Analytical Study of the Higher Education Environment
in Libya

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Abstract:

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The main questions of this study are formulated as: In how can the Delphi technique be adapted to understanding and analysis of the higher education system?. The study was conducted by collecting and analysing primary and secondary sources of documented material on the case study of Libyan higher education. The empirical data collection comprised the application of the Delphi Technique to develop future scenarios using a panel of experts. The latter activity generated a final key study question: what are the possible strategies and scenarios for the development of higher education?. The Delphi technique has been applied effectively on this topic and has developed the analysis from primary data collection research resulting in four potential strategies for higher education; are: survival, defensive, reorientation and radical strategy. On the other hand, three kinds of scenarios - optimistic, possible and pessimistic - have been built for higher education.

Introduction:

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**Firstly: Statement of the problem:** Education in Libya is the tool of change and reform, thus increasing the importance of Higher Education (**HE**) in our lives day by day especially in the age of scientific and knowledge revolutions in various areas, it is one of the sectors that proves reliable in achieving the development goals of the social sector. Al-Badry (2006, p. 150) in his study about HE problems in Libya says: "Higher education has no clear policies and scenarios, which has made a lot of problems in the higher education programmes".

Beyond this, Mogassbi (1984, p. 223) found that: "It is obvious that the majority of the respondents to the questionnaire showed their agreement that the present university functions and roles are not able to respond to the needs of national manpower, therefore they should be re-evaluated and reformed". In fact, a coherent institutional framework is a crucial factor in facilitating effective higher education policies towards the development of a skilled human resource base. However, Libyan government do not possess the institutional capacity or organization to systematically coordinate their national higher education policies, that's because of a lack of effective coordination between government departments and Institutions of higher education.

Secondly: Research questions: The concept of higher education in Libya the comprises the following key aims: the quality and specialisation of knowledge, the development of students ready for the knowledge society, their ability to generate the knowledge needed by their country and to practically apply it in their professional life impacting on their workplace or in their private life impacting on their home and family context. So, this research will investigate the following research questions:

1. How can the Delphi Technique be adapted to understanding and analysis of the higher education system?
2. What are the possible strategies and scenarios for the development of higher education?

Thirdly: ***Libyan Higher education***: The world has known universities since the era of Greek Culture, such as a medical school (the house of Hippocrates), philosophical schools and the library of Alexandria. Approximately one thousand years after Plato, establishments supporting a resemblance to the modern university existed in Persia and the Islamic world Examples are: The University of Al Azhar in Cairo and the Persian Academy of Gundishapur (India).

Although, HE specifically refers to education provided by universities or equivalents, like high vocational schools, community colleges, art colleges, technical colleges, also includes teaching, research and social services

activities of universities, it includes both the undergraduate level and postgraduate level. Nevertheless, there is no fixed definition of "the university" and its mission. Under those circumstances can use the Oxford dictionary to define the university; is: "The university is an institution that provides the highest level of education, in which students study for degrees and in which academic research is done" (Oxford University, 2000, p. 713). So, one can say that the university is an educational institution where it is possible to study the highest level of education degrees. But it is not just a materialistic system for education, but also, group of regulations, policy, procedures and requirements, which build on different visions and philosophies because the university deals with beliefs and behaviour, and the analysis of educational policy needs to consider underlying philosophies of education which in turn derives from broader societal philosophical underpinning.

In Libya the HE refers to a level of education that is provided at academies, comprehensive universities, specialised university and vocational universities. The inception of HE in Libya in the modern era was on 15th of December 1955, the date of the foundation of the Faculty of Arts which is considered the nucleus of the Libyan University in Benghazi. In 1957 the Faculty of Economy opened in Benghazi city and the Faculty of Science in Tripoli. In 1961 the University of Mohammed Bin Ali Al-Sanusi - Islamic University – in the city of El-Bieda opened. After that faculties and universities emerged which covered most of the Libyan regions. On the whole the evolution of HE in Libya can be examined through the study of the growth of universities, numbers of students enrolled and graduates. Where that the universities' growth has been slow until 1975 this can be attributed to a small population, where the population of Libya in 1973 was 2,052,372 in accordance with the general census population in that year and also the lack of financial resources because of low oil prices in the sixties and early seventies of the twentieth century. In contrast, "the Libyan government began building a new headquarters for the University of Libya in Benghazi and Tripoli since 1968" (Libyan University, 1972, p. 24)

By 1985 the number of universities increased to 11 universities, 5 of which are comprehensive, 5 Specialised University and one Open University. In 2005 there were 12 Universities, 10 of which are comprehensive, and one specialised and open university. This can be attributed to the increase in oil revenues which gave Libya the opportunity to accelerate the process of educational development at the end of seventies and the beginning of eighties, as well as the re-structuring and reform of the educational system in 1980. However, some researchers argue: "That this number of universities was excessive for a population as small as Libya's (about 5.5 million according to the census in 2006). And educational planners had suggested a ratio of 1 university to 1,000,000 people" (Elzalitni, 2008, p. 45).

In the same way, some analysts have argued that the establishment of universities has not been appropriately planned to meet the actual needs of the different regions of the country. This unplanned expansion has been well summed up by Al-Badri (2006), who argues that: Haphazard and sudden expansion of universities has been conducted without taking into account the actual distribution and density of the population. These ideas have probably been born of the moment because they did not take into account the simplest requirements of the HE institutions such as appropriate buildings, administrative staff and most importantly, sufficient number of faculty members to carry out the various teaching responsibilities at these newly established universities.

As for, private universities did not start their activity until 1997, that in 1997 there was one private university without students, also in 1998 there were not students at three private universities, and in 1999 there were 5 universities, and 257 students. The number of private universities rose from 7 in 2000 to 32 in 2003. (Al-Tier, 2005, p. 44). This means that the growth rate was about 10 universities per a year, and this rate is very high if compared to the number of students, which did not exceed 5000 students nationally in 2003, and maybe this is what prompted some researchers and writers to criticize those universities. Furthermore, can be noted that some of the new HE institutions have no economic value due to the lack of sufficient

equipment and professional human resources, and not to mention the low level of educational attainment of this new faculty, also observed that a large proportion of higher institutions tend to enrol in the social science and humanities, this is despite the fact that the society is badly in need of graduates of science disciplines.

Fundamentally, this focus on the university raises the issue of what is meant by a "university" in Libya? How is it defined and how can it be set up? Does it has degree awarding powers?, Where the Libyan Centre of Ensure Quality and Adoption of Institutions of Higher However, the numbers of university students that are shown in the Table (1), suggest that:

Table (1)
Enrolment of students in Libyan universities (from 1955 to 2006)

Academic Year	Number of Students	Academic Year	Number of Students
1955-1956 (1)	31	**1985-1986** (3)	36600
1965-1966 (1)	1722	**1995-1996** (4)	126348
1975-1976 (2)	11100	**2005-2006** (5)	246000

Sources: **Adapted from (1): Libyan university, 1972. (2): Al-Falah and Salem, 2006, p. 106. (3): Al-Tier, 2006, p. 42. (4): Al-Maqury, 2006, p. 105. (5) Al-Badri, 2003, p. 127..**

It is possible to ascribe these growth trends in the number of students enrolled in institutions of HE to several reasons, including:

1. High population growth rate, where the contribution of the high rate of population growth in increasing the number of students at the university.
2. Closure of intermediate teacher colleges prompting the students to demand university education instead.
3. The university system is obligated to provide college education to every secondary school graduate, through free access and open door admission to all colleges of the university.

4. The absence of a clear admissions policy at universities relating to the selection procedure for applicants to university learning programmes.
5. Employment policy, which gives access to jobs for university graduates more than others.

Section One: Building and application Delphi questionnaire:
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The Delphi technique is one of an important group of methods in futures studies. Its aim is to generate a consensus about possible future scenarios of a particular issue by a sequence of surveys of panel experts. In this study its aim is to generate a consensus about possible future scenarios of Libyan higher education. The email used to gather information, provide feedback from/to the 'expert panel'. To achieve this, the three steps were put in place, which can be seen in the following points:

First step: The Delphi process was started with an open-ended questionnaire; the open-ended questionnaire serves as the cornerstone for soliciting specific information about HE. This questionnaire was sent to a panel of experts and practitioners in the Libyan fields of HE. It should be noted that this questionnaire will be used as the survey instrument for the second step of data collection. 54 paragraphs have been selected based on the open-ended questionnaire used in the first phase of the Delphi technique. Some paragraphs were also selected from previous studies. Two types of tests of the efficacy of the questionnaire responses were then conducted, these were:

1. Virtual test of honesty: The researcher selected paragraphs approved by 80% of the arbitrators, which resulted in the retention of 36 paragraphs.
2. Test of internal consistency: it is typically a measure based on the correlations between different items on the same test. For this research 30 employees were selected from three workplaces, it was decided to use a test re-test method. And all values were found to be statistically significant at level 0.01, (Internal environment 0.66, External

environment: Economic factors 0.73, Political factors 0.68, Competitive factors 0.70, Social and cultural factors 0.67).

Second step: Each participant received a second version of questionnaire. This version has been adapted by the researcher according to the tests discussed above. Each participant is asked in this questionnaire to review the items summarized by the investigator based on the information provided in the first step. Accordingly, Delphi panelists are asked to rank-order items to establish preliminary priorities among items. This is intended to begin to analyze the priorities of the panelists and to begin to develop more specific views of the panelists which will be the basis for the more detailed aspects of the scenarios.

Third step: Each participant receives a third version of the questionnaire and is asked to review the items summarized by the investigators based on the information provided in the second step, where the proportion of panelists who agree on each paragraph is included in the information provided to them. This provides an additional layer of information to the panelists and prompts their responses.

Section Two: initial SWOT matrix (Matrix of Strengths, Weakness, Opportunities and Threats) of higher education (HE):
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Based on an analysis of HE initial SWOT matrix, a range of factors were found related to the internal environment (strengths, weaknesses), as the table (2) shown:

Table (2)
Factors related to internal environment Libyan HE

Internal factors	Strengths	Weakness
FRS	1. Ability of students to absorb information and turn it into usable knowledge. 2. Ability to adapt and learn quickly and possess the skills necessary to do it. 3. Ability to work collaboratively within	None

538

	a group.	
FRC	4. Interest in foreign languages.	1. In curriculum there is no method to teach these skills. 2. There is no relationship between technical knowledge and learning, and another to develop thinking in general and scientific thinking in particular.
FRFM	None	3 Using the method of memorization in teaching. 4 Focus most of the lecturers in the educational aspect without focusing on the community development and scientific research. 5 The absence of continuing education programmes for lecturers, and the inability of lecturers in innovation and continuous learning.
FRA	5 There are multiple disciplines at the Libyan universities to meet the Labour market needs. 6 There are criteria for the selection of lecturers for the work at universities. 7 The actual study during the academic year is sufficient (between 22 and 25 weeks). 8 There are enough conferences and scientific symposia.	6 Weakness of practical training during the undergraduate. 7 The absence of precise criteria to the acceptance of students at Libyan universities. 8 There is no balance in the distribution of students between the departments at universities. 9 The lack of good information system at universities and therefore the lack of adequate information for decision-makers and curriculum designers.

Source: *Authors Survey*

Acronyms: *Factors Related to Students (**FRS**), Factors Related to Curriculum (**FRC**), Factors Related to the Faculty Members (**FRFM**), Factors Related to the Administration (**FRA**).*

There is a need to develop specific strategies to address the shortcomings of the elements of the internal and external environment of HE. But before that, there is a need to discuss the positive elements identified by the Delphi technique panel in the Libyan HE. Through the data contained in Table (2) it is possible to observe that there are eight factors of strength in the internal environment of HE. The following discussion provides a detailed consideration of each of these results:

1 The ability of students to absorb information and turn it into usable knowledge (FRS), and ability to adapt and learn quickly and possess the skills necessary to do it (FRS). First of all, this result is not

consistent with the findings of the Elfenish, et al, (1998, p. 283), where they suggest to: "Focus on the transfer of information more than the practical training, which led to inability of students to apply and develop their skills and abilities. Also, some curriculum focus on teach some of the issues and local problems such as the problems of population, migration, water, pollution and other without help students to use method of problem-solving or develop critical thinking skills and decision-making".

This result could be interpreted by saying that panel perceive that Libyan students have the ability to absorb information and turn it into usable knowledge and they have the ability to adapt and learn quickly and possess the skills necessary to do it, but there is the urgent question, which information and knowledge can the students make usable? And which skills can the students learn quickly? And it can be said that a focus on the transfer of information over the practical training at Libyan universities may have led to an inability among students to apply and develop their skills in the workplace.

2   The ability to work collaboratively within a group, because of possession of skills of verbal and written communication and others (FRS): This result is consistent with the finding of the Obaidat and Sada (2010, p. 84) study of skills in Jordan, as they concluded: "That the rate of acquisition of communication skills among Jordanian universities students was relatively high, Where was between 66% and 67%, but there are slight differences between males and females".

3   Interest in foreign languages (FRC): This result is not consistent with Mirza (2002) who recommends in relation to Libya: The institutes teaching English and other foreign languages should be supported, because these languages became the basis of scientific dealing in the areas of knowledge and technological development. In addition to the private sector, the State should support the public education sector by providing teachers of foreign languages from countries

speaking these languages. In 1985 the teaching of foreign languages were abolished at all stages of education in Libya. However in the second half of the nineteen-nineties the Libyan government has decided to teach English language at all stages of education. Indeed, there are more than fifteen years when foreign languages have not been taught in various stages of education in Libya. This naturally created a significant gap in the teaching of these languages. This also may limit the possibilities for Libyan students to experience and communicate with other cultures, and this is perhaps the reason that led some interviewees to say that the workers do not have to connect with expertise and international experiences.

4. There are multiple disciplines at the Libyan universities to meet the Labour market needs (FRA): This result is not consistent with the findings of Al-Badri (2007) - In his study about the problems of higher education policies in Libya - he suggests: returning to HE in our country and despite the spread of its institutions throughout the country, it is still weak in its policies and programmes and weak in its input. On the other hand, its outputs are not diverse, and that means that the HE system in Libya is lacks diversity. Despite the fact that the universities spread rapidly because of growth during the seventies and eighties of the twentieth century that the universities look the same all over the country as Alfaidy and Ibrahim (1997, p. 199) have observed: "that a large proportion of higher institutions tend to enrol in the social science and humanities, this is despite the fact that the society is badly in need of graduates of science disciplines." therefore there is a limited diversity.

5. There is a criterion for the selection of lecturers to work at universities (FRA): Al-Badri (2006) has supported this result, and he confirmed on: Adherence to standards specified to select the Libyan lecturers for the work at universities, to selection of non-Libyan lecturers for the work at universities must ensure the scientific competence, university teaching experience, scientific activity. There are no precise scientific criteria for the selection of faculty member in

the regulations and decisions that govern the work in universities. But the LCEQAIHE (2007) has stated - in the guide to quality assurance and accreditation - some conditions that should be provided for appointment as a lecturer at the university. But these conditions did not identify the skills that should be available in persons who want to work at the university as lecturer.

6 The actual study time during the academic year is sufficient (between 22 and 25 weeks) (FRA): This result does not agree with the recommendation made by Abu-Jafar (2006) in his study about private higher education in Libya, where he said: The academic year in private higher education in Libya should be like the academic year in public higher education, and have a minimum 14 weeks actual study. However, the numbers of instructional hours per week are not enough if compared it with the number and size of courses. For example: 'in the Department of Educational Planning, Faculty of Arts at Omar Al-Mukhtar University , Libya, the number of instructional hours per week dedicated to learning computer science is 1 hour 30 minutes. This is less than the required to learn the computer science due to lack of laboratory, computers and technicians etc, which cannot support computer skills. Whereas, the time required teaching the computer science is 3 hours per week (Omar Al-Mukhtar University , 2001). In contrast, it can be noted that the amount of time weekly is about 18 or 22 credits, and thus the number of lectures allocated to each grade is between 9 and 11 lectures a week. The number is different from one department to another (Omar Al-Mukhtar University , 2001).

7 There are enough conferences and scientific symposia (FRA): This result has not been supported by any Libyan researcher or writer, but on the basis of the researcher's personal experience and direct observations during the work at the Omar Al-Mukhtar University in Libya, it is clear that there were not enough conferences and scientific symposia. Although until 2006 there were 12 universities in Libya but there were 2 or 3 conferences and scientific symposia

every year. In fact, this number of conferences and scientific symposia is very low if compared to the number of universities and colleges. Also, that the most lecturers are focusing on the educational aspect of their roles without focusing on the community development and scientific research, and there is an absence of continuing education programmes for lecturers, and an inability amongst the lecturers to innovate and take up continuous learning programmes. Accordingly, the conferences and scientific symposia are an important area in which to develop the skills and capabilities of faculty members. In the same way, the Faculty of Arts at University of Garyounis (2002, 2002, p. 3) has confirmed that: "That the lack of participation of faculty members in conferences and scientific seminars and workshops, and weak sources of information that will help in their work. All this led to impact on their abilities and knowledge".

Apart from this, there are nine factors of weakness in the internal environment of HE which are presented in Table (2). Accordingly these factors can be discussed as the following:

1 The weakness of the practical training during the undergraduate programmes (FRA): Actually there is no Libyan research has confirmed this result. However, the ILO (2007) has emphasized that the developing countries often face difficulties in providing meaningful vocational education and skills training to enhance the quality of their labour force. This finding from the Delphi technique is therefore in keeping with what might be expected in a country of Libya's economic profile.

2 There is no method in the existing HE curricula in Libya for teaching practical skills demanded by employers (FRC): This result has been confirmed by some Libyan research such as Bubtana (2009) and Sheikh (2006). For example, Bubtana (2009) argued that: Content of the curriculum still promotes the concept of education for work in clerical jobs, and this concept did not create methods to link between academic study and field work especially the technical work. The ILO (2007, p. 35)

reporting on a wide range of countries across Asia and the Pacific, offer a partial possible explanation for this situation: "there were still many out-dated training courses being delivered because teachers did not feel comfortable to change to new areas".

3 There is no relationship between technical knowledge and learning, and a failure to develop thinking in general and scientific thinking in particular (FRC): This result was reported by Elzalitni (2008) - in his study about vocational education and training programmes in the Libyan higher education sector - has remarked: ... Clearly, humanities and social sciences courses dominate HE institutions. One explanation of this strong and continuing dominance of such courses is the fact that these courses are taught by the traditional methods of "chalk and talk" and text books which do not require expensive equipments or special laboratories/ workshops...

4 Using the method of memorization in teaching at Libya's HE (FRFM): this result was supported by Qaier (2001, p. 163), when he reported: "That some causes of low efficiency for HE, are: Using the method of memorization in teaching, the weakness of the practical training at the university and the underutilization of the modern technology".

5 The absence of precise criteria on the acceptance of students into Libyan universities (FRA), and there is no balance in the distribution of students between the departments at universities (FRA). This result has been confirmed by Mniena (2001) as she agreed: The individual admission polices practiced by the different colleges at Garyounis University, and the transfer of many students from one college to another, reflected clearly the inability of Ministry of Education to implement and enforce its policies on one hand, and divided the central admission policy of its content and importance, on the other hand. where Al-Badri (2006, p. 147) confirmed that "Those policies were not able to identify the number of students, who can be absorbed by universities, where that the admission of students at universities is not based on data and information or statistics, which indicate the need for those students

in each discipline". In fact, this result point to the need for the Libyan universities to reform the student admission policies to be able to identify the number of students at university, colleges and departments, and the capacity of universities to accommodate these students.

6 The focus of most of the lecturers is in the educational aspects of the curriculum without focusing on community development and scientific research (FRFM): This result has been supported by some researchers and organizations, such as UNESCO (2008, p. 106) - Reinventing Higher Education - has emphasized in the case of developing countries "that most faculty members are not interested nor do they have the orientation or desire to work for social change, except for their own betterment", This situation applies to most faculty members in Libya, where they are working with more than one university to improve the living situation and therefore neglect of scientific research and local community development, as Al-Badri (2006, p. 150) remarked: "Weak contribution of the faculty member at the scientific research and local community development because the high volume of daily teaching hours".

7 The absence of continuing education programmes for lecturers, and the inability of lecturers to maintain innovation and continuous learning (FRFM): Said (2006, p. 221) has supported this result, - in his study about the higher education in Libya "Dilemmas and Development" - where he recommended: "The establishment of special centres to universities to be interested in developing the skills of faculty members to be abreast of the latest achievements in the fields of research and development. In the same context, give the faculty members short-scholarships for the purpose of viewing and gaining more skills". Although most of the laws and decisions that organize the work of faculty members have confirmed that there should be continuing education programmes for lecturers to develop the ability of faculty members to innovate and pursue continuous professional learning and development, they have been unable to do in the absence of such programmes.

8 The lack of a good information system in the universities and therefore the lack of adequate information for decision-makers and curriculum designers (FRA): Ali (2006, p. 212) has supported this result - in his study about the reality of higher education and the development requirements in Libya - where he recommended that there was a need to: "Develop an efficient system of information to be able to provide a realistic and clear picture about demand and supply, and predict the requirements of development and the labour market from all disciplines". The Libyan universities and the Ministry of Education must build an information system to support educational decisions in Libya through data collection and classification, accessing the education indicators and analysis and educational policy-making.

According to, an analysis of HE initial SWOT matrix, a range of factors were found related to the external environment (opportunities, threats)-, as the table (3) shown:

Table (3)
Factors related to external environment Libyan HE

External factors	Opportunities	Threats
EF	None	1. The low level of spending on HE. 2. There are not sufficient laboratories, and the libraries do not contain the modern periodicals and books. 3. Weakness of spending on research and studies. 4. The imbalance in the salaries of employees within the University
PF	None	5. There are no strategies and implementation mechanisms that explain the universities beliefs and perspectives. 6. The absence of administrative and organizational stability of universities. 7. There is no comprehensive philosophy or clear principles and requirements, targets and policies. 8. There is no relationship between the central planning system and planning system on the HE sector. 9. Absence of a board is responsible for HE

				on an on-going basis.
CF	**1.**	There are specific criteria for measuring the quality of universities. **2.** Harmony of the geographical distribution of universities.	**10**	Propagation of the establishment of small universities, which do not have human resources and capital assets.
SCF	**3.**	High cultural level and low rate of illiteracy among parents. **4.** Decline in family size.	**11** **12** **13**	The absence of the concepts of career commitment, competition, and excellence in the Libyan society. Not interested in the cultural diversity between regions. Lack of attention of impact of the customs and traditions on the educational system.

Source: Authors Survey

Acronyms: Economic Factors (**EF**), Political Factors (**PF**), Competitive Factors (**CF**), Social and Cultural Factors (**SCF**),

Additionally, the opportunities identified by the expert panel -in the Delphi technique phase- include some elements, as following:

1. There are specific criteria for measuring the quality of universities (CF): In 2007 the LCEQAIHE has recommended, an analysis of the functioning of institutions and educational programmes and measure the level of performance and quality level to determine what may be shortcomings and the need to avoid in order to achieve the required level of quality, ten standards has identified to ensure quality and adoption of institutions of higher education, such as: an institution's mission and objectives, organization of administrative, tutorial and faculty members. These standards have not been supported by any Libyan writer or researcher, because they see that the standards developed by the LCEQAIHE (2007) are not effective due to the fact that they not include mechanisms and methods that will be evaluated; For example: there is no mechanism to evaluate the faculty member, some private universities have been granted a license to operate without having facilities, such as buildings, lecture rooms or laboratories.

2. Harmony of the geographical distribution of universities (CF): Fundamentally, these results are not consistent with the findings of the Al-Badri (2006), who suggested that: The haphazard and sudden

expansion of universities has been conducted without taking into account the actual distribution and density of population. These ideas have probably been born of the moment because they did not take into account the simplest requirements of the HE institutions.

Beyond this, Elzalitni (2008, p. 45) has stressed: "That this number of universities was excessive for a population as small as Libya's (about 5.5 million according to the census in 2006). And educational planners had suggested a ratio of 1 university to 1,000,000 people". For the most part, the harmony of the geographical distribution of universities is only formality - there is not an even spread of universities across the land of the nation - for example: can be noted that the universities are concentrated on the Libyan coast while there is only one university in the south of the country.

3. High cultural level and low rate of illiteracy among parents (SCF): This result has not been supported by any Libyan writers or research, but the GAI (2009) in Libya has confirmed: That the enrolment ratio of basic education has risen from 91.3% in 1995 to 97.1% in 2006, In contrast, the illiteracy rate has decreased from 18.7 in 1995 to 11.5 in 2006.

The education provides knowledge and information, and changes in the way students think. It also develops the sense of self-esteem and self-confidence. In contrast, education is considered as instrument for developing human resources and for human capital formation, so that, the people who have reasonable literacy and numeracy skills tend to continue their education more than others. As Preston and Hammond (2002) have confirmed: Quantitative analyses reveal that esteem and efficacy are perceived as separate benefits of further education, and our qualitative findings suggest that esteem and efficacy bring about different classes of wider benefits. For example, esteem may lead to improved psychological health, whereas efficacy often leads to an increased propensity to participate in the community. Also, independence of thought,

problem solving and improved IT skills are identified as outcomes of further education.

4. Decline in family size (SCF): This result is consistent to some extent with the results of Libyan General Population Census (LGPC), but it must be noted that the decline in family size was not a large, where the average of family members was 4.5 in 1954, in 1964 increased to 4.7, in 1973 became 6.0. Also, in 1984 has increased 6.82, and in 1995 were 6.96, in 2006 decreased to 5.9. Nonetheless, the sociological and demographic literature refers to the relationship between family size and education. As Marteleto (2005, p.3) stated that: "Theories regarding sibling's rivalry and resource dilution among siblings offer insights into how children's educational attainment relates to number of siblings. According to these theoretical frameworks children with many siblings are generally worse off than their counterparts in terms of several outcomes related to life chances, including nutrition, educational attainment".

According to the dilution of resources hypothesis developed by Blake (1985), a large number of siblings, or close spacing among siblings, dilutes the amount of parental time, attention, and money available per child, which tends to negatively influence several child outcomes, including educational attainment (Marteleto, 2005, p. 3). Simply put, parents with more children spend less time with each of them.

The Delphi technique panel surveys resulted in a number of threats being identified. These include following elements:

> **1** The low level of spending on Libyan HE (EF): Al-Ezzabi (2006) has recommended: The success of the role of universities and their contribution to the development programmes depends on such things as; develop possibilities of the

material through the allocation of budgets enough to cover the requirements of universities. This seems largely true because most of the spending on universities has granted for salaries and administrative expenses.

2 There are not sufficient laboratories, and the libraries do not contain the modern periodicals and books (EF): this result has been supported by Elzalitni (2008) when he said: it is clear that most Institutions of HE do not possess the necessary supporting infrastructure facilities - such as laboratories, libraries, bookshop.- and human resources. These should be available for HEIs to enable them meet their exigencies and perform their functions adequately and accurately.

3 Weakness of spending on research and studies (EF): This has led to the weakness of scientific research at Libyan universities, as GPCE (2005, p: 3) has confirmed: "Weakness of scientific research at universities and institutes of HE and they do not yet start production of knowledge, In addition, we note the weakness of postgraduate studies. Furthermore, we find that the research centres interested in quantity and do not seek

to quality because those centres are conventional and did not work by scientific methods".

These first three results (1, 2 and 3) seem largely true because most of the spending on universities has been granted for salaries and administrative expenses. In contrast, there is not enough spending on a scientific research or development of the laboratories, libraries and lecture rooms. According to Al-Tier (2006) between 90-93% from the public spending on HE in Libya was spent on salaries and administrative expenses. This means that only between 7-10% is spent on scientific research and development in the Libyan universities. This is a very small proportion of a very small allocation to HE.

4   There are no strategies and implementation mechanisms that explain the universities beliefs and perspectives (PF): This result has not supported by any Libyan researcher, but the ARCHE (1998) has recommended: The Arab States must set up policies and legislations as well as establish effective mechanisms to deal with the overall governance of the HE system and institutions, with due consideration to the promotion of institutional autonomy and the participation of all sectors concerned. Fundamentally this requires that there be interest in developing policies and clarity about how to implement these policies, because the lack of clarity leads to errors in the implementation of these policies and therefore they do not achieve their objectives.

551

5 There is no comprehensive philosophy or clear principles and requirements, targets and policies (PF): This result has supported by Elzalitni (2008), and also Al-Badri (2006, p. 150) who argued: "There are no clear aims or philosophy for the Libyan higher education system, also there is no effective administrative system of higher education institutions in order to achieve aims, for which it was established". That the lack of clarity leads to errors in the implementation of these policies and therefore they do not achieve their objectives. So, the unclear aims or philosophy resulted in the HE sector being is unable to achieve the aims for which it was established.

6 The absence of administrative and organizational stability of universities (PF): This result has supported by Theeb (2009, p. 71) when he stressed that: "One of the most important bits of evidence of the fluctuation of policies and strategies of Libya higher education is the instability of the administrative structure, in terms of exposure of the sector in different years to abolition or merger with other sectors, or the distribution of key departments to

other secretariats; and thus it applies to universities and higher colleges in similar circumstances, leading to transition of the sector from centralization in the management of these institutions to decentralization, and back". One of the main pillars of the development of any system is stability and administrative organization, since in the absence of stability there is no clarity in the policies, objectives or visions.

7 Absence of a board responsible for coordinating HE at a national level on an on-going basis (PF). As El-Hawat (1996) supported this result, writing about the legal basis on which Libyan universities were founded and the future prospect for HE in Libya: What was in these laws is a general principle for the organization of universities and it was not detailed and accurate. This means that Libyan universities are randomly working because orientations of the community are not formulated in the form of aims and interdependent philosophy, which can lead to programmes and specific plans. Fundamentally, the absence of a board responsible for coordinating HE at a national level on an on-going basis led to the lack of coordination

between HE and other sectors in Libya, thus there is no clear relationship between with those sectors. Also there is no coordination in the plans and programmes between them.

8 There is no relationship between the central economic and social development planning system at a national level and the planning system on the HE sector (PF): This result has not supported by any Libyan researcher. But a lack of effective coordination between government departments and educational agencies in Libya may be due to the absence of an effective system to transfer information between them.The ILO (2007, p. 36) emphasized in a review of a number of countries including Libya that: "A consistent issue is that there is a lack of effective coordination between government departments and educational agencies within countries. A coherent institutional framework is a crucial factor in facilitating effective training policies towards the development of a skilled human resource base.

9 Propagation of the establishment of small universities, which do not have human resources and capital assets

(CF): Alfaidy and Ibrahim (1997, p. 199) - in their study about the higher education and future challenge in Libya - have supported this result when they noted: "Some of the new HE institutions have no economic value due to the lack of sufficient equipment and professional human resources, and not to mention the low level of educational attainment of this new faculty. It has also been observed that a large proportion of higher institutions tend to enrol in the social science and humanities, this is despite the fact that the society is in badly need of graduates of science disciplines."

10 The absence of the concepts of career commitment, competition, and excellence in the Libyan society (SCF): Because of the dependence of the Libyan population on the State to provide all the necessities for long periods of time, the Delphi technique panel have noted that the concepts of career commitment, competition, and excellence in the Libyan society almost do not exist. As Mirza (2002, p. 11) has confirmed: "The culture of profitability has influenced the mind of the educated classes to obtain a job - as insurance against unemployment - in the public sector. It requires an

effort to change this culture and efforts in this direction will find social resistance because the culture of profitability has been established for a long time". Because of the laws that force the economic sectors on the employment of Libyans, the public sector absorbs the bulk of the labour force.

11 Not interested in the cultural diversity between regions (SCF): As discussed elsewhere, this may be due to the fact that the Libyan universities have similar courses, so they do not take into account the cultural diversity between regions. As Sheikh (2006) has argued: In fact, there is no correlation between the curriculum and action field, this creates a gap between the educational institution and surrounding environment. To be more precise, Libya's population are not only Arabs, but there are other ethnicities such as the Amazigh, Tabu and Touareg. Also, Libya is a country diverse in terms of environment and natural resources. Under those circumstances flexibility and diversity in curricula is needed. Accordingly, Elmograbi (2006) has recommended: The content of higher education in Libya should be in line with the surrounding political environment,

social environment and natural environment.

12 Lack of attention on the impact of the customs and traditions on the educational system (SCF): This result has been supported by Al-Maqury (2006, p: 119) when he confirmed writing about reality and possibilities of development in the relationship between higher education outputs and Libyan labour market: "Reduce the impact of negative social factors on the relationship between the outputs of higher education and the labour market such as: the restrictions imposed on women and the negatives caused by tribal affiliation or family". Although, the proportion of females at Libyan universities is almost on a par with or in excess of the proportion of males customs and traditions have affected the female students' choice of disciplines.

13 The imbalance in the salaries of employees within the University (EF): This result has supported by Al-Badri (2006, p. 143) when he said of the situation in Libya's HE sector: "The material and moral incentives are not available for faculty members, who teach in postgraduate or scientific supervision, prompting many of them

557

to be satisfied with teaching at the undergraduate. Although salaries have improved, but the taxes lose their value, this has led faculty members to work outside the university".

Section Three: Building Libyan HE strategies and scenarios: ………………………………

On the whole, an analyst of the performance of the Libyan economy over recent years can observe the emergence of job seekers' problem especially among graduates of HE. This has been illustrated above by many of the points made as a result of the limited literature available, and the outcomes from the primary data collected for this study. So, this section aims to build and discuss the Libyan HE strategies. In fact, the development and implementation of strategies and scenarios for change in the Libyan HE has become an urgent necessity due to the importance of this sector. For this reason and according to results of the initial SWOT matrix - where internal factors (S/W) of Libyan HE intersect with the external factors (O/T) as they are received from the experts - the confrontation SWOT matrix has built for Libyan HE - where the main strengths, weaknesses, opportunities and threats are then used to create a SWOT Confrontation matrix, which is in turn used to identify the key strategies-.

Based on an analysis of confrontation SWOT matrix four strategies have been built for the Libyan HE. These strategies are intended to address the issues raised in these SWOT analyses and to offer alternative foci in order to throw into sharp relief the pivots of each, as Table (5) shows.

Table (5)
HE Strategies and strategies pivots

Strategy	Strategy pivot	Strategy	Strategy pivots
Survival strategy: **To support strategy development and promote strategic thinking in the Libyan HE sector.**	Determine the ministry responsible for HE. Increased spending. Provide new technologies. Develop the information system at universities. Develop continuing education programmes for lecturers. To establish small universities.	**Reorientation strategy:** **To address the weaknesses in the Libyan HE.**	1. Increase the hours of practical training. 2. Develop criteria for admission of students at the university. 3. Modify of curriculum. 4. Focus on the local community development and scientific research. 5. Increase the rate of integration of technology.
Defensive strategy: **To purposes of maintaining or improving education quality.**	1. The financial and administrative autonomy of universities. 2. Promote decentralization. 3. Encourage and extend the existing relationship between universities and others. 4. Encourage research oriented towards the business community. 5. Setting up research institutes in universities.	**Radical strategy:** **To address the strengths of the Libyan HE system.**	1. Increase the measures and develop action on primary-level research. 2. Increase coordination of the Libyan universities. 3. Provide an education that point towards entrepreneurial, creative and cooperative attitudes.

**Source**: Authors Survey.

Through the data contained in Table (5) can discuss the Libyan HE strategies as following:

1. _HE survival strategy_: aimed to support strategy development and promote strategic thinking in the Libyan HE sector through reducing the

negative effects of external threats on the HE weaknesses, in addition to a framework setting out strategic direction. Therefore, this strategy can be implemented by the development of the human resources and capital assets available at the universities by determining the ministry responsible for HE clearly and providing new technologies for university education. Also, by developing the information system at universities to provide adequate information for decision-makers and curriculum designers; and not to establish small universities that do not have large human resources and capital assets and therefore high running costs relative to their outputs.

Indeed, Theeb (2009, p. 93) emphasized that the basic elements of the modernization of the university administration: "A successful university administration pursues scientific methods in the conduct of its affairs and a strategic planning approach; the pre-selection of the best academic, administrative and financial policies and trade-offs between access to the most appropriate. These must depend on how the university participates in the planning process, which contributes to the development plans of each interested party or beneficiary (external and internal) of the university's activities or outputs".

In contrast, the Egyptian National Specialized Councils - in its report (1996) on the national board of education and scientific research in Egypt - has confirmed for the following principle for designing of communication appropriate regulation which could be applied to the Libyan case: Design effective systems of communication between the university administration and faculties affiliated to it, and continuous improvement of laws, instructions and regulations consistent with the evolving goals of universities (National Specialized Councils, 1996).

2. _HE defensive strategy_: Strategies can be developed at all levels of the targeted HE institutions for the purposes of maintaining or improving education quality. This is called reactive strategy as it is oriented to face the Libyan HE threats as by supporting the strengths of the existing system rather than making radical changes. This strategy can be

implemented by reshaping and strengthening the role of the university through the delegation of administrative and financial powers to promote decentralization. Also, encourage and extend the existing relationship between universities and other stakeholders in national development and innovation by encourage research oriented towards the business community.

To be more precise, the development of administrative and financial situations at Libyan universities is an essential part within the development and implementation of the defensive strategy. As Theeb (2009) has emphasized in the case of Libya: There is no doubt that one of the most important duties of the management of university education is to create the appropriate atmosphere, providing the infrastructure needed to achieve all the objectives of university education and scientific aspects of research and the cultural and social aspects as well as the development of their resources to serve the community and the environment. To that end we must develop a group of university management systems, plans and methods which contribute to the proper use of the human and material resources and advance the development of scientific, cultural, social and economic contexts we are living in today and look forward to the future.

3. *HE reorientation strategy*: This approach is described as adaptation strategies and this strategic approach tries to take advantage of opportunities to decrease weaknesses in the system. Specifically, this strategy can address the weaknesses in the Libyan HE by bridging the gap between skills required and available through increasing the hours of practical training and modify the aims of curriculum to become more suited to the needs of the Labour market; focus on the local community development and scientific research.

So, the HE sector should be closely linked with the general education stages and should complement them through in-depth specialized courses/programmes and scientific research to ensure the development of the society in various fields (El-Hawat, 1996, p. 184).

4. *HE Radical strategy*: this strategy intends to benefit from the opportunities by exploiting strengths in the system, this strategy must be improving the coordination and governance of HE policies to support development and innovation through increasing the measures and develop action on primary-level research. In fact, the number of universities has increased, but the focus of the expansion has been on the quantitative aspects rather than the qualitative ones. Gannous and Aljoroushi (2004, p. 4) have said about this context: "The quantitative increase in higher education institutions at the expense of quality, which may have so many negative damage consequences".

The qualitative scenario is a process of analysing possible future events by considering alternative possible qualitative outcomes. So, it presents consciously several alternative future qualitative developments. In contrast to a quantitative scenario, which try to show a quantitative picture of the future. In fact, the qualitative scenario is not using extrapolation of the past, but it try to consider possible qualitative developments because the qualitative scenario does not expect past quantitative picture to be still valid in the future. Based on the evidence collected in the Delphi technique and examining the HE factors related to the internal and external environment, also in light of all that has been said about the strategies for Libyan HE, three scenarios have been built for Libyan HE to development the human and physical resources, as shown in the points below. As will be seen in each case there are important roles for the Universities and Ministry of Education.

A. *The optimistic scenario (1) of the Libyan HE*: In this scenario, it is possible to the human and physical resources available at the universities - with assumption neutralize the effect of the external environment - by taking advantage of the actions and events. Where it is possible to take advantage of strengths elements (S) as actions in order to minimize the impact of elements weaknesses (W), because they the intended changes in internal phenomena of the scenario and therefore they are subject to the decision or perceptions -the researcher- scenario writer. These actions (S) are:

    i. Ability of students to absorb information and turn it into usable knowledge.

    ii. Ability to adapt and learn quickly and possess the skills necessary to do it.

    iii. Ability to work collaboratively within a group.

    iv. Interest in foreign languages.

    v. There are multiple domains at the Libyan universities to meet the Labour market needs.

    vi. There are criteria for the selection of lecturers for the work at universities.

    vii. The actual study during the academic year is sufficient (between 22 and 25 weeks).

    viii. There are enough conferences and scientific symposia.

In contrast, it is possible to take advantage of opportunities (O) as events in order to minimize the impact of threats (T). It is important to not forget that the events are proceedings of the unintended and cannot be controlled during the time period covered by the scenario - the event is foreign variable of the process of building scenarios - and therefore they are not subject to the decision or perceptions scenario writer. These events (O) are:

    i. There are specific criteria for measuring the quality of universities.
    ii. Harmony of the geographical distribution of universities.
    iii. High cultural level and low rate of illiteracy among parents.
    iv. Decline in family size.

Fundamentally, human resources development encompasses an array of activities that enhances the ability of all human beings to

reach their highest potential; attention to this human factor has always been a key element in its development agenda.

Precisely, this scenario is based to bridging the gap between skills required and available through an attempt reshape and strengthens the role of the university. So, the HE institutions must rethink in their policy and procedures to improve the quality of output of HE by try to change the way that HE institutions do educational process including redefining universities structures and put more power in the hands of the universities. In addition they can train their faculty members to understand the most effective methods to interact with students and to be aware of the best practices of the most successful universities.

The American Society for Training and Development (ASTD, 2009, p.4) "defines a skills gap as a significant gap between an organization's current capabilities and the skills it needs to achieve its goals. It is the point at which an organization can no longer grow or remain competitive because it cannot fill critical jobs with employees who have the right knowledge, skills, and abilities". Consequently, the management systems, curricula and teaching methods, and funding etc are no longer considered to be adequate to guarantee that Libyan universities can keep up with development in education, research and innovation. Innovation and modernisation are also considered to be necessary with regard to the roles of a university, in addition to its social, cultural and political roles.

In this scenario, can be development of human and physical resources available at the universities by take advantage of the actions and events. So, the Libyan universities change the proportion of their resources to fully invest in the development of their human resources and physical resources. Also the Ministry of Education must contribute a significant proportion because of limited financial resources of the universities. It is essential therefore to improve and

develop those human resources and physical resources available at the universities through next four main pivots:

    I.   Increased spending on the Libyan HE sector.

    II.   Develop the information technology systems.

    III.   Develop continuing professional development programmes for lecturers.

    IV.   The adoption of programmes and mechanisms of academic accreditation and quality systems in the activation of universities and keep up with global changes to the requirements of quality in the educational process.

In the same context, in this scenario the relationships between the elements could take the trends that shown in the Figure (1).
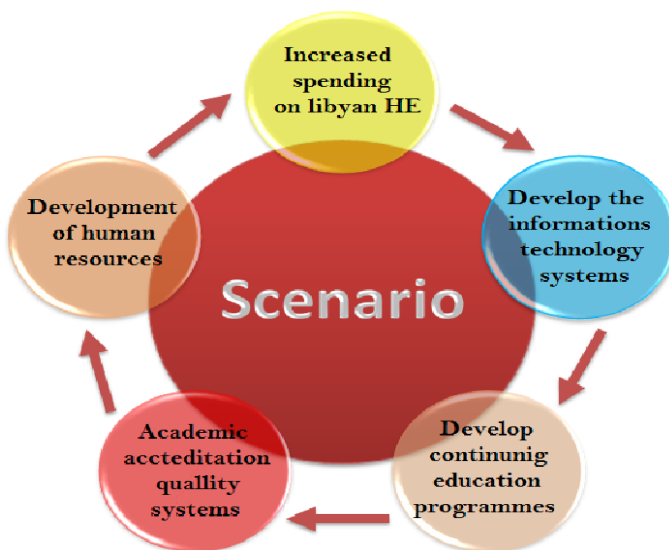
Figure (1): The relationships between the elements in Scenario 1

Through an examination of the relationships between the elements in Scenario 1 as shown in the Figure (1), can be note: The relationship between the elements of the scenario is a complementary relationship. This means, that the increased spending on Libyan HE will lead to the development of the information technology systems and thus to the development continuing professional development (CPD) programmes [CPD programme refers to in-employment professional training and education]. Through the adoption of such programmes, as well as mechanisms of academic accreditation and quality systems in the operation of universities this will help them keep up with global changes to the requirements of quality in the educational process. All this leads to the development of human resource and capital in the sector and also increased spending on Libyan HE due to changes that will occur in the skills. However, the evidence from this research suggests that this will also lead to increased productivity, effectiveness and efficacy in regard to the links to the labour market and impacts on the wider economy.

This scenario may come under pressure from events (O) that cannot be controlled during the time period covered by the scenario. So, the development process must be continuous. Therefore, this scenario could lead to some views, such as:

I.   Increase the hours of practical training at the universities in order to acquire the mental and behavioural skills that would enable students to continue their study.

II. Increase the interest in foreign languages in order to help students to properly use foreign languages in all areas, in particular with regard to practical language usage to communicate with the world.

    III.   Increase disciplines at the Libyan universities such as engineering, medicine and IT, to address the human resources that Labour market needs.

    IV.   Increased ability of students/graduates to adapt and learn quickly and possess the skills necessary to do it, in particular with regard to predominance of the traditional character of curricula and educational programmes and the focus on conservation and memorization in Libyan universities, without much attention to building skills.

    V.   Develop the criteria of selection of lecturers for work at universities due to professional inability to recruit the modern educational progress in curriculum and teaching methods.

    VI.   Develop the criteria for measuring the universities quality in order to develop elements of the educational process, in particular with regard to evaluation standards and developing educational programmes at universities.

    VII.   Increase the rate of linking technical education with university education in particular with regard to increase the number of laboratories and updating of the university libraries.

B. *The possible scenario (2) of the Libyan HE:* The scenario 1 was more optimistic scenario where the development of human and physical resources available at the universities can be achieved. In this scenario, a balanced process can be visualized for the development of human and physical resources available at the universities through bridging the gap between skills required and available and attempts to reshape and strengthens the role of the university by taking advantage of the strengths and opportunities to address the deficiencies caused by weaknesses and threats. The scenario writer will therefore be able to take advantage of the strengths elements (S) in order to minimize the impact of weaknesses elements (W) on the actions of this scenario. As shown in following points:

1. Advantage of the ability of students to absorb information and turn it into usable knowledge (S) and interest in foreign languages (S) in order to minimize the impact of the weakness of low levels of practical training during the undergraduate (W). Over time, the Libyan HE sector has proved unable to effectively deliver the skills required and have, hidden their inability by strict adherence to rules and regulations. This sense of incompetence is based on fact; as long as the perception exists it becomes difficult for the Libyan HE sector to be effective in bridging the gap between skills required and those available. In fact, responding to skills shortages with short-term fixes is not enough. For Libyan HE institutions and Libyan policy makers, the more critical challenge is to address skills gaps for developing a highly skilled workforce in the long-term.

2. The ability to adapt and learn quickly and possess the skills necessary (S) can help to minimize the impact on the focus amongst most of the lecturers in the educational aspect of their activities the expense of the advancement of community development and scientific research (W). the Libyan universities should be aware that innovation is an important component of economic development and productivity growth, the OECD (2009) has emphasized that: Indeed, governments are aware that one of the ways they can begin to pull themselves out of the current financial and economic crisis is to invest in innovation. Several OECD countries have followed such a strategy in the past and come out ahead. Such investments in regional innovation systems and technology-transfer mechanisms can facilitate the transition to a knowledge economy and create job.

3. To minimize the impact of lack of correlation between technical knowledge and learning and a failure to develop thinking in general and scientific thinking in particular (W), it may be possible to take advantage of identified ability to work collaboratively within a group (S) during the actual study in the academic year (S). The Libyan HE outputs are not able to meet changing labour market needs, so the employability skills must be addressed in schools and in HE.

4. The advantage of the multiple domains at university (S) may minimize the impact of the imbalance in the distribution of students between the scientific departments at universities (W). Beyond this, the Libyan universities have to invest significant resources in order to provide good educational to their students through and offer a variety of information and resources, encourage the exchange of ideas, and reward students for acquire new skills and expand their choices. In return, make Libyan universities more accountable to students than ever before and innovation the key ingredient for competitiveness in most Libyan universities.

5. It may be possible to minimize the impact of the absence of continuing education programmes for lecturers, and the inability of lecturers in innovation and continuous learning (W) through development of the criteria of selection of lecturers for the work at universities (S). Since the 1980s, the concept of the national innovation system (NIS) has been gaining popularity as a core conceptual framework for analyzing technological change, which is considered to be an indispensable foundation of the long-term economic development of a nation, even though, in Libya there was not NIS during all these years, so Libya - including Libyan universities - needs to build such a system to support the development and innovation.

6. Lack of good information system at universities (W). It may be possible to advantage of the opportunities of conferences and scientific symposia (S) in order to provide adequate information for decision-makers and curriculum designers. The most important challenge facing Libya's HE system is its ability to adapt to the requirements of economic development in the relationship between the educational plan and the economy. For this reason, the policy makers have tried at least theoretically and render it part of the general development plan. Nevertheless, there is still disparity in the points of views of the educational planner and the economic planner.

In contrast, there are two events (opportunities) related to competitive factors (CF), where can advantage of the specific criteria for measuring the quality of universities to minimize the impact of propagation of the establishment of small universities, which do not have human resources and capital assets. Also, can be advantage of the harmony of the geographical distribution of universities to minimize the impact of lack of interest the cultural diversity between regions. In the same context, there are two events (opportunities) related to social and cultural factors (SCF), high cultural level and low rate of illiteracy among parents and decline in family size, can be advantage of them to minimize the impact of absence of the concepts of career commitment, competition, and excellence in the Libyan society, and lack of attention of impact of the customs and traditions on the educational system.

Though the events are proceedings of the unintended cannot be controlled during the time period covered by the scenario, nevertheless, can be advantage of them to minimize the impact of threats. So, the Figure (2) shows nature of the relationship between actions and events in this scenario:
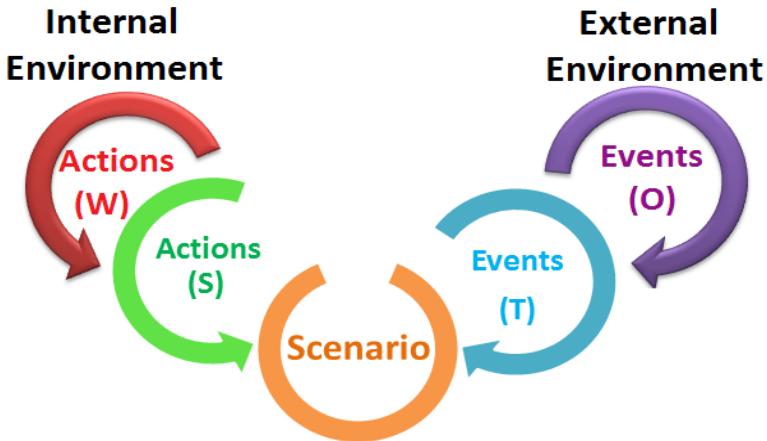

570

Figure (2): The relationship between actions and events in scenario 2

Through an examination of the nature of the relationship between actions and events in this scenario, as the Figure (2) shown that the internal environment composed of actions, whereas the external environment consists of events. More specifically, the actions are the intended changes in internal factors of the scenario therefore can be controlled them, which leads to take advantage of actions (S) in order to minimize the impact of actions (W). The events are foreign factors of the process of building scenarios, which therefore cannot be controlled during the time period covered by the scenario. In this case the scenario is under the pressure of events (T) such pressure could be lead to an imbalance in the scenario results. But this scenario can take advantage of the events (O) to make equilibrium process among all external factors in order to minimize the impact of events (T) on the actions (S). It must be noted that if there are not obstacles, this would lead to some of direct views, such as:

I. Develop precise criteria to the acceptance of students at Libyan universities in particular with regard to the providing educational opportunities for all and assist students to choose the specialization in order to meet the needs of the society and achieve sustainable human development.

II. Minimize the impact of imbalance in the distribution of students between the scientific departments at university through develop the practical training programs during the undergraduate by focus on development of scientific thinking, in particular with regard to the helping students to achieve growth in their integrated mental, psychological, emotional and social development.

III. Develop continuing education programmes for lecturers to increase the ability of lecturers in innovation, continuous

learning, regulation, skills of creation and methods of thinking, in particular with regard to create relationship and access to knowledge in multiple ways within the framework of curriculum.

IV. Develop information system at universities to provision of sufficient information for decision-makers and curriculum designers.

C. *The pessimistic scenario (3) of the Libyan HE:* Scenario 1 has the advantage of strengths to impact on the weaknesses -with assumption neutralizing the effect of the external environment-; and scenario 2 has the advantage of strengths to impact on the weaknesses and advantages of opportunities to impact on the threats. In this scenario the effect of the external environment cannot be neutralized. In fact, Libyan universities today do not have the cash reserves needed to generate new ideas and technologies in their own research laboratories. Under those circumstances, this scenario has some obstacles that come from events (threats), which cannot be controlled during the time period covered by the scenario. This would lead to views, such as:

I. The low level of spending on HE and imbalance in the salaries of employees within the university.

II. There are not sufficient laboratories, and the libraries do not contain the modern periodicals and books in particular with regard to the global changes and their implications on all dimensions of life including the life of the student as an individual and the life of the society as a whole.

III. Weakness of spending on research and studies in particular with regard to the change the concept of investment to be based on the investment of human capital to ensure the best return and increase the value of science and innovation.

IV. The absence of administrative and organizational stability of universities due to absence of a board is responsible for HE on an on-going basis.

V. There are no strategies and implementation mechanisms that explain the universities beliefs and perspectives in the absence of comprehensive philosophy are clear principles and requirements, targets and policies, in particular with regard to link the curriculum content with the environment and the Libyan society and the technology surrounding the student.

VI. Weakness of integration and coordination between HE planning and economy planning in particular with regard to the complementarily between the study courses and the Labour market.

Clearly, the management systems, curricula and teaching methods, and funding etc are no longer considered to be adequate to guarantee that Libyan universities can keep up with development in education, research and innovation. Innovation and modernisation are also considered to be necessary with regard to the roles of a university, in addition to its social, cultural and political roles. In contrast, it is possible to note that the relationship among the elements - in this scenario - is under continuous pressure due to nature of the relationship between the actions and events, as Figure (3) shows:
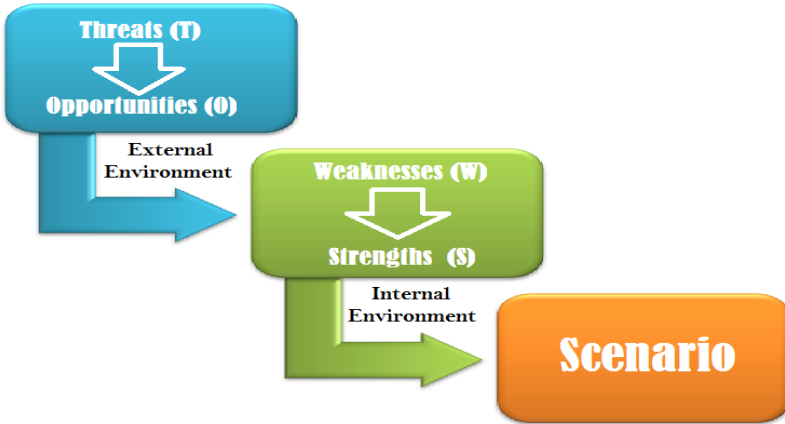
Figure (3): The relationships between the actions and events in scenario 3

Through an examination of the nature of the relationship between actions and events in this scenario as Figure (3) shows, could be noted:

I. The external environment - threats (T) /opportunities (O) - had been under pressure from the internal environment - weaknesses (W) /strengths (S) -, and;

II. threats (T) had constantly been under pressure opportunities (O), and;

III. weaknesses (W) had constantly been under pressure strengths (S), and;

IV. Both external environment (T/O) and events (W/S) impact on scenario.

Section   four: Conclusions   and   Recommendations:

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1) ***Conclusions*:** The results of the analysis of this research indicate that there are some factors relating to the HE internal and external environment, are:

   I. **Internal environment:** This environment includes all components of human and material within an HE institution such as: buildings, laboratories, libraries, devices, aims, curriculum, conditions, entities and events etc, which influence its activities and choices.

   - There are many factors related to students such as: Ability of students to absorb information, their ability to adapt and learn quickly and work collaboratively.

   - In the HE curriculum there is no method to teach skills, also there is no relationship between technical learning and another to develop of thinking. Overall, there is one factor considered as an element of strength in the internal environment of HE, which is interest in foreign languages.

   - There are three factors related to the faculty members and they represent the elements of weakness in the internal environment of HE: the common use of the method of memorization in teaching, and focus of most lecturers on the educational aspect without focusing on the community development and scientific research, and absence of continuing education programmes for lecturers, and the inability of lecturers to innovate and find opportunities for continuous learning and professional development.

   - In relation to HE administration there are a number of factors that the research has identified as strengths: there are multiple domains at the Libyan universities which appear to meet the labour market needs and there are criteria for the selection of lecturers for work at universities, also the actual study during the academic year was considered sufficient. There are enough

conferences and scientific symposia; in fact, they represent the elements of strength in the internal environment of HE.

- However, the study has also identified, four elements of weakness related to internal environment of HE. These, are: Weakness of practical training in the undergraduate curriculum; the lack of good information system at universities and therefore the lack of adequate information for decision-makers and curriculum designers; absence of precise criteria to admit students at Libyan universities; and imbalance in the distribution of students between the departments at universities.

   II. HE external environment: The external environment includes all conditions, entities, events, and factors surrounding an institution, which influence its activities and determine its policy:

- There are many economic factors which can be considered a threat to the external environment of HE, comprising: The low level of spending on Libyan HE and an in sufficient number of laboratories; the libraries do not contain modern periodicals and books. Also, weakness in spending on research and studies and imbalance in the salaries of employees within the university.

- Five political factors considered a threat to the external environment of HE: there are no strategies and implementation mechanisms that explain the universities beliefs and perspectives, and there is no comprehensive philosophy with clear principles and requirements, targets and policies. Also, there is an absence of administrative and organizational stability of universities. Even, there is no relationship between the central planning system and planning system for the HE sector.

- ▪ Two factors related to competitive aspects of the HE sector , are: specific criteria for measuring the quality of universities and the harmony of the geographical distribution of universities with distribution of Libyan population, and a key factor in relation to the competitive aspects of the sector, is: the propagation of the establishment of small universities that do not have physical or human resources.

- ▪ The social and cultural factors affecting the sectors, are: high cultural - education - level and low rate of illiteracy among parents; and a decline in family size.

- ▪ Nevertheless, three threats in relation to social and cultural factors, which are: The absence of the concept of career commitment, competition and excellence in Libyan society; the cultural diversity between regions in the country; and a lack of attention on the impact of the customs and traditions of the educational system.

On the other hand, due to factors relating to the internal and external environment resulting in four potential strategies for Libyan higher education , as follows:

1. Survival strategy: To support strategy development and promote strategic thinking in the Libyan higher education sector.
2. Reorientation strategy: To address the weaknesses in the Libyan higher education.
3. Defensive strategy: To purposes of maintaining or improving education quality.
4. Radical strategy: To address the strengths of the Libyan HE system.

Finally, in the light of all that has been said about the strategies for Libyan higher education, three kinds of scenarios have been built for higher education.

1. The optimistic scenario of the Libyan higher education: In this scenario, it is possible to the human and physical resources

available at the universities by taking advantage of the actions and events.

2. The possible scenario of the Libyan higher education: In this scenario, a balanced process can be visualized for the development of human and physical resources available at the universities.

3. The pessimistic scenario of the Libyan higher education: In this scenario the effect of the external environment cannot be neutralized.

2) *__Recommendations:__* In the light of the findings, but taking account of the limitations of the study and the difficulties encountered in the course of the research, the researcher proposes sets of recommendations for future Libyan higher education, are:

1. The Libyan universities should be expand the practical training period from a few weeks in the final year to continuous participation throughout the years of study.

2. The Libyan universities should develop their curricula to bridge the gap between skills available and labour market demands.

3. It is very important that Libyan universities create standards for the appointment of faculty members and that more attention be given to developing and improving the skills of the faculty members rather than standards that depend on the qualifications.

4. To produce a clear portrait of graduates' skills of any assessment process must look beyond the quantifiable variables in the higher education sector, because these indices and the criteria used to calculate them provide only a preliminary idea of these skills.

5. Due to the low rate of introduction of new technology to the universities the Ministry of Education should be increase spending on Libyan higher education in order to raise the level of laboratories and libraries development.

6. It is very important that the Ministry of Education considering the geographical distribution of universities to be more compatible with the size and distribution of the population in each region.

7.Develop clear policies for higher education that would raise the economic value of output of higher education through raising the level of interest in applied science.

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579

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