

## SWOT Analysis for Public–Private Partnership Implementation in Egypt

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**ABSTRACT:** *The implementation of public–private partnership (PPP) had increased but still there is a need for more research investigation. The purpose of this study is to investigate and analyze the Strengths, Weakness, Opportunities, and Threats (SWOT) of PPP and its implementation in Egypt. SWOT analysis technique of PPP is applied to demonstrate to which extent the implementing of PPP is suitable in Egypt. The research revealed that the strengths of PPP in Egypt provide a new source of investment capital for required infrastructure projects; reduce government sovereign borrowings and associated risks; stimulate job creation; benefit of private sector experience in running public services and increase quality of public services to the Egyptian citizen. While the weakness of PPP are noted in the limited capacity of central and satellite PPP units, public criticism to PPP, delays in approvals, resistance to change and project ownership issues. The major opportunities founded in the interest of international investors; stability of foreign exchange rates; develop a long term benchmark for interest rates; and in the mutual benefits of experiences among partners. Finally, the threats of these PPP are the bureaucratic; lack of political support; Corruption; changes in laws and regulations; time consumed due to negotiations; and economic instability.*

**Keywords:** *Public–Private Partnership; SWOT; infrastructure projects; international investors; economic instability; bureaucratic.*

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### I. INTRODUCTION

Selection of a project delivery system which enhances quality, reduces cost, and speeds up the project is one of the best ways of optimization and prevention of wasting national funds. Consequently, it is essential for every owner to select appropriate project delivery system considering her financial, managerial, and expert capabilities, as well as level of other parties' commitment to the project to accomplish the project with best quality, least time, and cost (Bashiri et al., 2011).

While no project delivery option is perfect, one may be better suited than another based on the requirements of a particular project. These requirements should be evaluated to determine which of the various options would most likely produce the best outcome for the owners. The proper selection of a project delivery method is based on a high degree of technical factors and low construction costs (Mahdi and Alreshaid, 2005).

Public-private partnerships (PPPs) can be a tool to get more quality infrastructure services to more people. When designed well and implemented in a balanced regulatory environment, PPPs can bring greater efficiency and sustainability to the provision of public services such as energy, transport, telecommunications, water, healthcare, and education. PPPs can also allow for better allocation of risk between public and private entities (Web, 1). The project functions transferred to the private party such as design, construction, financing,

operations, and maintenance. These functions may vary from contract to contract, but in all cases the private party is accountable for project performance and bears significant risk and management responsibility. PPP contracts typically allocate each risk to the party that can best manage and handle it. Risk transfer to the private party is not a goal, but is instrumental for full transfer of management responsibility and for the alignment of private interests with the public interest (Web, 2).

Public Private Partnerships (PPPs) have become an increasingly important method of delivering infrastructure projects in the last decade and are now used in over 40 countries (Babatunde et al., 2014). Around the world, PPPs have become an increasingly popular means for procuring public services and infrastructure (Akintoye & Beck, 2009; Khmel & Zhao, 2016). It is mainly due to the fact that PPPs allow governments to secure a much-needed infrastructure without immediately raising taxes or borrowing (World Bank, 2005; Khmel & Zhao, 2016). It is estimated that Egypt can realistically target the mobilization of 10-15% of its infrastructure needs through PPPs (Egyptian Ministry of Finance, 2009). The PPP approach increases the economic value of infrastructure outputs (Zhang, 2005 a; Cui et al., 2018) and facilitates the overall development of infrastructure (Li et al., 2017; Cui et al., 2018). Despite the increasing adoptions of PPP based procurement systems all over the world, many countries and regions are still experiencing a number of barriers against its successful implementation particularly developing countries, thereby slow down the implementation and even diminish the interests of private sector entities (Babatunde et al., 2014).

The key strengths, weakness, opportunities, and threats for PPP implementation in Egypt are very important. This paper is able to analyze these keys and the findings will help in achieving a successful implementation for future PPP projects in Egypt.

## II. LITERATURE REVIEW OF PUBLIC-PRIVATE PARTNERSHIP (PPP)

### 2.1 Public-Private Partnership (PPP)

There is no single, internationally accepted definition of Public-Private Partnership (Web, 2). There is a great variety of definitions for PPP available worldwide. Some of these definitions are as follows:

Hannoura (2013) defined PPP as a long term contractual relationship between the public sector and the private sector for the purpose of having the private sector deliver a project or service traditionally provide by the public sector.

Koppenjan (2005) and Xiong et al. (2019) defined PPP as an innovative procurement approach in which public and private actors co-operate to develop infrastructure and deliver public services, sharing the risks, costs, and benefits.

The World Bank (2014) defined PPP as a long term agreement between a private sector (typically a consortium) and a Government body to provide public assets or services, in which the private sector is responsible for dealing with significant risks and management duty and the payment, is related to performance. Kumar et al. (2017) defined PPP as a long term contractually regulated coordination between public and private sector for the fulfillment of public task in combining the necessary resources of partners and distributing existing project risk according to risk management.

### 2.2 PPP Projects in Infrastructure in Egypt from 1999 to 2017

From 1999 to 2017, the Egyptian government announced some infrastructure projects to be accomplished through PPP arrangements, The total PPP projects in this interval were fifty one projects with total investment 8,180 million US\$ (Web, 3). The Largest PPP Projects in Infrastructure in Egypt from 1999 until 2017 were shown in table (I).

**Table I: Largest PPP Projects in Infrastructure in Egypt from 1999 until 2017**

(Source: <https://pppknowledgelab.org>, Web3)

| Project Name                                  | Sector             | Financial Closure Year | Investment (US\$ million) |
|---|--------------------|------------------------|---------------------------|
| Suez Canal Container Terminal                 | Ports              | 2000                   | \$893.90                  |
| Damietta port                                 | Ports              | 2008                   | \$640.00                  |
| Sokhna Port Bunkering Phase III               | Ports              | 2017                   | \$498.00                  |
| New Cairo Wastewater Treatment Plant          | Water and sewerage | 2010                   | \$475.00                  |
| East Mediterranean Gas Pipeline Company (EMG) | Natural Gas        | 2007                   | \$469.00                  |
| Scatec Solar Portfolio                        | Electricity        | 2017                   | \$450.00                  |
| Sidi Krir Power Station                       | Electricity        | 1999                   | \$414.00                  |

|                       |             |      |          |
|-----------------------|-------------|------|----------|
| Ras Ghareb Wind Farm  | Electricity | 2017 | \$400.00 |
| Port Said power plant | Electricity | 2001 | \$340.00 |
| Suez Gulf power plant | Electricity | 2001 | \$338.00 |

### 2.2.1 Public Private Partnership Central Unit (PPPCU) in Egypt

In 2006 the Egyptian government established the Public Private Partnership Central Unit (PPPCU) as a part of the Ministry of Finance and reported directly to the Minister bureau. At that time the Minister of Finance addressed that the main purpose of establishment such a unit is to coordinate the PPP projects stages across the concerned public authorities or ministries (Montaser et al., 2017).

### 2.2.2 Law No. 67 for the year 2010

Law 67 for year 2010 has been enacted to create a more convenient legal frame of PPP in Egypt. The law covered many issues related to the PPP arrangements, and tried to bridge many gaps appeared through the previous experiences. On the other hand the law included some disadvantages that resulted in the reluctance from different public authorities. The law is limited to the PPP contracts not less than one hundred million EGP, equals to less than twenty million US Dollars at the date of the law enactment and for the successive three years. Such a condition caused many public authorities that have projects less than that amount to evade the law, either by announcing their projects in traditional project delivery method, or by applying the PPP in their own way. The law gave the PPPCU great powers against different public authorities in spite of permitting them to establish satellite PPP units whenever needed. The law stipulates the inevitability of the entire supervision by the PPPCU on the PPP project to obtain the approval of the Supreme Committee for PPP affairs, headed by the Prime Minister (Montaser et al., 2017).

The provisions of this law apply to partnership contracts with the private sector and related advisory contracts concluded by the Administrative Authorities with the private sector to execute infrastructure projects, services and public utilities as well as in relation to the availability of related services. Such contracts will not be subject to the provisions of Law no. 129 for 1947 concerning concessions of public utilities, and Law no. 61 for 1958 concerning Concessions relating to the investment of natural resources and public utilities, as well as Public Tenders Law no. 89 for 1998 organizing tenders and bids and any specific laws related to granting concessions of public utilities (Law No. 67, 2010).

### 2.2.3 General PPP Contract Structure in Egypt

The PPP contract is awarded through a competitive tender process open to both local and international bidders. The tendering of the Project is conducted under the Egyptian PPP Law (Law 67/2010). PPP Contract sets out the rights and obligations of the parties, including technical and output specifications, service and performance standards, methodology for periodic adjustment of availability payments, monitoring and reporting procedures, dispute resolution mechanisms, performance deductions, and termination and compensation procedures. Project will broadly follow the United Kingdom Private Finance Initiative ("PFI") model (Hannoura, 2013).

## III. REVIEW OF STRENGTHS, WEAKNESS, OPPORTUNITIES; AND THREATS (SWOT)

SWOT is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project, organization, or in a business venture (Quincy et al., 2012).

- Strengths are aspects or characteristics of the business, or project teams that give it an advantage over others;
- Weaknesses are aspects or characteristics that place the organization at a disadvantage relative to others;
- Opportunities are internal and external prospects that can improve organization's performance within the context;
- Threats are internal and external influencing factors in the environment that could cause trouble for the function or project.
- SWOT focuses on internal and external factors (Quincy et al., 2012)
  - Internal factors may include: Personnel, finance, fundraising capabilities, and board performance, etc.
  - External factors may include: Economic climate, technological changes, legislation, social culture changes, competitors, etc.
- SWOT can be used in business corporations, governmental departments, and nonprofit organizations.
- SWOT can be performed for business planning, strategic planning, competitor evaluation, marketing development, and research reports (Quincy et al., 2012).

### 3.1 Need to Use SWOT

SWOT analysis is conducting for the following reasons (Quincy et al., 2012).

- Helps you focus on your strengths, minimize weaknesses and threats, take the greatest possible advantage of opportunities, and become outstanding in competitions.
- Helps you determine whether the objective is attainable; therefore, set achievable goals and objectives for the organization, as well as subsequent steps.
- Helps you dedicate to your mission, fulfill the vision, adjust to social context, achieve strategic goals, develop effective action plans, and conduct objective evaluations.
- Helps you gather meaningful information from your strengths, weaknesses, opportunities, and threats), in order to maximize the benefits of your evaluation and advantage

## IV. APPLICATION OF SWOT TO THE IMPLEMENTATION AND ANALYSIS OF PPP IN EGYPT

### 4.1 Strengths of PPP Implementation in Egypt

- Provide a new source of investment capital for required infrastructure projects (Hannoura, 2013)

While the development wheel in Egypt is in need of large and immediate investments, Funds provided by the Egyptian government are not sufficient to face such a challenge. Public-Private Partnership (PPP) is a delivery/financing system that can be a solution to this problem. In this system, the private sector partners with the public sector to provide projects/services, affording the burden of finance and sharing risks (Montaser et al., 2017). As a private-financed procurement method, all (or most) of the resources for financing the capital investment comes from the private sector. The private partner is responsible for providing the funds to develop the business (that is, for design and construction through to completion of the asset), except to the extent that the government is acting as co-lender or equity partner or, more commonly, provides part of the funds if the PPP is a co-financed project. PPP implementation in Egypt provided a new source of investment capital for required infrastructure projects instead of borrowings from abroad (Web, 4).

- Reduce Government sovereign borrowings and associated risks (Hannoura, 2013)

PPPs allow Egyptian government to secure a much-needed infrastructure without immediately raising taxes or borrowing. One of the advantages of PPP Implementation in Egypt is the reduction of Government sovereign borrowings and associated risks. Associated risks include debt default, restructuring a debt and currency depreciation (Web, 5)

- Drive the creation of local long term funding market (Hannoura, 2013)

Funding is the act of providing resources to finance a need, program, or project. This is usually in the form of money. In economics funds are injected into the market as capital by lenders and taken as loans by borrowers (Web, 6). The PPP Knowledge Lab defines a PPP 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" (Web, 2). This long term contract drives the creation of local long term funding market.

- Utilize efficiencies and benefit of private sector experience in running public services which lead to increase project efficiency (Hannoura, 2013; Elshamy, 2011)

Private sector is the most efficiency and experience in running public services. The efficiency and experience of private sector lead to an increase in project efficiency. This advantage is considered as a strength factor for PPP in Egypt.

- Expand economy and stimulate job creation (Hannoura, 2013)

Some of the advantages of PPP implementation in Egypt are expand economy and stimulate job creation. An economic expansion is an increase in the level of economic activity, and of the goods and services available (Web, 7). New jobs are created as industries expand and as new PPP projects implemented. These projects led to an increase of employment opportunities and a decrease in unemployment.

- Increase quality of public services to the Egyptian citizen (Hannoura, 2013; Elshamy, 2011)

PPP implementation in Egypt led to an improvement in public services through the increase of quality of these services to the Egyptian citizen (Elshamy, 2011).

- The Drive Creation of Value for Money VFM (as compared with pure public sector service provision)

PPP implementation in Egypt helped in extracting long-term value-for-money through appropriate risk transfer to the private sector over the life of the project – from design/ construction to operations/ maintenance (Web, 8).

- Project and performance risks are allocated to the party best able to manage or mitigate

It is very important for both public and private parties to understand and address the risks involved in Public-Private Partnership (PPP) projects. The risks involved in PPP projects are of several types (Web, 9):

- Construction Risks

- Operating Risks
- Design Risks
- Market and Revenue Risks.
- Legal Risks
- Financial Risks
- Political Risks
- Force Majeure Risks
- Environment Risks

In these projects, project and performance risks are allocated to the party best able to manage or mitigate (Web, 9). This is considered as an advantage for PPP implementation worldwide in general and its implementation in Egypt in special.

- Benefit gain of private sector experience (Elshamy, 2011)

Private sector experience in implementing infrastructure projects reduces a country's chances of contract failure. For this reason, private sector experience helped the Egyptian government in implementation successful Public-Private Partnerships (PPPs) projects.

- Utilizing technology development (Elshamy, 2011)

Technological innovation in PPP projects in Egypt means uses of latest technology in design, construction and maintenance of the project during its life cycle (Elshamy, 2011). PPPs enable the private sector to use financial, business and other types of knowledge and skills and an innovative entrepreneurial approach in project implementation and management, which is sometimes the main reason to use the PPP model (Agency for Public Private Partnership, Republic of Croatia, 2009)

- Innovation reduction of waste (Elshamy, 2011)

Foreign and local investors in partnership projects in Egypt have the expertise to manage these projects in a way that minimizes waste. They have innovative ways to reduce waste. Innovation in waste reduction benefits the environment around the PPP project.

- Accurate feasibility study

Accurate feasibility study is considered as a strength factor to PPP implementation in Egypt .Feasibility study assesses and describes the technical, social, environmental, legal, financial, economic, and risk characteristics of the project and produces a project implementation schedule. It also specifies the particular PPP mode for the project. The general contents of a feasibility study include (Ministry of finance, Government of India, 2011):

- Market analysis and project scope, to assess the need for and appropriate scope of the project, building on the work already done at the strategic planning and pre-feasibility stage.
- Social and environmental feasibility, including the requirements for impact assessments and for the associated mitigations.
- Technical feasibility and technical parameters based on the market analysis, including specification of required facilities and scenarios of project size, for use in preliminary project design.
- Risk studies and refined PPP mode – Assessment of the risks associated with the project, study of which party is best able to bear each risk, and refinement of the PPP mode selected at the pre-feasibility stage.
- Preliminary cost assessment, to within a sufficient  $\pm\%$  range based on the technical specification and assessed project risks.
- Financial analysis and due diligence, incorporating a projected revenue structure (e.g. Proposed tariff, required annuity) and assessing any need for financial support from the public sector.
- Economic feasibility – Assessment of overall net economic benefit of the project, incorporating estimated project benefits and costs including non-market factors such as those from the social and environmental assessment.
- Other PPP due diligence activities, including value-for money analysis if data is available.
- Project implementation schedule, including an outline of the proposed PPP procurement and award process through to technical and financial close, an outline of the construction schedule and target operation date, and any phasing that is planned for project extensions or ongoing development.

#### 4.2 Weakness of PPP implementation in Egypt

The aspects or characteristics that place the PPP in Egypt at a disadvantage relative to others are:

- Limited capacity of central & satellite PPP units (Hannoura, 2013)

The capacity of Central & Satellite PPP units in Egypt is limited. This negatively affects the implementation of partnership projects in Egypt and leads to delays in the transition from one phase to another of the tender process.

- Public Criticism to PPP (Hannoura, 2013)



Public private partnerships are different from privatization in that the right to use public property is granted to a private partner for a definite period of time (such as the agreed term), and on expiration of the term the property usually goes back to the public sector in its original state or subject to a fee if investments were made to increase its value (Ministry of finance, Government of India, 2011). Public perception of PPP's in Egypt as privatization is one of the factors that led to delays for PPP implementation in Egypt. Privatization in Egypt indeed did not result in massive reductions in national debts. This perception placed PPP's in Egypt at a disadvantage relative to others.

- Resistance to change (Hannoura, 2013)

Resistance to change is the action taken by individuals and groups when they perceive that a specific change is a threat to them (Web, 10). Resistance to change for PPP implementation in Egypt consists of any employee behaviors designed to discredit, delay, or prevent the implementation of a work change (Web, 11). All employees already have some experience with a previous project delivery methods process. So, they know that public private partnership process is not an easy process. That experience simply will tell them that most of the change processes in the past was a failure. So, this can cause resistance to change. In the process of project delivery method change, except normal working activities, employees usually will implement activities of a new change process. These increases of workloads affect appearing of resistance to change (Web, 12). McConnell (2007) states that employees usually resist change not because they disagree with it but because there is a lack of knowledge about what will happen, or because of the manner in which the change was communicated to them. Either they have to learn something new and they fear their ability to adapt to it, or there is a lack of communication causing confusion or misunderstanding (McConnell, 2007; Web, 13).

- Project Ownership Issues (Hannoura, 2013)

Delay in Land availability from the Government to investors is one of the disadvantages of PPP implementation in Egypt. Delay in land availability often occurs due to land acquisition problems. Project ownership issue is considered as one of the key Challenges and issues for PPP implementation in Egypt (Hannoura, 2013).

- Lack of coordination between governmental authorities concerned with investors (Hannoura, 2013; Farouk et al., 2010)

Co-ordination is defined as the unification, integration, synchronization of the efforts of group members so as to provide unity of action in the pursuit of common goals. It is a hidden force which binds all the other functions of management (Web, 14). Stakeholder coordination is essential for the success of any PPP project. In some of PPP projects, the coordination between governmental authorities concerned with investors has been very weak and placed the PPP implementation in Egypt at a disadvantage relative to others. If one party or more in the project cannot perform in coordination and cooperation manner, resulting a great negative impact on the project (Harak et al., 2004).

- Lack of awareness for decision makers in Egyptian government towards the private sector participation in infrastructure projects (Farouk et al., 2010)

Decision maker is defined as a person in a large organization who is responsible for making important decisions (Web, 15). For the private sector participation in infrastructure projects in Egypt, decision maker is someone with a high rank in Egyptian government who has the authority to make important decisions for PPP implementation. One of the obstacles for the implementation of these projects in Egypt is a lack of awareness for decision makers in Egyptian government towards the private sector participation in infrastructure projects.

- Lack of Training for Egyptian Governmental Staff to Prepare, Evaluate, Operate, and Supervise PPP Projects in Egypt (Farouk et al., 2010)

The Egyptian government did not identify and appoint appropriately skilled staff in Central & Satellite PPP units. Therefore, the lack of training for Egyptian governmental staff to prepare, evaluates, operate, and supervise PPP projects in Egypt, resulting a great negative impact on the project.

- Delays in Calculating Compensation (Harak et al., 2004)

The Delay in calculating compensation for the investor by judicatory or government in case of delaying of the approval or any of the governmental obligations in the project concession agreement discourages the investor to participate in PPP projects. Harak et al. found that the delay in calculating compensation is regarded as the most critical in the country economic risks (Harak et al., 2004).

- Lack of strong technical teams in governmental authorities

One of the important factors that lead to weakness of PPP implementation in Egypt is a lack of strong technical teams in governmental authorities understand the market, the potential pool of bidders, their requirements, their limitations, and ensures clarity and consistency in the process.

- Delays in Approvals (Abdel Rashid et al., 2019)

Delays in necessary approval or legalization of PPP projects in Egypt either in initiation stage or testing and commissioning of the project represent one of the disadvantages of PPP in Egypt (Abdel Rashid et al., 2019).

#### 4.3 Opportunities of PPP implementation in Egypt

Internal and external prospects that can improve the performance of PPP in Egypt are as follows:

- Ensuring better returns on project investments

Return on Investment (ROI) measures the gain or loss generated on an investment relative to the amount of money invested. ROI is usually expressed as a percentage and is typically used for personal financial decisions, to compare a company's profitability or to compare the efficiency of different investments (Web, 16).

The return on investment formula is (Web, 16):

$$\text{ROI} = (\text{Net Profit} / \text{Cost of Investment}) \times 100$$

Ensuring better returns on project investments will increase the opportunities of PPP implementation in Egypt.

- Many International Investors are Interested in PPP Projects

Several international firms have profited from diversifying their investment portfolios by allocating some of their time and resources in Public Private Partnership (PPP) projects, and progressively more private investors are on the lookout for new opportunities (Bernardinetti, 2018). Thus granting The Egyptian government the opportunity to seek more PPP contracts and expand in its implementation.

- Increase the Capacity of Central & Satellite PPP units

The Egyptian government established a PPP Central Unit at Ministry of Finance as well as Satellite Units in Line Ministries (Hannoura, 2013). The capacity of these units is insufficient to prepare, evaluate, operate, and supervise PPP projects in Egypt. For this reason, increasing the capacity of these units will lead to avoid delays in approval of the initial stages of the process. At the same time, increasing the capacity of these units will encourage investors to engage with the Egyptian government in future PPP projects in Egypt.

- Stability of Foreign Exchange Rates

Exchange rates express the value of one country's currency in relation to the value of another country's currency. The rates play an important part in economics, affecting the balance of trade between nations and influencing investment strategies (Web, 17).

Countries, especially developing ones, pursue stable exchange rates to attract foreign capital. They usually accomplish this by fixing their currencies to that of a more stable country, a practice called pegging. A country's central bank may increase or decrease the money supply to maintain this rate. Egypt and other countries have their currencies pegged to the U.S. dollar (Web, 17). Foreign exchange rate in Egypt between 2000 and 2019 is not stable and has a negative effect on PPP implementation in Egypt. Therefore, if stability of foreign exchange rate in Egypt will occur in the coming years, it will attract a great deal of investment for new PPP projects in Egypt.

Many of investors are mostly hesitant on taking a decision regarding PPP projects unless they obtain the necessary guarantees related to land acquisition, stability in inflation, exchange rates, taxes ...etc. All of these concerns are applied through the project life cycle (Abdel Rashid et al., 2019).

- Empower the private sector to compete in producing ideas for better management of government projects  
The Egyptian government must empower the private sector to compete in producing ideas for better management of government projects. This will attract investors to cooperate with the Egyptian government in future PPP projects.

- Mutual Benefits of Experiences among Partners

Egyptian government could be offering investors the option of hiring government personnel, who would keep their entire government compensation and receive extra bonuses from their new temporary employers to work on PPP projects. This scheme would help alleviate the governments over employment burden, offer the private sector a temporary workforce at a reduced overhead, and advance government personnel experience — even a fractional success of this scheme would be of value to both parties.

- Reducing the interest rate and develop a long term benchmark for interest rates

In Egypt, interest rate decisions are taken by the Central Bank of Egypt (CBE). The Central Bank of Egypt official interest rate is the overnight deposit rate. The CBE is committed to achieving, over the medium term, low rates of inflation which it believes are essential for maintaining confidence and for sustaining high rates of investment and economic growth. The Central Bank of Egypt lowered its key overnight deposit rate by 100 bps to 13.25 percent during its September meeting in 2019, as expected. This is the second straight rate cut in 2019 as inflation continued to decline and stocks rebounded from steep losses following anti-government protests that rocked the markets in the beginning of the week. In August, headline inflation eased to an over 6-year low of 7.5 percent from 8.8 percent in July, moving closer to the lower limit of the Bank's target range of 6-12 percent. Policymakers reiterated that the pace and magnitude of future policy rates adjustment will continue

to be subject to confirmation that inflation expectations are anchored at target levels that are consistent with disinflation and price stability over the medium term. The overnight lending rate and the discount rate were also cut by 100 bps to 14.25 percent and 13.75 percent, respectively. Interest Rate in Egypt averaged 11.92 percent from 1991 until 2019, reaching an all time high of 21.40 percent in October of 1991 and a record low of 8.25 percent in September of 2009 (Web, 18). The Interest Rate in Egypt from May to November 2019 is shown in Table (II).

**Table II: Interest Rate in Egypt from May to November 2019 (Source: tradingeconomics.com, Web18)**

| Calendar   | Actual | Previous |
|------------|--------|----------|
| 23-05-2019 | 15.75% | 15.75%   |
| 11-07-2019 | 15.75% | 15.75%   |
| 22-08-2019 | 14.25% | 15.75%   |
| 26-09-2019 | 13.25% | 14.25%   |
| 14-11-2019 | 12.25% | 13.25%   |

Interest rate risk is involved when a large amount of money is borrowed for the project at variable interest rates. To reduce the interest rate risk, the money should be borrowed at fixed interest rate. Also it is important to estimate loan period which should be more than the length of project (Web, 9).

Continue to lower the interest rate and develop a long term benchmark for interest rates in Egypt will encourage investors to engage with the Egyptian government in PPP projects in Egypt.

#### 4.4 Threats of PPP implementation in Egypt

Internal and external influencing factors in the environment that could cause trouble for PPP in Egypt are as follows:

- The bureaucratic mindset of government to design a partnership proposition for an entrepreneurial mindset  
Bureaucracy is one of the main challenges of delivering mega construction projects in developing countries (Othman, 2013). Many of the Middle East and North Africa (MENA) countries have highly centralized and bureaucratic government structures. Projects will often require the approval and/or participation of numerous government departments and agencies that may not be aware of it or share its goals, so the required permits and approvals are not always readily forthcoming. This is a particular issue for foreign companies and investors, who may be unfamiliar with navigating the region's often complex political and bureaucratic environment (OECD, 2016). The main problem facing the Egyptian government regarding the founding of a PPP project is that it is using its bureaucratic mindset to design a partnership proposition for an entrepreneurial mindset.

- Lack of Strong political support

Lack of political support is one of the main challenges of delivering mega construction projects in developing countries (Othman, 2013). In that context, Firms looking to enter a new PPP market like to see strong political support from the highest levels of government (President, Prime Minister, or someone close), especially considering that firms take much more risk in a PPP than they do under a more traditional public procurement contract (in a PPP, private companies assume the risk of design, construction, operation and financing under a long-term contract ; in traditional procurement, by contrast, the works are paid for in advance) (Web,19). There is a lack of strong political support for PPP implementation which considered as one of the threats for PPP implementation in Egypt.

- Inefficient estimation of payback period

The payback period refers to the amount of time it takes to recover the cost of an investment. Simply put, the payback period is the length of time an investment reaches a breakeven point. The desirability of an investment is directly related to its payback period. Shorter paybacks mean more attractive investments. The payback period is the cost of the investment divided by the annual cash flow (Web, 20). One of the problems facing PPP implementation in Egypt is inefficient estimation of payback period. If payback period for a PPP project is unsatisfactory for investors, then the investor will reject the project.

- Corruption at PPP projects (Hannoura, 2013; Harak et al., 2004)

Corruption is one of the main challenges of delivering mega construction projects in developing countries (Othman, 2013). Due to involvement of too many people and processes, PPP projects are always subjected to the risk of corruption (Kumar et al., 2017). Corruption is defined to include bribery, fraud and other related offences. Unfortunately, however, PPPs, like public procurement, could be prone to corruption. Where this is the case, whatever gains that PPP provide to reduce the infrastructure deficit may be eroded, as corruption could result in inflation of the cost of construction or the rehabilitation of facilities. Secondly, a PPP process marred by corruption could result in the use of poor construction materials as a large chunk of funds would be diverted to bribing public officials by the project company. Thirdly, a corrupt process could compromise the



integrity of officials charged with the responsibility to inspect and approve construction works. Fourthly, attracting genuine investors to participate in privately financed infrastructure development in the country will become a mirage if the PPP process in the country is tainted by corruption (Arimoro, 2018). Corruption risk occurs by the government's officials or representatives who, solicit or receive an unlawful consideration or commission or exert or utilize any unlawful influence in connection with awarding and agreement to the project developer. Corruption of the officials who deal with investor is based on using political, legal, or regulatory leverage to extract additional costs. No one will ever admit and the project developer can never recoup. Many companies regard corruption as an unavoidable fact of life on projects in developing countries including Egypt. This presents risks of spending, either too much money on corrupt officials, or spending money in the wrong places, or at the wrong times (Harak et al., 2004).

While PPPs can offer potential greater transparency due to a framework put in place for PPP regulation, they can also be prone to, and be a source of, corruption. Corruption can occur both during the procurement phase and during implementation of the project. It follows that at any stage of the life cycle of a PPP project, corruption can mar the balance of the arrangement. Corruption in PPP is not peculiar to any country or region in the world. The process can be tainted by corrupt practice even in developed economies (Arimoro, 2018).

For the Success of PPPs, the process must be free of corrupt practices. The corruption of PPP implementation in Egypt is a source of worry to local and foreign investors.

- Time Consumed due to negotiations (Kumar et al., 2017)

PPP service procurement procedure is longer and more costly in comparison with traditional public procurement (Kumar et al., 2017). There have been reported cases of problems associated with the initial stages of the process in terms of unduly high bidding costs and pre- contract time overruns due mainly to the protracted nature of the negotiations. As a result, attracting genuine investors to participate in privately financed infrastructure development in the country will become a mirage if the PPP process in the country takes longer time due to negotiations (Ahadzi, & Bowles, 2004). When the Egyptian government adopts PPP, the process must take a short time to encourage investors. The time overruns due to negotiations is a source of worry to local and foreign investors.

- Changes in laws and regulations (Harak et al., 2004)

Change in law risk covers the changes in government policies with respect to laws and regulations, which regulate the PPP system and deal with investors (Harak et al., 2004). Change in Law means the occurrence, after the date of the Agreement, of any of the following: (a) the adoption or taking effect of any law, rule, regulation or treaty, (b) any change in any law, rule, regulation or treaty or in the administration, interpretation, implementation or application thereof by any Governmental Authority or (c) the making or issuance of any request, rule, guideline or directive (whether or not having the force of law) by any Governmental Authority (Web, 21). Changes in laws and regulations are considered as legal risks. In the same time they are considered as sources of worry to local and foreign investors.

- Late Owning and Operating time to the Public Owner

Infrastructure investment involves contracts that are by nature complex and of long duration, and that must ensure financial sustainability while meeting user needs and social objectives (Web, 21). PPP projects are usually more difficult to implement than other traditional procurement models because of their complexity, their nature and their long duration (Abdel Rashid et al., 2019). Most PPP projects present a contractual term between 20 and 30 years; others have shorter terms; and a few last longer than 30 years. The term should always be long enough for the private party to have an incentive to integrate service delivery costs considerations into the design phase of the project (Web, 22). Under the PPP contract, The Government secures new infrastructure which becomes Government assets at the end of contract life (Hannoura, 2013). The nature and long duration of these projects lead to late owning of them to the public owner (Government) after the long project duration.

- Too Long-term and Complex Agreements

Given the long-term nature of PPP projects and the complexity associated, it is difficult to identify all possible contingencies during project development and events. Also, it is difficult to identify issues may arise that were not anticipated in the documents or by the parties at the time of the contract. It is more likely than not that the parties will need to renegotiate the contract to accommodate these contingencies. It is also possible that some of the projects may fail or may be terminated prior to the projected term of the project, for a number of reasons including changes in government policy, failure by the private operator or the government to perform their obligations or indeed due to external circumstances such as force majeure. While some of these issues will be able to be addressed in the PPP agreement, it is likely that some of them will need to be managed during the course of the project (Web, 23). Tendering procedures for PPP implementation in Egypt consist of the following steps (Hannoura, 2013):

- Invitation for Expressions of Interest.

- Issuing Prequalification Document.
- Opening Data Room.
- Investors' Conference.
- Invitation to Bid.
- Announcing the Winning Bidder.
- Contract Signature.

Tendering process takes longer time and consider as a threat factor for PPP implementation in Egypt.

- The increase of inflation rate (Harak et al., 2004)

Inflation risks mean the increase of inflation rate in the country, which can be large stumbling blocks to the success of BOT projects, because inflation in the country will also affect the financial success of a BOT project and the ability of the sponsors to repay the lenders (Harak et al., 2004).

- The Capacity and Legal lending limits from local banks in Egypt (EIB, 2011; Web, 23)

The capacity of domestic banks in Egypt to fund PPPs is limited (EIB, 2011). While the Egyptian banking sector has the ability to finance PPP projects a number of challenges that could face local banks with the PPP model arise. Legal lending limits considered as one of these challenges. Local banks are facing a number of solvency issues specially after floating the local currency in November 2016, these issues include the CAR ratios, the top 50 clients exposure and the single obligor limits, these challenges will arise when financing the large clients that have reached their legal lending limit with banks. As most Egyptian and International contractors that can qualify for a bid to a PPP based project have probably reached their legal lending limit with local banks, providing funding can become a problem from a regulatory perspective (Web, 24).

- Lack of Long term benchmark for interest rates

Interest rate risk is involved when a large amount of money is borrowed for the project at variable interest rates (Web, 9). Interest rate risks raises by the increase of interest rate, which affect the ability of the sponsors to repay the loan and its charges, and in turn affect on the project cash flow (Harak et al., 2004).

Long term benchmark for interest rates in Egypt does not exist, accordingly banks offer a variable benchmark which comes with no hedging solutions as the central bank doesn't allow swaps on the local currency loans making it too expensive for long tenors (Web, 24).

- Lack of Liquidity at local banks, especially in foreign currency (Web, 24)

In most cases, local banks in Egypt have not the liquidity to support PPP projects, especially in foreign currency (Web, 24).

- Currency Inconvertibility Risks and Foreign Exchange Risk (Harak et al., 2004)

Exchange rate risks are occurred when there is an involvement of foreign currency exchange or international finance in the project (Web, 9).

A portion of the projects equipment is imported in foreign currency which implies foreign exchange exposure risk during the construction phase (1-3 years) (Web, 24). Currency inconvertibility risk appears when the government relocates to give guarantees for the necessary transactions or restrict the foreign exchange. This risk can be large stumbling blocks to the success of BOT garages projects especially for the foreign investor and foreign loans; because the project investment cost is by foreign currencies and the project income is by local currency (Harak et al., 2004). Frequent exchange rate variation in Egypt is considered as one of the obstacles to PPP implementation in Egypt.

- Devaluation Risk (Harak et al., 2004)

In modern monetary policy, a devaluation is an official lowering of the value of a country's currency within a fixed exchange-rate system, in which a monetary authority formally sets a lower exchange rate of the national currency in relation to a foreign reference currency or currency basket (Web, 25). Devaluation risks occur when the foreign exchange rates fluctuate for the lower rates. This can be detrimental to financial soundness by affecting the prices of input and output, as well as loan repayment. Therefore, it is unusual for lenders to agree on fixed exchange rates in a lending package (Harak et al., 2004). Devaluation risk is considered as a threat for PPP implementation in Egypt compared with other developing countries.

- Lack of Proper Data Collection

Lack of information about PPP projects in Egypt makes it impossible for investors to provide an accurate design for a PPP project. Lack of proper data collection about PPP projects in Egypt represent a challenge for investors who interest to participate in a partnership with Egyptian government.

- Political instability (Zhang, 2005 b)

According to the World Bank, Political stability index is ranging between (-2.5 weak; 2.5 strong). For that indicator, The World Bank provides data for Egypt from 1996 to 2017. The average value for Egypt during that period was -0.89 points with a minimum of -1.64 points in 2013 and a maximum of 0.05 points in

2000 (theglobaleconomy.com, Web 24). According to the World Bank, the value of Political stability index was -1.42 points in 2017 and Egypt was ranked 177th in the world out of 195 countries (Web, 26).

Political instability has characterized much of the Middle East and North Africa (MENA) region since 2010 with some countries (Egypt and other countries) seeing a number of changes in government and constitutional rearrangements. Apart from the reality and perceptions of heightened political risk, transitional governments feature numerous personnel changes at senior political and official levels. This has resulted in delayed decision making and lower investor confidence, since decisions may be overturned by subsequent ministers or governments. Continuity is important in PPPs; transactions are complicated and as a project evolves challenges will inevitably arise that require a state decision. It is essential that someone with deep knowledge of the transaction is available and empowered to make these decisions, otherwise substantial delays may occur (OECD, 2016).

- Economic instability

Economic instability can include a volatile inflation rate and volatile rate of economic growth. It can involve higher unemployment and uncertainty about the economic cycle (Web, 27). Economic instability in Egypt after the January revolution has a negative impact on PPP projects.

- Increasing in taxes fees (Web, 16)

Increasing in taxes fees in Egypt that not considered before is one of the obstacles to PPP implementation in Egypt (Web, 16). Increasing in taxes fees in Egypt has a negative impact on PPPs.

- Decline of Banks Willingness to Support PPP (OECD, 2016)

Collins and Godfrey estimated that before the global financial crisis, there were at least 40 regional and international banks that regularly participated in project finance and infrastructure deals in the MENA region (OECD, 2016; Collins & Godfrey, 2013) and that this number has probably declined by more than half. Much of the decrease is due to international banks withdrawing from the market or scaling back their involvement in regional deals. The banks that remain generally have much reduced funding, and in some cases reduced technical capacity, especially for complex transactions in markets where perceived risk is high. In this context of scarce bank liquidity, and growing country risks, traditional lenders have limited appetite and capacity to lend long-term on an unsecured basis, and the absence, underdevelopment or limited availability of appropriate risk mitigation tools, together with a lack of refinancing and credit enhancement mechanisms, has made some project structures unattractive. This can make infrastructure projects in MENA region general and in Egypt especial more difficult to structure than in other regions, often with higher costs and lower returns (OECD, 2016).

- High upfront Development and Financing Costs (OECD, 2016)

Egypt is one of the MENA countries. For infrastructure projects, the regional factors (MENA) converge with the complexity of financing long-term infrastructure investments and several recurrent challenges in project finance, such as high upfront development and financing costs and other challenges. When region-specific factors are combined with the inherent challenges of infrastructure, attracting investment to the region can be more difficult than in other regions and will often involve higher costs and lower returns (OECD, 2016). The financing costs of PPP projects in Egypt are high compared to financing costs of these projects in other leading countries in the implementation of public-private partnership projects.

- Lack of Developed Capital Markets (OECD, 2016)

The capital market is a market which deals in long-term loans. It supplies industry with fixed and working capital and finances medium-term and long-term borrowings of the central, state and local governments. The absence of a developed capital market is a greater hindrance to capital formation and economic growth (Web, 26). Compared to other leading countries in the implementation of public-private partnership projects, there is a lack of developed capital markets in Egypt.

- Price Escalation (Abdel Rashid et al., 2019)

Changes in the cost or price of specific goods or services in a given economy (Egypt and other countries) over a period affect the calculations of the return on investment (ROI) in PPP projects in Egypt (Abdel Rashid et al., 2019).

## V. SWOT METHOD FOR PPP IMPLEMENTATION IN EGYPT

New Cairo Wastewater Treatment Plant was first public-private partnership project in Egypt under Law No. 67 for the year 2010. Egypt's first public-private partnership will have a major impact on the quality of basic services in a satellite city on the outskirts of Cairo. With International Finance Corporation (IFC) help, the government has awarded a land-mark concession for a wastewater treatment facility that will improve sanitation services in New Cairo, as well as accommodate projected population growth. The project

was awarded in June 2009. A consortium of Egypt's Orascom Construction Industries and Spain's Aqualia (Orasqualia) won the bid for a public-private partnership (PPP) to build, operate and transfer (BOT) a 250,000 m<sup>3</sup>/day treatment plant, which is expected to mobilize private investments totaling \$150–200 million. The government has made the development of New Cairo's infrastructure a priority because the area's population is expected to jump from 550,000 to approximately 3 million over the next 20 years (World Bank, 2018).

The selection process included an initial prequalification of prospective bidders based on financial and technical criteria, such as minimum net worth and experience with BOT projects, especially similar wastewater treatment plants. The government received 10 applications and seven bidders were prequalified. The transaction was structured as a 20-year PPP concession agreement. The private partner role was design, finance, construct, operate, and maintain a new wastewater treatment plant with a capacity of 250,000 m<sup>3</sup>/day. In return, the government will pay a Sewage Treatment Charge that includes a fixed portion to cover the investor's fixed costs (such as debt servicing and return on equity) and a variable portion based on the actual volume of treated sewage, to cover the investor's variable costs. In addition, electricity costs will be paid by the New Urban Communities Authority (the offtaker) as a pass-through item. The credit of the New Urban Communities Authority is underpinned by the Ministry of Finance. The project attracted five bids from consortia comprised of local, regional, and international firms. Bidding was organized in two steps: a technical bid, which was evaluated on a "pass/fail" basis, and a commercial bid, which was limited to those bidders whose technical offers had been accepted. The winning bidder was selected on the basis of the lowest Net Present Value of the overall Sewage Treatment Charge throughout the concession period. Since electricity costs are a pass through item, bidders were asked to quote their projected electricity consumption levels to ensure energy conservation. The estimated electricity costs were added to the Sewage Treatment Charge to select the winning bidder. The Egyptian-Spanish consortium submitted the lowest financial bid and was awarded the contract in June 2009 (World Bank Group, 2010). New Cairo wastewater treatment plant was completed by January 2012. This project has been the first successful PPP in Egypt (World Bank, 2018).

Many of the key factors of success in this project are attributable to sound governance strategies in the early stages through completion. Strong stakeholder participation and coordination on the part of the Government of Egypt and the Ministry of Finance ensured that the project was stewarded from inception to completion. The establishment of the PPP Central Unit enabled coordination within the government. The transparency of the procurement process enabled strong stakeholder participation, and the use of external advising from Public Private Infrastructure Advisory Facility (PPIAF) and the International Finance Corporation (IFC) contributed to success. In the pre-bidding phase, bidders met with New Urban Communities Authority (NUCA) to discuss the tender documents and ways to improve the process in the future. Several suggestions have been incorporated into the tender design for future projects. The establishment of two governance committees for the PPP allowed for oversight over the project and dispassionate advice for unforeseen events through the duration of the contract. Another key factor for success was the creation of the SPV combining an international (Aqualia, 50 percent) and a local firm (Orascom Industries, 50 percent). The international firm brought years of experience and know-how. The inclusion of a strong local partner in the successful bid allowed the project to navigate the complex and unstable circumstances surrounding the Egyptian revolution in 2011. Despite the unrest, the project experienced minimal delays. Other factors for success: (a) the final contract was clear; (b) all risks were carefully analyzed; and (c) the owner for each risk was clearly identified. Provisions in the final contract addressed numerous issues that allowed investors to feel more comfortable with the inherent risks associated with the project. Key risks included inflation, interest rates, credit worthiness, demand risk, and supply of utilities such as water and electricity. The Ministry of Finance agreed to underwrite NUCA to ensure that there would be no missed payments. A series of clauses allowed for the private operator to request re-examination of the sewerage charges to adjust for unforeseen changes in costs and revenue (World Bank, 2018).

## VI. CONCLUSIONS

The current paper set out to analyze strengths, weakness, opportunities and threats of PPP implementation in Egypt. In order to achieve successful PPP projects there is a need to analyze factors that contribute to the success of such projects; either moving factors which considered as strengths factors or obstructing ones which considered as weakness or threats factors. Thus, this paper aimed at providing a comprehensive factor analysis for the establishment of PPP projects in Egypt through extracting lessons learned from literature projects in Egypt and other countries with similar context and performing interviewing with staff at Central & Satellite PPP units.



The paper was able to perform SWOT analysis for the findings of the survey literature review and from the interview with staff at Central & Satellite PPP units in order to fulfill the research aim. The key strengths, weakness, opportunities, and threats factors for PPP implementation in Egypt were identified.

Therefore, the huge recognition of strengths, weakness, opportunities, and threats for PPPs implementation in Egypt will allow the partnership to function effectively and ensuring successful implementation of PPPs in Egypt.

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