



AN EXEMPLARY CASE OF A RESEARCH AND DEVELOPMENT COLLABORATION BETWEEN THE NORTHERN MUNICIPAL COUNCIL AND LOCAL UNIVERSITIES IN THE KINGDOM OF BAHRAIN

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ABSTRACT

Purpose: Research and Development (R&D) has become crucial to the success, sustainability and competitiveness of any organisation. For municipal affairs in Bahrain, the R&D concept has risen as a core business area that can theoretically resolve the challenges encountered by municipal councils with respect to scarcity of resources, including budgetary deficit, expertise and competency, coverage, and scope. On the other hand, students at universities are generally requested to conduct research as a requirement of their study under the supervision of highly competent academics. It is common that most students face difficulty in choosing beneficial topics of research, and therefore may conduct research that is of less value in order to complete the requirements of their degree.

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Based on the needs of both sides, the idea of collaboration between the Northern Municipal Council and local universities on R&D has come into existence. To this end, the municipal council supports Bahraini universities in terms of providing them with a list of the council's research needs. These needs represent different suggested topics that the universities may investigate by conducting proper research. The outcome of the research will benefit the society in general and Bahrain's municipal councils in particular, and will help the latter achieve sustainable development goals.

Findings: The universities have found this approach a pioneering idea, and thereby have taken the necessary steps to establish a robust mechanism to make the cooperation effective. For the Public-private partnerships (PPP) to become more mature, there is a need to promote its concept more strongly and effectively. It needs support from the highest official levels in the Kingdom, and the needs of employees and investors should be recognised and analysed. To maximise the potential benefits of this collaboration, it is crucial that the concerned parties agree on the goals and priorities of such a major project.

Originality/value: The paper addresses some issues pertinent to the collaboration and provides examples of research that has been done, in addition to outlining research plans for the future. Furthermore, the paper discusses examples of development areas that may help in shaping a road map as a basis for community partnership.

Practical and Social Implications: The success measure of this PPP is the ability to combine resources of the private sector and other organisations for the benefit and prosperity of society in general, which would accelerate tangible and intangible gains to the private sector in the long run.

Keywords: Research and Development (R&D); Sustainable Development Goals; Public-private partnerships (PPP); society priorities; scarcity of resources; council's needs

INTRODUCTION

Research and Development (R&D) is an essential stage for any organisation. It triggers development and change for the better life of an organisation, enabling it to keep up with accelerating events and to confront challenges. The organisations that decide to work in R&D need to have a clear idea of their potential and capabilities. Because of the need for technical support that facilitates R&D, this involves high costs and great efforts. Indeed, the organisation that has these resources can start, continue, and innovate with their results.

The statistics of expenditure in R&D for big companies are huge (see Table 1). One of the motives for development and revolution in those companies is the high profit that they can achieve: they afford R&D great importance. Furthermore, developed countries take care of R&D to improve their strategies and infrastructure. They

expend a lot of resources in this area because they know that they will receive huge returns or profits in different forms for organisations and countries in general.

Since the problem of conducting and maintaining R&D exists, it is imperative that a solution be found to this problem; this is what we are trying to do in this research. With our practical experience (where we participated with local universities in conducting R&D), we have highlighted a valuable idea for finding solutions, which we have discovered to be consistent and suitable for this important work.

Research Problem

The most important reason that obstructs the public sector's attempts to benefit from R&D is the cost. In some places, such as Asian countries, the low qualification of some decision makers is another reason. This deprives us of a lot of research and thinking, despite its usefulness, especially if it is in the public sector. The Northern Municipal Council in the Kingdom of Bahrain is one of the branches of the public sector, limited by a budget that is not sufficient to establish the basic projects necessary for the needs of the people of the region. Therefore, it is difficult to think of an additional burden for any expenses, in addition to the general situation of slack bureaucracy that tends to prevail in the departments.

One of the crucial global concepts of our time is that of public-private partnership, and researchers and critics have taken a great deal of interest in this. The innovative idea of joint cooperation between the Northern Municipal Council of the Kingdom of Bahrain as the public sector and local universities as the private sector has come to mind. This is because one of the requirements for graduating from a university is to conduct research; it is even a requirement in most courses. In modern education, there will be a lot of research projects that develop university students' creative thinking and the search for solutions to problems.

Many students have difficulty selecting a topic for research; they solve this problem by looking at any idea, even if it is not realistic or suited to their environment, or if it does not reflect reality in their country. They choose and research a topic just to complete the requirements of their course or degree.

Getting funding for R&D is a very difficult task. It requires long-term planning, great time and effort, and needs professional skills. This task can be entrusted to someone who is able to get the necessary funding, or is able to think about finding solutions. Therefore, external sources are often used to request subsidies for R&D (Mukherjee and Ray, 2007). Therefore, there is a need for the Northern Municipal Council to have an external source for R&D.

Research Objective

The purpose of this study is to resolve a problematic situation for both the public and private sectors. The municipal council needs to support R&D, and universities need

help in finding useful topics for their students. The students can choose realistic issues that can be applied in the practical world: they will have the feeling that they are contributing to solve the problems of the community around them. They will be proud because they have participated in the development of their country.

Research Questions

This study attempts to answer the following questions:

- what is distinctive about this idea?
- is it possible to establish joint cooperation between the Municipal Council and local universities?
- are there possible benefits from this cooperation?
- what will this idea add to both parties and the country in general?
- how is it possible to ensure the highest success rate for the application of this idea?

DEFINITION AND IMPORTANCE OF R&D

In order to explain the idea, we need to clarify some definitions to have a consensus on these terms. Simplified explanations of each of the important terms that appear in this research are given below:

Research and development must be defined before starting any project in order to determine the dimensions of that project. Collins English Dictionary defines R&D as “work directed towards the innovation, introduction, and improvement of products and processes” (cited in Vaikuntam et al., 2016). R&D consists of any project undertaken to expand understanding of natural phenomena or man-made technology without pre-existing intentions (pure research), to discover useful applications from previously acquired knowledge of phenomena or technology (“applied” research), and to develop new uses for currently understood phenomena or existing technology (Wageman, 2004).

Research and development are two document-related processes through which new products and new forms of old products are brought into existence via technological innovation (Holstein and McLeod, www.britannica.com).

Global competition encourages companies to search for a more innovative way of survival, for which more and more complex R&D activities are introduced. An appropriate administrative approach is of great importance, so R&D requires special management. At the same time, R&D institutions in the public sector operate in a less competitive environment, resulting in lower tensions and less stressful environments, leading to less innovative production.

As a result, the administrative approach of R&D in the public sector is left to day-to-day operations. However, the idea that public-sector research institutions, as generators of new knowledge, represent a different approach to R&D is connected to the assumption that intensive R&D business corresponds to R&D exploitation. An

important factor that improves performance in R&D is PPP. This is done through a unified, mutually-accepted platform for both parties that is established by policy makers. An administrative approach that addresses the special nature of R&D performance may facilitate public-private partnerships and increase linkages. In many places, the management approach is still missing from the R&D policy agenda (Mikulskiene, 2010).

DEFINITION AND IMPORTANCE OF PUBLIC-PRIVATE PARTNERSHIP (PPP)

There is no standard definition for PPP in the world, but we can benefit from different definitions that are suitable for our study. PPP can be defined as:

“a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance” (PPP Knowledge Lab).

In the international forum jointly organised by UNESCO, the Commonwealth Business Council, the UAE government and GEMS Education, held in Dubai, UAE, on 12 March 2013, world leaders and education experts met to discuss how public-private partnerships can solve the global demand for better life. They agreed on the role that private-public partnerships can play in achieving educational transformation to benefit more young people in the world, in order to create a skilled workforce fit for the future. They examined different ways to create real, sustainable and scalable change to education systems at both the global and local level. They focused on developing an environment that supports effective public and private partnerships, including a regulatory framework that ensures access, quality, relevance and equity in the provision of education.

According to Irina Bokova, the Director General of UNESCO, “the private sector is very open to innovative methods of cooperation. Tackling complex, global challenges requires innovative and far-reaching partnerships between the public and private spheres” (PR. NEWS.USPR, 2013). This conclusion of the forum’s recommendations is what this research seeks to implement in order to achieve the goals to which it aspires.

To develop a comprehensive participatory development strategy that contains different activities needed for the local economy, it is necessary to apply the concept of PPP (Sarmèe et al., 2014). In this research the authors mention the objectives of public-private partnerships, which are:

- identification of local needs;
- achieving local development strategies;
- developing procedures to implement the strategy;

- establishing the priorities for achievement in projects, according to the strategy;
- developing a financing plan;
- finding funding sources;
- management of the project through the final stage.

They note that the benefit of public-private partnerships is manifest not only in financial terms but also by creating new jobs, new work practices, injecting new vitality for the rural economy, etc. Development of public-private partnerships is necessary in rural areas both economically and socially (Sarmèe et al., 2014).

As can be seen in Table 1, the following countries enshrine PPP in their legislation because of its importance in life.

Previous Studies

There are many previous studies related to public-private partnerships that focus on different areas, such as health (Nikolic and Maikisch, 2006), administration (Wodicka et al., 2012), agriculture (Sarmèe et al., 2014), and education (Tilak, 2016).

Nikolic and Maikisch (2006) provide an example of public-private partnerships, concerning collaboration in the health sector, in an overview with case studies from recent European experience. They talk about the procedure of contracting-out, which involves publicly financed investments aimed at the improvement of efficiency and/or quality by awarding a service contract, a management contract, a construction,

Table 1 Share of Total Global R&D Spending in the World

Share of Total Global R&D Spending

	2014	2015	2016
North America	29.1%	28.5%	28.4%
U.S.	26.9%	26.4%	26.4%
Caribbean	0.1%	0.1%	0.1%
All North America	29.2%	28.5%	28.5%
Asia	40.2%	41.2%	41.8%
China	19.1%	19.8%	20.4%
Europe	21.5%	21.3%	21.0%
Russia/CIS	3.1%	2.9%	2.8%
South America	2.8%	2.6%	2.6%
Middle East	2.2%	2.3%	2.3%
Africa	1.0%	1.1%	1.1%
Total	100.0%	100.0%	100.0%

Source: from A Supplement to R&D Magazine, 2016

maintenance or equipment contract, in addition to various hybrid contracts that serve a specific need or situation, or a lease to a private partner or partners.

Moreover, some researchers investigated the possible cooperation between the public and private sector in general. For example, in their study Melnikas (2013) discussed the importance of the partnership between the public and private sector, and the importance of networking in the most important areas of common interest to the two sectors. They note that society is aware of the importance of this linkage, because it involves work on the most important topics that concern the development and progress of society.

A similar study was done by Wodicka et al. (2012): they studied public and private sector partnerships between universities and local government. In their paper they presented the pros and cons of a partnership programme in community leadership. They conclude the importance and benefits of that collaboration.

In this study, we focus on the idea of collaboration in R&D between the Northern Municipal Council, representing the public sector, and local universities, representing the private sector, in the Kingdom of Bahrain. We illustrate how the journey began and how it got results in a short period of time – one year. The distinction of this research is that it presents solutions to both parties: to the municipal council by solving its problems and eliminating their adverse effects, and to universities by helping their students find diverse research topics, provided by the municipal council, worthy of study and very useful. The topics are not limited to one or two areas, but extend to several areas; this benefits both parties. What most distinguishes this idea is finding a solution for the municipal council in the absence of budget, and the lack of potential for research and development.

Explanation of the Idea

The partnership between the Northern District Municipal Council and local universities is outlined in Figure 1 below, which includes details as follows:

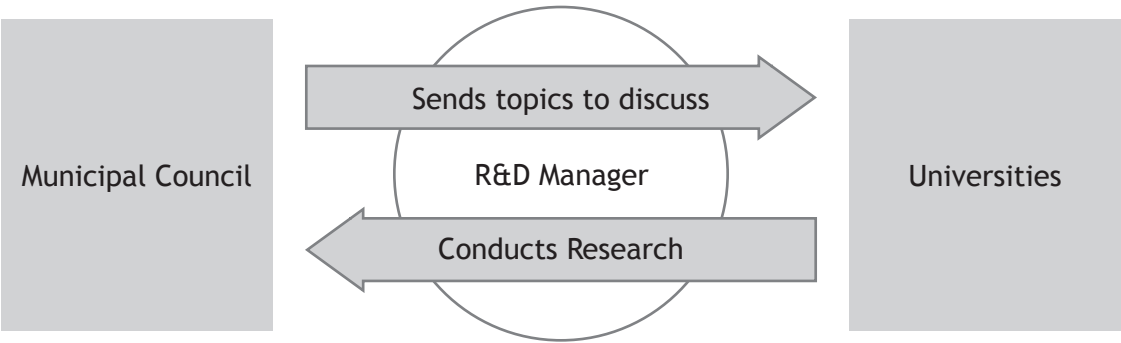


Figure 1 The Typical Relationship between NMC and Universities

Source: DeVised by author

How to Invest PPP in our Firm?

This idea was proposed in order to strengthen cooperation between the Municipal Council of the Northern Region and local universities to carry out university R&D. This supplements the decisions of the Municipal Council and supports the president and members of the Municipal Council of the Northern Region in the development work, each in his field.

In the beginning, local universities and postgraduate colleges were identified in cooperation with universities recognised by the Ministry of Education in the Kingdom of Bahrain. Some professional associations were included. The latter are interested in providing scientific R&D proposals in various fields of specialisation. After we wrote to and met them, a total of 14 universities, in addition to a number of educational bodies and specialised associations, were interested in R&D in their areas.

They considered it a pioneering and innovative idea, and that it was rare to find a body or institution, especially in a government, that was striving towards this pursuit of comprehensive and future development. They had encountered many entities that endeavoured to develop something, but few of them continued with their efforts. Despite the communications and the great resources expended on these projects, the media purpose (reputation image) of these bodies is what was most sought after, and once the media campaign was over, all the goals and plans disappeared.

Some of those universities were approached with proposals for advanced research or development ideas. The majority interacted seriously and volunteered to work with the Municipal Council, enquiring about the needs of the Council in order to research them and prepare suggestions for development. Some of them communicated with us and developed an integrated plan for interaction. They consented to work in this field until the desired completion of R&D.

It was proposed to agree on starting work on the idea, even with few of the most important though simple needs of the Municipal Council, taking into account an estimate of the objective conditions of both parties. This proposal was presented by most universities because, according to their experience, a simple topic of discussion may develop and encourage great work in contrast to grand plans that are impractical and may result in failure. In fact, to do something simple is better than doing nothing or a lot of inaccurate, useless, and exhausting work, taking into account the different capabilities of each party.

The idea is to benefit from universities, not only with research but also with development. For example, it may be the establishment of an electronic programme that assists the Municipal Council in organising its affairs. The Information Technology (IT) department may ask students to study the council's requirements and develop solutions with advanced creative ideas. Cooperation with universities in various fields would save the effort and time of the cadres in our establishment. It will contribute to accelerating the pace of work and productivity in the council. This is what we mean by development.

There is another thing needed by the municipal council, especially in light of the scarcity of human resources. It is possible to use university students in the media as well as educational programmes to raise people's awareness of the Northern Province, what the municipality seeks to achieve, and what constitutes appropriate behaviour in terms of dealing with the environment. This is another example of the required development.

Benefits of the Idea

The descriptive approach was used in this research by interviewing top university academic officials, such as deans of colleges and heads of departments chosen from the same university. A committee was established to coordinate between the university and the Municipal Council in order to reduce the effort and time necessary for implementing this idea. One of the privileges we have gained in this regard is that we have been able to use both the small and large halls of universities to hold conferences, seminars and even celebrations. In addition, all the needs of the Municipal Council have been provided by these universities.

As for our market study, we can say that if competitors and other councils follow our example, a lot of competition could be generated and this will be in our favour, for the benefit of the country in general. As their move increases competition, the projects will progress and develop and this will lead to the country's prosperity. We say with confidence that we will be proud if others follow our example, and, even more, we are ready to spread the idea and help those who are ready to implement it.

Another benefit of this collaboration is the training and coaching of our employees. Our idea was to design a training programme suited to the needs of one of the sections of the Municipal Council. We chose the Department of Public Relations and Information; their first session in the programme was entitled "Modern Methods of Public Relations and Media". In turn, we invited constituents of the executive bodies in all municipal councils to join this programme.

The programme has several objectives, one of which is to train staff of the Public Relations and Media Department of the Northern Region's Municipal Council as a starting point in this kind of cooperation. This involves meeting with other colleagues working in the same field from other councils and municipalities; this in itself is an important type of meeting bringing together similar parties working in different places. The aim of this meeting in one place is for employees to get to know each other and discuss the basics of cooperation, benefiting from each other. They gain experience and take advantage of the pros and cons of other projects. This meeting may serve as a forum for employees to benefit from the knowledge and training received from professors and experienced professionals in theoretical and practical fields.

The Needs of the Municipal Council

After years of work in the Council, its needs were not collected in a single table. Now that this idea has been started, the needs of all the 51 committees and sections in the Municipal Council have been collected in preparation for submission to the universities for study. The following Table 2 shows the number of the topics offered by the committees and sections of the Municipal Council:

Table 2 Topics Reflecting the Needs of the Committees/sections of the Municipal Council

<i>Sequence</i>	<i>Committee</i>	<i>Number of Topics</i>
1	Development of Cities and Villages	5
2	Technical Committee	16
3	Financial and Legal Committee	10
4	Committee for Public Services and Utilities	17
5	Miscellaneous topics	3
	Total Summation	51

Source: Devised by author

Timeframe

According to our preliminary plan, the idea would take four years to produce tangible results. However, because we started late and the total period of the council members' term in office is only four years, the remaining period is only two years. Therefore, we now have the opportunity to implement the idea for at least two years, bearing in mind that we would actually have only one year to work and the next year to evaluate the work. It depends on the policy of those who come after this period whether they continue with it or not.

Participants

Out of 14 universities as mentioned in the website of Secretariat General of the Higher Education Council of the Ministry of Education of the Kingdom of Bahrain, 12 of them cooperated and interacted with us, as in Table 3 below:

Table 3 Participating Universities

<i>Sequence</i>	<i>Universities that responded and were visited</i>
1	Kingdom University
2	Arab Gulf University - Faculty of Medicine and Medical Sciences
3	Gulf University

(Continued)

Table 3 (Continued)

<i>Sequence</i>	<i>Universities that responded and were visited</i>
4	Ahlia University
5	Royal University for Woman
6	University College of Bahrain
7	Talal Abu - Ghazaleh College of Business
8	Bahrain Polytechnic
9	University Of Bahrain
10	Royal College of Surgeons of Ireland - Bahrain Medical University
11	AMA University
12	University of Applied Sciences

Source: Devised by author

RESULTS

After meetings and interviews with universities and their admissions offices to arrange for their cooperation with the Municipal Council in carrying out the research needed, an official agreement was signed by most universities. A number of projects and ideas were agreed upon, and the ideas extended beyond research. Before starting to apply this idea we considered the possibility of its success, and whether it would be endorsed, especially that we worked without any budget, and there is no legislation or clear laws supporting us in the Municipal Council. With determination, however, we sent letters to universities and received letters from most of them assenting to participate in our project and requesting a meeting with us. The results were amazing. They welcomed us with great openness and great pleasure. Some considered it a pioneering idea. They said that our meeting them is evidence that we really want to develop our organisation.

As we started this idea and worked in a practical way towards achieving results on the ground, we found things are going well, and we received good results. We gave priority to work with those who provided us with services and wanted to implement our idea.

Samples of Conducted Projects

We witnessed seriousness in the universities that made plans and sent them to us to move forward with the idea of cooperation with the Municipal Council. We rapidly began to receive offers, with topics that are important and difficult to obtain with such speed. These are some examples of the topics received:

1. *A study of the condition of palm trees at the entrance to King Fahad causeway, which lies between Bahrain and Saudi Arabia:* There is a problem in the palm trees at this vital location: they are 30 years old yet they still look small. There have

been attempts to treat some of them but no change has been observed in their condition. The endeavour to study this problem has been blocked for a long time and the research has not been agreed due to a lack of budgetary funding and scarcity of resources. A university has offered to study this problem; in fact, this study has already been started by the university. They started taking different samples from the soil and analysed them. The cause of this problem was found to be salinity, which exceeds that of sea water. Experiments were conducted on palm trees for the purpose of developing solutions in cooperation with the executive branch of the municipality of the northern region.

2. *The strategy of the Municipal Council:* The existence of a long-term strategy for any institution is of utmost importance. The Arab Gulf University had a plan to study the reality of official and non-official institutions in the Kingdom of Bahrain and Arab countries in general in order to develop a carefully-studied view of a long-term strategy. A clear strategy for the Municipal Council will serve as a model for other councils, as well as municipalities and other state institutions. A high-level workshop was held by professors at the Arab Gulf University and attended by top officials of the Municipal Council. We have been honoured by the Under Secretary of the Ministry for Municipal Affairs, Dr Nabil Abu El-Fath's visit, and we thanked him in an encouraging speech on the improvement of the municipal work. The professors then asked the workshop attendees to collect the data necessary for the preparation of the strategy. We accumulated some information and are now gathering the rest of the necessary data from various ministries and bodies to prepare this strategy. One of the challenges we faced was enlisting agents and some other notables to cooperate with us in obtaining this data.
3. *Training course on modern methods of public relations and media:* After we started cooperating with the universities, the Gulf University initiated the idea of preparing a series of training courses for the retraining of the members and employees of the Municipal Council. We have stressed the need for the participation of other councils as well as municipalities, including the capitals and three municipalities, with us in all these workshops. These courses are considered the first of their kind in the fields of development and training. The participants expressed their admiration for these sessions and their hope that they are continued. They wished to be invited to the coming sessions.
4. *The project of painting houses of the needy, drawing a smile on their families:* The Gulf University initiated this project in view of the need for volunteer efforts, training its students to engage in community work and learn practical skills. This project has been planned and will be implemented soon in cooperation with other private-sector institutions.
5. *Studying the effect of municipal law on municipal work:* Among the proposed topics needed by the Municipal Council is to study the effect of municipal law on

- municipal work. The Royal University for Girls agreed to cooperate with us in this project. This topic was chosen for study by a group of students engaged in research.
6. *Engineering and proposals for land space studies:* Among the proposals of the Municipal Council is the study of the land space in the north of Bahrain. The Royal University for Girls initiated the study of land space as a model to be practiced by its students. One of these lands was chosen as a walkway. The university proposed this topic to arouse the interest of its students. A competition was launched among the students, and the topic was presented as a single question to all female students, who were required to submit an engineering design for the competition. The designs were prepared in an environment that induced creativity. Their final presentations were very exciting and the attendees were impressed with the work presented. It took the form of advanced design in line with the needs of the people of the region.
 7. *A study of the budget of the Municipality of the Northern Region:* A critical study was conducted on the budget of the Municipality of the Northern Region. Interviews were held with the concerned parties in financial affairs and they were asked a number of questions about the budget.

INTERPRETATION OF RESULTS AND CONCLUSIONS

On completion of the procedure of testing the idea on the ground, the project has managed to address a number of research questions. One of its conclusions is that collaboration can be applied and circulated in different entities in the Kingdom of Bahrain. It can also be implemented in different countries in the Gulf Cooperation Council (GCC) and around the world. Provided there is belief in the idea on the one hand, and support by the government on the other, it can be applied as we have done in the Kingdom of Bahrain. We have found that there is willingness and readiness on the part of universities to cooperate with us.

Former research stressed the importance of encouraging community partnerships. They called for the reactivation of community partnerships for their importance and the need of all parties for it, especially the public sector, which needs the support required. This research is the start of a process and a pioneering idea as described by the presidents of universities that have been interviewed.

This research complies with previous research findings, and supports the results of that research. Our research has concluded that this idea can be beneficial by attaining fruitful results and supporting the ministry and its officials.

Practical and Social Implications

This research has added value since it provided us with an achievable idea. This is because the results of the study represent a set of great benefits and important

guidelines for the continued application of the idea with sound principles. It gave the government all the possible guidance to accomplish positive results and gain financial benefits by applying this idea.

This cooperation between the universities and the Municipal Council will have a great impact on the process of development in the northern region of the Kingdom of Bahrain. The impact will be spread throughout the Kingdom by sparking competition between municipal councils, other municipalities, as well as ministries and other government bodies. Cooperation with universities on research and development is aimed at the comprehensive development of the country, and will be applied among local universities and municipal councils to advance towards that goal.

Research is either practical or theoretical. Practical endeavours lead to the knowledge of a fact or reason, and thus to know where any errors lie. The theoretical research is intended to monitor information; this information includes data collection and analysis in order to answer research questions on a question or inquiry that leads to know what is helping to make a decision.

Opportunities

One of the opportunities offered by our project is the realisation of a new perspective on matters. Planners are usually preoccupied with short-term achievements, but our idea concerns a long-term scheme for the future. The members of the municipal councils are often busy trying to achieve quick and immediate results to satisfy their voters. The conviction of the president of our council, Mr Mohammed Khalifa Bouhmoud, in this idea is a positive factor to help us succeed. His belief in the necessity of working immediately and without delay afforded us the inspiration to apply the idea. He had the confidence that it would be a link between the past and the present and between the present and the future, so he suggested that we start working on it even if we did not get the desired results at the beginning. This is a progressive and optimistic attitude from this president.

The current minister, Mr Essam Khalaf, is a well-qualified person. He welcomed the idea before receiving all its details. He sent a letter of thanks and appreciation the first time he read news of our project in the newspapers. This encouragement, and the full support of the senior management, have eased our path towards success in the application of our idea, and motivated our employees to strive for the achievement of goals and even innovation.

Challenges

The R&D Department in the Northern Municipal Council is understaffed; there is only one person working in it, and he has other tasks in addition to those connected

with R&D. He is a creative innovator and he coordinates our efforts with the universities and all the other involved parties. He is following up with the topics and suggestions.

There is no budget for research and development; therefore, we should think carefully before doing any work or taking any step in order to ensure receiving the necessary support.

It is possible that if this idea is transferred to another department, it may not develop since those who would deal with it might not have the experience we have gained since starting with it.

Another challenge would be if the term of municipal members comes to an end before the idea is endorsed fully by the members of the Municipal Council. This may lead to the disruption of work on this idea and a significant loss of all the achievements that have been made so far.

Competitors from councils and municipalities, as well as other ministries, may deal with universities and cooperate with them, but that will not cause us to worry. On the contrary, it will increase our happiness because they will be serving the country, and this is the main objective of our work.

RECOMMENDATIONS

This study might serve as a suggested plan of action for municipal councils and municipalities in general. It can be circulated to all ministries of the state, its bodies, sectors, and affiliates. Ministries will benefit from studies that help them develop their institutions without much cost. Not making use of this idea might entail a large budget for other types of cooperation that might not be as useful, as explained earlier in this research with supporting statistics and figures.

Universities, on the other hand, benefit from ministries by creating an environment conducive to research, selecting topics and real problems that the country grapples with to facilitate the development of their students' research using realistic and practical topics.

The students' research will address concrete issues so that it would be implemented on the ground. The students will be able to communicate with government officials working in their relevant fields. They will also receive media coverage and receive honours from the two municipalities and the university, which will be proud of being a patron of the project.

In order to guarantee the universities' maintenance of this effort:

1. we need to keep up the determination, collaboration, and continuous productivity in the conducting of research and development;
2. there should be governmental legislative terms that determine the minimum level of research at ministries;

3. the R&D departments in both the Municipal Council and the universities should play a central role in the balance between the university's performance in research, the feasibility of the results obtained, and the continuity of research and development without interruption.

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BIOGRAPHY

MAHMOOD HABIB ALAAFIA holds a BSc in Software Engineering, University of British Columbia, Canada, collaboration with Aptech Institute, Bahrain, and an MBA from Ahlia University, Bahrain. He presented the idea of research and development in municipal councils in the Kingdom of Bahrain. He has participated in many clubs, associations and volunteer committees, where he served as an

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