfilled. Our research also shows that there is a strong relationship between “lack of adequate communication” (item 11) and “lack of understanding of strategy by academic staff” (item 31). This could be due to the social and cultural attitudes among senior managers in the country. In Iran, the prevalent culture is that all the information about planning such as mission, goal and even strategy is typically not disclosed to other parties and such information is kept for elite groups only. Furthermore, the two issues (item 11 and 31) are a close link to the “incompatible organisational culture” (item 14) and “lack of adequate organisational support” (item 21). Here again respondents pointed out that because managers do not believe in the new strategy (being excluded from its formulation, which is done at the governmental level), they do not support it. Furthermore, from the open question results, the respondents pointed out that a suitable incentive system was not adopted in the strategy implementation stage. The respondents also highlighted several reasons for bringing up this impeder such as lack of clear executive procedures, shortage of financial resources, and uneven distribution of resources among different units.

The most significant managerial impeders were “political factors with regard to power” (item 24) and “unsuitable personnel management” (item 25). Noble (1999a),

Heide *et al.* (2002) and, Mintzberg and Quinn (1991) claim that these two issues are important impeder in some organisations and organisational context. Indeed many scholars assert that rationality is often undermined by the exercise of power and politics (Brouthers *et al.*, 1998; Mintzberg, 1985), i.e. actions by which executives/managers enhance their power to influence a decision. The research on politics shows that it is the power centralization that leads to conflicts, resistance to change and alliance making (Eisenhardt and Bourgeois, 1988). In the case of HE in Iran, the power is usually centralized in the top level of organisations – this probably explains communication and cultural impeder as discussed in the previous paragraph.

Similarly, these issues were also pointed out, within an open question, by respondents who labelled this issue as “lack of motivation among the managers”. The problem of motivation and commitment were again mentioned as individual impeder. The highest ranked impeder here was “inadequate connection to the vision” (item 32). Here the respondents clearly demonstrated their exclusion from the strategy formulation phase and hence there is no surprise that this issue was correlated with “lack of exact strategic planning” (item 1). The reason for this remains the same as discussed in the previous paragraph.

Surprisingly, some of the traditional strategy implementation impeder, mentioned in the literature, were not perceived by academic staff as frequently to be problems. Rated among the least frequent of the 32 implementation impeder were:

- academic staff have insufficient capabilities;
- resistance to change among individuals;
- fear of insecurity arising – when employees move from “well-known” into “unfamiliar territory” during new strategy implementation;
- resistance to change among units; and
- fear of losing the existing performance in units – managers are suspicious to new changes regarding unpredictable cost and risk

It may be that, social and cultural issues in the country and the level of education among the academic staff affected these results. Furthermore, respondents might not have liked to indicate their weakness, as all these impeder directly affect the respondents.

It is, however, interesting to notice that some impeder identified in our case of HE in Iran match with those identified in Western countries within the HE context. For instance, Thomas (2004) reports on the case of environment/sustainability education adoption among HE in Australia. This researcher argues that despite the perceived importance of environment/sustainability agenda within the society, there was a little sign of implementation. He strongly argues that the strategic approach based on change management and staff development are needed. Similarly, Ferrer-Balas *et al.* (2004) report on similar issues in Spain with similar results – institutional commitment and structural factors should be considered in the curriculum transformation towards sustainability as key factors in an environmental plan. Hence, we can see that even in two fundamentally different approaches to HE sector development (Iran – based on government planning; western countries – based on societal demand), some impeder seem to be very similar.

Macfarlane and Ottewill (2001, chapter 1) argue that increased state intervention in HE is a global trend. Indeed, HE Institutes in Iran face the tension between national educational policy and the power of various stakeholders, the critical stakeholders; often being described as the triple helix “university-government-industry” (Etzkowitz *et al.*, 2000; Hagen, 2002). Hagen (2002) argues that developing the university-industry-government alliance increases the engagement of universities with economic development and this in turn helps the HE institutions to respond to economic pressures of globalisation and the environmental changes. However, based on the governmental rules and social attitudes in Iran, this approach has not been established in the country. As some limitations originate from governmental rules, in some cases, researchers and academic staff cannot directly communicate and contact with industry. In addition, there is a negative social attitude from industrial managers regarding communication and cooperation among the triple helix of “university-government-industry”.

Conclusion

This research identified the main impeters to strategy implementation in a small sample of academics from the HE institutes in Iran. We understand that the results are rather indicative than definite and our aim was to point out crucial issues and, hence, to pave the way for further research. These crucial issues are indicated in Figure 3 and within the subsequent discussion. We strongly advocate that future research closely investigates impeters identified in our research in order to understand how these impeters are created, with a view to revealing how they can be overcome. Particularly, researchers should focus on how HE institutes manage to balance systemic and power issues in line with TSI methodology (Ragsdell, 1996; Flood, 1996), systems thinking (Johnson *et al.*, 1973; Checkland, 1981) and organisational behaviour theory (Ellis and Dick, 2000). This seems to be paramount for the success in strategy implementation. Finally, in the case of HE in Iran, future researchers should focus on understanding how academics are perceived in Iranian society and how this is linked to successful strategy implementation and why this kind of impeters occur in the HE context.

Acronyms

HE	Higher education
MSRT	Ministry of Science, Research and Technology
TSI	Total system intervention
MCHE	Ministry of Culture and Higher Education
SCCR	Council for Cultural Revolution
MHTME	Ministry of Health, Treatment, and Medical Education
GN	Gross national product
ISI	Institute for Scientific Information

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