Method of Partnership with the Private Sector in Iraq

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ABSTRACT

The topic of public-private partnerships has been received with great interest by governments, societies and research centers around the world. After it became clear that the process of economic and social development is based on mobilizing and gathering all the potentials of society, including the energies, resources and experiences of both the public and private sectors, to participate in the institutional organizations that deal with the establishment and operation of projects of various kinds after the institutional arrangements faced separate and independent sectoral challenges and difficulties. In achieving the goals of development levels is an ambitious goal. Therefore, developed countries seek to develop institutions, legislation and institutional systems to adopt participatory organizations in which all sectors of society contribute to directing, managing and operating projects and businesses, developing and developing them in order to serve their purposes on the basis of cooperative participation, good governance, transparent accountability and mutual benefit.

The success of the partnership is not limited to ensuring legislation and regulations only, but links must be established between it and the concept of governance. Both have multiple aspects related to administrative, legal, economic and social dimensions that meet at common points based on the principles of transparency, disclosure and accountability, and equal rights of stakeholders and responsibilities in order to raise the efficiency of resource use, enhance competitiveness, attract funding sources, and expand projects to create new job opportunities and support economic stability.

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Many researchers believe that the issue of partnership is still in its early stages of developing unified principles, rules and regulations that govern and regulate the various forms of partnerships between the public and private sectors to include all economic and social sectors as major topics. The concept, principles and standards are still being sought to develop, elaborate and categorize them in order to be placed in specific rules and frameworks.

Keywords-- PPP, Partnership, Methods, Iraq, Regulations

I. INTRODUCTION

Internationally, public-private sector partnership has become a dominant phenomenon during the last ten years due to insufficient investments and increasing pressure on government budgets, in addition to general concern about the inefficiency of services provided by government institutions and agencies, as public-private partnership has been applied mainly in the areas of infrastructure. such as basic economic) wireless, energy and communications and roads. (Recently, however, attention has been paid to the social infrastructure such as) health, education, and other servi. (Lam, Cities and 2020, no date). It is well known that these services were mainly provided by the public sector, as many of them required large investments, and required a long time before they began to give a return. In economic terms, governments are usually willing to continue their ability to control the provision of these services due to their necessity for modern societies; The process of pricing these services - due to social considerations - tends to be

inflexible. However, the infrastructure services provided by the public sector were characterized in many cases by their low level of efficiency, high prices, limited spread, and neglect of their maintenance(Jin and Su, 2020).

II. PPP BACKGROUND

2.1. Definition of PPP

All the literature that has studied this topic has developed its own definition that does not deviate from the meaning of partnership Public - Private Partnership or PPP It is concerned with the many facets of interaction and cooperation between the public and private sectors related to employing their human, financial, administrative, organizational, technological and cognitive capabilities on the basis of participation, commitment to goals ,freedom of choice, shared responsibility and accountability in order to achieve economic and social goals that concern the largest number of members of society and have a long-term impact on Its aspirations so that society can keep pace with contemporary developments in an effective way and achieve a better competitive position .(Al-Shadeedi et al., 2018)

Seen from the definition of the concept of partnership that the concept of a modern, multi - faceted ,with the importance of increasing, which is linked to many highlights including the dimension of the administrative ,organizational and cooperative economic, social and legal .(Lewen et al., 2018)

And studies find that the Central Unit for Partnership with the Private Sector of the Iraqi Ministry of Finance believes that the partnership with the private sector " is a long-term relationship between the state's administrative authorities and the private sector aiming at the private sector providing services or implementing projects that the state agencies are entrusted with implementing them." Without prejudice to the government's role in promoting and supervising public services and projects, but only through a new system of contracting and service provision. (Li *et al.*, 2018)

Some scholars argue that the concept of ppp «It is a contract that is provided by the private sector as public services on behalf of and under the control of the public authorities. Therefore, there is a difference between employment and procurement between the private sector and the public sector, as the public sector and its procurement talk about specific bills but inppp You pay for the output provided by these sectors, and this talks about the quality and quality of services provided by the private or public sector .(Salal and Al-Shukri, 2020)

2.2. Objectives of PPP

The goal is to change government activity from operating to infrastructure and public services so that instead it can:

- Focus on policy development for the infrastructure sector.
- Prioritizing infrastructure goals and projects.
- Monitor service providers and regulate service.

Also Management and competencies that the introduction of the private sector to public services, and the involvement of e in risk tolerance . and Achieve better value for money in public spending: (Geng et al., 2020)

Meaning the optimal price for the customer on the basis of cost over the term of the contract, the quality of service provided, and the risks borne by the participant. The total price of the public and private sector tender submitted by the partner should be less than the cost that the government would bear if it provided the same level of service, including the additional costs of risks) cost overruns - delays ... etc (that the government would face. (Jin, Navigation and 2020, no date)

2.3. Justifications for the Partnership between the Public and Private Sectors:

Public-private partnerships are considered an advanced model for business activities that help increase private sector investments in all areas of economic and social activity in order to meet the needs of society in terms of goods and services using new methods. The justifications for resorting to the partnership method can be limited to the following points. The inability of governments to achieve sustainable development on their own. (Neamat, 2019)

- **1.** Rapid technical and economic change provided an opportunity to reduce the cost of projects.
- **2.** Increased competition pressures and lower growth rates.
- 3. The limited financial, human and technological resources of the public sector due to the multiplicity of fields and projects that require implementation. The partnership works to reduce competition between these areas through the exchange of commitments between partners.
- **4.** Decreased funding resources allocated to social development programs and citizens' demands to improve services provided by government institutions.
- 5. Increasing efficiency and effectiveness by relying on comparative advantage and rational division of labor.
- **6.** Providing multiple partners with integrated solutions required by the nature of the related problems.
- **7.** Expanding decision-making in the service of the public good.
- **8.** Achieving a higher value for the invested money.

2.4. The Requirements for a Successful Partnership

By reviewing some studies that have identified the requirements for the success of this method, the following broad lines can be identified: (Cui et al., 2018)

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- 1. Strong political support at the national level: encouraged this activity with a realistic perception of a joint partnership based on the strengths and weaknesses available to the parties to the partnership. (Berezin, Sergi and Gorodnova, 2016)
- 2. Rigorous project feasibility analysis before contracting: A good framework for the project) based on clear outputs, (a public sector comparison or specific achievements to ensure that the government can afford to provide the required payment units in exchange for the availability of the service.
- **3.** Detailed risk analysis: The project has both technical and commercial sides as well as political risks
- **4.** Well-constructed, transparent and competitive contractual process.
- **5.** The public sector client's desire " government " to accept innovative solutions: On the part of private applicants.
- **6.** Detailed contract: It accommodates specific changes in project requirements over time. (Zhang, Sun and Production, 2019)
- **7.** Effective and professional control over the private sector contractor from the client side: For the fully operational phase, it is carried out in the spirit of the desire to activate the comprehensive partnership.

- **8.** Choose suitable projects: Not so small, it can be replicated with a clear desire from the private sector to participate.
- 9. Good Preparation: A clear study of the field of work) feasibility analysis (with a clear description of the outputs, and a dedicated team working with the capabilities and experience sufficient for a successful contract.
- 10. Suitable consulting support: Legal, technical and financial specialists with experience. (Abd and Al-Juboori, no date)

2.5. Types of Partnership

The partnership is classified according to the concepts, trends, and criteria adopted in the classification, such as the pattern of organization, decision-making, type of sector, nature of activity, nature of the contract, as the role played by both the public and private sectors within the partnership is determined. (Lam, Cities and 2020, no date)

The institutional arrangements ranging from leaving something infrastructure essential for the management of government or left to the College of the private sector and between this and that there is the distribution of institutional arrangements in which the roles between the two parties and this seems evident in the case of assigning services infrastructure basic through service contracts, management, .(Al-Shadeedi *et al.*, 2018)

Table 1: Options available for structuring partnership projects

Mechanism of partnership contracts	Average contract duration	Service provision or administration	Providing working capital	Obtaining net revenues or net losses	Providing long-term financing	Owning assets legally	Provides sector planning and monitoring services
Establishing and providing the necessary financing market	Without specification	Public sector	The state and the private sector	Public sector	The state and the private sector	Public sector	Public sector
Service contract	3-2years old	Private sector	Public sector	Public sector	Public sector	Public sector	Public sector
Management contract	5-3years old	Private sector	Public sector	Public sector	Public sector	Public sector	Public sector
Build, operate and transfer ownership	30-20years	Private sector	Private sector	Private sector	Private sector	Public sector	Public sector
Build, operate and own	30-20years	Private sector	Private sector	Private sector	Private sector	Private sector	Public sector
The right to exploit	30-20years	Private sector	Private sector	Private sector	Private sector	Public sector	Public sector
Private Sector Finance Initiative	30-10years	Private sector	Private sector	Private sector	Private sector	Private sector	Public sector

2.6. The Benefits and Advantages of Partnership

The vision of the World Bank for the partnership between the public and private sectors aims to achieve economic and social development, especially in developing countries, where the role of the state in decision-making and policy-making is highlighted. As for the role of the private sector, it emerges in the implementation of projects and participation in their performance based on the notion of inefficiency in the implementation of economic development plans if It was limited to any of the state and its agencies or the private sector individually, and the benefits of partnership can be limited to the following points.(Zhang *et al.*, 2019)

- 1. The distribution of risks resulting from the establishment of projects among more than one party who are the parties of the partnership.
- Providing the capital of the private sector and the knowledge and experience it possesses in managing projects in which time is crucial, and reducing the time required for their implementation, thus improving the position of the public administration.
- 3. Reducing the financial burden suffered by the public sector and creating the added value provided by financial flexibility while improving the administrative capacity of the public sector.
- 4. The partnership arrangements achieve results better than can achieve each team separately through the influence of partners on the goals and values of each other through negotiation and reach to labor standards better, hand again there will be scope for the expansion of financial resources as a result of cooperation parties among themselves.
- 5. Create a dynamic work environment for change within fortified government bureaucracies. The partnership allows governments to implement change without affecting their real implementation related to social policy development, future direction and service evaluation management.
- 6. Partnership is what protects consumers from abuse of monopoly power.
- Partnership opens an economic space for the entry not only of large companies, but also small and medium-sized companies, to markets from which they were excluded or unstable. (Khudhaire and Naji, 2021)
- 8. Partnerships can encourage competition and innovation.

2.7. The Potential Risks of the Partnership

The key elements determining the success of PPP projects are the suitability of the projects for appropriate evaluation of the PPP and the selection of the correct PPP

model on a case-by-case basis. Before engaging in PPPs, the public authority needs to assess and moderate economic calculations to justify the benefit, efficiency and potential remedies for the expected form of PPP.

- Loss of control on the part of the government over the business.
- 2. Increasing costs.
- 3. Political risks.
- 4. Weak oversight and accountability.
- Production does not comply with specifications and standards.
- 6. Low level of competition between partners.
- 7. To bias in choosing partners.
- 8. Community rejection of the project.

III. THE DIFFERENT METHODS OF PARTNERSHIP AND INDICATE

The partnership between the public and the private sector include the composition of a cooperative relationship between a partner or more government agencies, and one or more partners from the private sector, and the partnership may be through the organization of roles between the state and the private sector so that you for a particular role to partner with, but complement each other in One development framework. (Lewen et al., 2018)

There is no unified method for achieving partnership between the state and the private sector in development projects that can be applied to all cases but the optimal method can be reached in each case separately, depending on the prevailing social and political conditions in each country. And also varied partnership methods with the private sector and the degree of its contribution and responsibilities, which according to each method, in terms ranging those methods from service contracts where the State to assume responsibility fully in the financing and risk and investment implementation, and the end to full privatization or sale and that the private sector, which bear all responsibilities Building, operating and managing in its entirety, in addition to the absolute ownership of the project assets (Berezin, Sergi and Gorodnova, 2016)

The methods of partnership with the private sector in providing service projects in general and the degree of its contribution to them as follows:

- Contracts service
- Management contracts
- Leases
- Franchise contracts
- Build, operate and transfer ownership Build, Operate, Transfer "BOT"
- construction, ownership, operation and transfer of Build, Own, Operate, Transfer "BOOT"
- Build, own and operate Build, Own, Operate "BOO"

Table 2: The advantages and the disadvantage of the PPP

Table 2: The advantages and the disadvantage of the PPP						
PPP advantages	PPP disadvantages					
 Ensure the necessary investments into public sector and more effective public resources management; Ensure higher quality and timely provision of 	 Infrastructure or services delivered could be more expensive; PPP project public sector payments obligations postponed for the later periods can negatively 					
public services;	reflect future public sector fiscal indicators;					
 Mostly investment projects are implemented in due terms and do not impose unforeseen public sectors extra expenditures; 	 PPP service procurement procedure is longer and more costly in comparison with traditional public procurement; 					
 A private entity is granted the opportunity to obtain a long-term remuneration; 	 PPP project agreements are long-term, complicated and comparatively inflexible because of 					
 Private sector expertise and experience are utilized in PPP projects implementation; 	impossibility to envisage and evaluate all particular events that could influence the future					
 Appropriate PPP project risks allocation enables to reduce the risk management expenditures; 	activity.					
 In many cases assets designed under PPP agreements could be classified off the public sector balance sheet. 						

3.1 Contracts Service

Definition: It is the service contract of the types of binding agreements between two parties, and are among the special governmental body with the necessary powers and the company or more of the sector to the latter with some specific tasks in exchange for peer -to be agreed upon. The duration of this type of contract is limited and short, and it ranges from six months to two years. This type of contract is widely used in many countries such as Malaysia, India, Chile and others to provide many services such as repair, maintenance, replacement and renewal of drinking water networks or operation and maintenance works. raise sewage plants health, and so on (Sciences and 2020, no date)

Benefits: Provide opportunities to enter the competition element by contracting with more than one partner from the private sector and benefit from the experience of the private sector in the areas of technical, making the facility to focus on its core functions. And because the contract period is short, competition increases among contractors, which encourages work to achieve efficient performance and reduce contract costs.

And maintenance burdens remain the responsibility of the government public sector, and remain responsible for capital investment and commercial risks associated with the operation of the facility lying entirely with the public sector. The success of the business in the contract also depends on the experience of the company that does the work, and that type of contract directly affects the operating workers and makes them redundant

workers if they are not used in the work of the service contract.

3.2 Management Contracts

Definition: It is an agreement contract from which government body or institution with a private company to manage this institution. In this case, only the operating rights are transferred to the private company and not the property rights. The private company collects fees for its services, and these fees can be linked to the company's profits or its performance, and the public institution remains responsible for operating and investment expenses, and the duration of this type of contract ranges from three to five years. (Salal and Al-Shukri, 2020)

Advantages: This method is used in cases that where you want the state to activate losing companies by introducing private sector management methods in order to raise the value of these companies and their prices when offered for sale. (Cheng et al., no date)

This success has appeared contracts in a number of sectors for many countries. In Lebanon, for example, it applied management contracts in the three projects are waste collection, operation and management of incinerator waste and plant waste treatment, and in Guinea - Bissau have used this method in the electricity sector in the year 1986 when the state asked for technical assistance from France To develop this sector, and after that it contracted with the French Electricity Authority to manage this sector and renewed the contract in 1991, and the result was an increase in electric power and an improvement in operating performance and financial efficiency .(Li et al., no date)

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The main advantage of contract management from the point of view of the state, it allows them to retain ownership, and that it can solve the shortcomings of the management by obtaining the best management expertise and at the same time control the scope and use of these experiences through the management contract.

Disadvantages: The disadvantages of management contracts lie in the duplication of private administration and public ownership, as the contractor with the state does not bear risks, as the state bears any losses resulting from the company's operations, and the government entity, in light of the requirements of these contracts, is obligated to pay compensation or management fees to the private sector in the form of fixed and fixed fees. Lump sum Fees Or in the form of a percentage of the project's profits, or both together, with the intention of motivating the management company to increase the effectiveness of the facility and increase its efficiency .(Rezouki and Kata'a Hassan, 2019)

3.3 Leases

Definition: Is a contract awarded through the owner of the assets(the government), a private company the right to use these assets and retained earnings for an agreed period (6-10) years in exchange for payment of rent.

In contrast to the management contract method, the private company bears commercial risks, which motivates it to reduce costs and preserve the value of assets, but the state remains responsible for fixed investments and debt servicing.

This method has been used a lot in a number of African and Asian countries in sectors such as water, land transport and mines, as the countries concerned faced difficulties in attracting investors. In Thailand, lease contracts in the railway sector were implemented in 1985 in a certain number of passenger transport lines, and with the year 1990 the experiment succeeded and the leased lines attracted a large number of passengers and became very profitable.

In Côte d'Ivoire, the government undertook major reforms in the electricity sector, as it contracted with two French companies and local investors, and during the lease period, the electricity and maintenance sector revenues improved thanks to the introduction of modern technologies in operation, which led to an increase in electric power and service development. This type of contract was also used on a large scale. In the water sector in France and Spain, it is currently implemented in Guinea, the Czech Republic, Senegal and the Ivory Coast

Advantages: One of the advantages that offered by leasing the state to provide operating expenses without giving up for the ownership, as well as access to income annually without exposure to market risk as well as to stop support and other financial transfers. Leasing also allows to attract advanced technical and managerial skills, which

contributes to the use of company assets with a greater degree of efficiency.

Disadvantages: The main problem associated with lease contracts is that as long as the ownership of the assets is not transferred, the private company contracting with the municipality does not have any incentives to raise the value of the assets more than the limit that guarantees an adequate return on its investment during the lease period, and for this this type of contract is appropriate in projects that the need to raise operating efficiency and not in need of expansions or improvements. –(Hassan, 2020)

3.4 Build, Operate and Transfer of Ownership (Build, Operate, Transfer (BOT))

Definition: This method is a form of the provision of services the government would grant or government entity. For a limited period of time - A financial union, which called the project company the right to design, construction and operation and management of a project proposed by the government in addition to the right to exploit the commercial for a number of years agreed to be sufficient to recover the project company construction costs as well as achieving appropriate profits from project revenues or any other benefits granted Of the company within the contract agreement. The ownership of the project, according to the terms of the contract or agreement, is transferred to the donor without compensation or for a fee previously agreed upon.

Traces back system roots BOT To what is known as the concession contracts that were widespread in the late nineteenth and early twentieth centuries in France and other countries, as France used these contracts to implement railway projects, power stations and the supply of drinking water.

Advantages: This method converts the advantage of building risk, operation and management to the private sector In addition, the government is benefiting from the experience of the private sector in the management and maintenance of projects and in the transfer of advanced technology.

Also, this method represents a factor that attracts major national and foreign investments due to the magnitude of the business in which this method is used.

Disadvantages: This type requires partnerships, special attention to the design documents of tenders, and can be relatively subtraction and mooring long and complex the rest of the types of contracts, which would adversely affect the preparation of development plans for the implementation of the partnership.

One of the disadvantages of this method is that it requires adequate political and economic stability, a specific legal and regulatory environment, the availability of monetary stability and other factors appropriate for foreign investment, all of which are unstable and variable

requirements according to international, regional and local circumstances .(Lewen et al., 2018)

3.5 Construction, ownership, operation and transfer of ownership) Build, Own, Operate, Transfer (BOOT)

Definition: In light of this method, the State or one of the organs of government to grant the private investor sector, the right to establish one of the projects of service and financing at its own expense and owns its assets and operation of the project, maintenance and collection - for service provision for repayment of the burden of funding and a surplus profit for an appropriate period of time agreed that Ownership of the project's assets devolves to the state at the end of that time period. (Abd and Al-Juboori, no date)

This method differs from the method BOT As it is considered a system BOOT A prominent application of the system of special public interest, where the ownership of assets during the duration of the project purely private sector projects , something which cannot be achieved in the types of contracts previously referred to.

Advantages: The advantage of this method such as the method of BOT By transferring construction, operating and management risks to the private sector, in addition, investment and financing risks are the responsibility of the private sector as a whole.

Disadvantages: During the period of operation and maintenance, the project is not subject to the domination of the public authority or government administration, even if it is subject to its control.

3.6 Construction, ownership and operation(Build, Own, Operate (BOO)

Definition: This is a method of full privatization methods, which are given the responsibilities of the private sector construction, operation and management of the whole, in addition to his absolute ownership of the assets of the project.

Operating or managing this method is not linked to a specific period of time, and there is no obligation on the private sector to transfer assets to the state. This method is used for new projects that have not yet been established.

Advantages: the advantage of this method such as the method of BOOT By transferring construction, operating and management risks to the private sector, in addition, investment and financing risks are the responsibility of the private sector as a whole. It is thus no doubt for investment burdens on the state, and the encouragement of national and foreign investments. (Neamat, 2019)

Disadvantages: During the period of operation and maintenance, the project is not subject to the domination of the public authority or government administration, even if it is subject to its oversight, in addition to that, there are risks of losing state control over the nature of the project,

whose activity may change by a decision of the original owner the private sector.

IV. CONCLUSION

Public-private partnerships contractual terms of 25 to 30 years or more. Funding comes partly from the private sector but requires payments from the public sector and / or users over the life of the project. The private partner is involved in the design, completion, implementation and financing of the project, while the general partner focuses on identifying and monitoring compliance with the objectives. Risk is distributed between public and private sector partners through a negotiation process, ideally but not always according to their respective ability to assess, monitor and deal with it. Although public works and services costs may be paid through fees from the public authority's revenue budget, as is the case with hospital projects, concessions may involve the right to direct payment to users.

REFERENCES

- [1] Abd, O. A. & Al-Juboori, A. (No date). Conditions for applying public private partnership (PPP) in Iraq infrastructure projects successfully. Available at: https://mediatum.ub.tum.de/1238909. Accessed on: 16-3-2021.
- [2] Al-Shadeedi, A. et al. (2018). Main reasons for using of PPP contracts in health sector: An analytical study. Available at:
- https://core.ac.uk/download/pdf/267923430.pdf. Accessed on: 16-03-2021.
- [3] Berezin, A., Sergi, B. S., & Gorodnova, N. (2016). *Efficiency assessment of public-private partnership (PPP) projects: The case of Russia*. DOI: 10.3390/su10103713.
- [4] Cheng, Z. et al. (No date). Public-private partnership as a driver of sustainable development: toward a conceptual framework of sustainability-oriented PPP. Available at:

https://idp.springer.com/authorize/casa?redirect_uri=https://link.springer.com/article/10.1007/s10668-019-00576-1&casa_token=wMgT4TzyRUMAAAAA:fhQF4c6P0o-qVbf4O2Xbook5S1573ZkaocHwM2vQ1lNBS3VyI9Gp1NYpMOmR2xpgkwk-bnREvV42963iupo. Accessed on: 16-03-2021.

[5] Cui, C. et al. (2018). Review of studies on the public-private partnerships (PPP) for infrastructure projects Developing a pricing, optimization and adjustment model for waste disposal fee of PPP waste-to-energy projects View project Responsible Business Model Innovation: Reconceptualizing the role of business in society View project Review of studies on the public-private

- partnerships (PPP) for infrastructure projects. DOI: 10.1016/j.ijproman.2018.03.004.
- [6] Geng, J. et al. (2020). Speeding up PPP ambiguity resolution using triple-frequency GPS/BeiDou/Galileo/QZSS data. *Journal of Geodesy*, 94(1). DOI: 10.1007/s00190-019-01330-1.
- [7] Hassan, A. S. (2020). Relationship between per capita co 2 emissions and gdp in IRAQ. Available at: http://www.plantarchives.org/SPL ISSUE 20-2/188__1206-1209_.pdf. Accessed on: 16-03-2021.
- [8] Jin, S., Navigation, & K. S.-S. (2020). *Undefined (no date) 'PPP models and performances from single-to quad-frequency BDS observations*. Available at: https://satellitenavigation.springeropen.com/articles/10.1186/s43020-020-00014-y. Accessed on: 16-03-2021.
- [9] Jin, S. & Su, K. (2020). PPP models and performances from single- to quad-frequency BDS observations. *Satellite Navigation*, *1*(1). DOI: 10.1186/s43020-020-00014-y.
- [10] Khudhaire, H. Y. & Naji, H. I. (2021). Adoption PPP model as an alternative method of government for funding abandoned construction projects in Iraq. DOI: 10.1088/1757-899X/1076/1/012115.
- [11] Lam, P. & Cities, W. Y. (2020). Factors influencing the consideration of public-private partnerships (PPP) for smart city projects: Evidence from Hong Kong. *Elsevier*. Available at:
- https://www.sciencedirect.com/science/article/pii/S026427 5119308674. Accessed on: 16-03-2021.
- [12] Lewen, Z. et al. (2018). Article in advances in space research. *Elsevier*. DOI: 10.1016/j.asr.2018.06.008.
- [13] Li, X. et al. (2018). Multi-GNSS phase delay estimation and PPP ambiguity resolution: GPS, BDS, GLONASS, Galileo. *Springer*. Available at: https://idp.springer.com/authorize/casa?redirect_uri=https://link.springer.com/article/10.1007/s00190-017-1081-
- 3&casa_token=yVQRLOdXSZMAAAAA:RdEGrG2GGH Un5IX25dHOx5YSy4qAkJxDlAeJdLx13Gth6poy5XDlyn kkofZGXijEhe_G83MhI4PMm0vTD78. Accessed on: 16-03-2021.

- [14] Li, X. et al. (No date). Triple-frequency PPP ambiguity resolution with multi-constellation GNSS: BDS and Galileo. *Springer*. Available at: https://idp.springer.com/authorize/casa?redirect_uri=https://link.springer.com/article/10.1007/s00190-019-01229-x&casa_token=8r6PyLIDjPEAAAAA:e6e4z9YPVJ_IIKFk4rpUrzKYbgxuS-AlkqIq_Bbtt6D-jiM4kTym0GbwbZUTsiM9oNykdiY0km2RSPvqsI. Accessed on: 16-03-2021.
- [15] Neamat, S. (2019). Management controls for minimizing risk in public-private partnerships in Kurdistan region of Iraq. *International Journal of Scientific & Technology Research*, 8. Available at: www.ijstr.org. Accessed on: 16-03-2021.
- [16] Rezouki, S. E. & Kata'a Hassan, J. (2019). An evaluation of barriers obstructing the applicability of public private partnership (PPP) in infrastructure development. DOI: 10.28991/cej-2019-03091439.
- [17] Salal, M. & Al-Shukri, S. (2020). Analysis and measurement of the impact of global supply chain strategies on economic reform programs and poverty in IRAQ, *International Journal of Supply Chain Management IJSCM*. Available at: http://excelingtech.co.uk/. Accessed on: 16-03-2021.
- [18] Sciences, G. D.-I. J. F. E. (2020). Models of public-private partnership contracts PPP in the tourism sector (Selected Countries) with a special reference to Iraq. Available at: https://www.iasj.net/iasj/article/184704. Accessed on: 16-03-2021.
- [19] Zhang, L., Sun, X., & Production, H. X. (2019). Identifying critical risks in Sponge City PPP projects using DEMATEL method: A case study of China. *Elsevier*. Available at:
- https://www.sciencedirect.com/science/article/pii/S095965 2619311448. Accessed on: 16-03-2021.
- [20] Zhang, Z. et al. (2019). Initial assessment of BeiDou-3 global navigation satellite system: signal quality, RTK and PPP. *GPS Solutions*, 23(4). DOI: 10.1007/s10291-019-0905-4.