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EFFECT OF CONSTRUCTION INDUSTRY ON COUNTRY ECONOMY AND ITS ECONOMIC GROWTH ANALYSIS- EVIDENCE FROM AFGHANISTAN

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Abstract

The construction industry has a vital role to boost the aggregate economy in any country. The construction industry has significance distinct from other industries, this is a unique industry in which various parties are involved those are the owner, contractor, architect, Materials, labours, suppliers and technical and non-technical. This research is basically concerned with the construction industry in Afghanistan. It is a developing country in which construction facing with various problems like non security, material, week skill labour and etc. And research is carried out through a survey by filling a form of questionnaire in the construction project site, and form filled by the project concern skill staff. After that a simple bar chart through Ms. Excel has carried for each question.

Keywords: Construction sector, bar chart, GDP, Economic growth, employment

Introduction

The construction industries have important roles in the economic growth of a country, the construction industry with regard to the economic is the part of the economy which make and implement vision to reality, it containing budget, plans, designs, execute, repair and maintaining immobile infrastructures and buildings which involved with building complexes, highways, railways, power plants, dams, transmission line, bridges, pipelines, tunnels, airports, sewerage disposals, water supply and other construction work involving civil, electrical, mechanical and containing other facilities and skills. The construction sector has significance distinct from other sectors, this is a unique sector in which different parties are involved those are the owner, contractor, architect, Subcontractors, Materials, labours, suppliers other technical like electronic engineers, mechanical engineers, equipment, and regulatory agencies. The construction sector is the main contributor to the economic growth of a country and also

generates great numbers of employs. It consumes tremendous materials in a limited time. Due to this event inflation may occur in a specified area of the construction. The construction industry contribution has strongly relationship with the country gross domestic product (GDP). The construction output can be the integral part of the country output (Raymond, 1996). But this output will be different regarding to each country. For each country the contribution of the construction sector to the economic growth of a country is different. And also, this is different from year to year in each country. Changes and variation in the construction sector can affect other sectors due to its linkages (Xing, 2005). It is certain that expansion of the construction activities is preceded by increase in economic product, with the first effects felt greatly within the construction industry and merely subsequently on the economic growth. Investment in the construction sector is a derived demand in which growth become related. The relationship between construction demand and country output, are mixed. Greater demands of the construction produce more employment and consumes vast materials and provide greater nation output. On the other hand, if a country has greater income, they can deploy more construction.

Overview of global contribution of construction industry:

Construction is the largest fragmented industry through the worldwide. According to an estimation the construction output is counted near to US \$4.5 trillion in 2004 (Raza Ali Khan 2005), the construction industry offering millions job for skilled, semi-skilled and unskilled employees through the worldwide. The table-1 exhibit of the global construction industry employment and its output in developed and developing countries. We can absorb from the table-1 that the construction contribution is about over US \$3000 billion in 1998 counted through worldwide. This Output is highly concentrated in the high-income countries (77 per cent) like through these developed countries (Western Europe, North America, Japan and Australasia). The construction output for middle- and low-income countries was counted as 23 % of total world construction contribution (Raza Ali Khan 2005).

Table-1: worldwide construction contribution in 1998

Number	Region	Output \$ in Million				
of		High	Low	Total		
Countrie	S	income	income			
		countries	countries			
9	Africa	1-	20 962			
23	America	723569	243 247			
22	Asia	666556	387831			
02	Oceania	46 433	-	10		
34	Europe	876546	123 345			
90	Total	2312104	701 755	3013 859		
percenta	ge of Total	77	23			

Sources: International Labor Office Geneva Report 2001

Overview of global employment of construction industry:

The contribution of the construction industry in the behalf of employment through worldwide exhibited in table 2. It is visible from the table that there was 111477 million manpower employed by the construction industries through worldwide in 1998. But the low income and middle-income countries have high rate of employed in the world against the construction contribution to the GDP of these countries worldwide. In this case the construction distribution to the employment of the high-income countries provide 26% and low- and middle-income countries provide 74% of the employment. (ILO Geneva2001).

Table-2: Worldwide construction employment in 1998

Table 2. Worldwide construction employment in 1990								
Number	Region	Employment (000)						
of		High	Low	Total				
Countries		income	income					
		countries	countries					
9	Africa	-	1867					
23	America	92575	10917					

22	Asia	7258	60727	
02	Oceania	685	-	
34	Europe	11829	8978	
90	Total	29038	82439	111477
percentage of Total		26	74	

Sources: International Labor Office Geneva Report 2001

Construction's value added to economy

In each country, the construction sector has to be taken as important elements in the total economic of the country. As per observation of the construction sector GDP, it is varied from country to country and place to place. To make an important infrastructure, it is required to extract raw materials and resources to utilize them on site working, and make an immobile structure such (buildings, roads, railways, bridges, tunnels, dams, highway...etc.). The end productions in developed countries are more professional and provide high services. Constructing of the sound infrastructures are the vital factor that bring the construction industry as importance to the nation economy and play important role in sustainable development. With the utilization of the advanced technologies and advance new materials, which are using in existing building, the construction sectors play a vital role in the exhibition of the sustainable and development country. For each country the sustainability is the first priority for their development. To have a sustainable framework for construction, the sustainability verifying the cultural, economic and social aspects as a part of it. The construction sectors part in sustainable environment development are becoming much more important. With the help of advance technology utilizing in building construction, that enable to save energy such as advance insulation and natural energy, by using solar panel or use of navel material in building, these provide a contribution to the sustainable environment development. The evaluation of the construction industry and assessment of the construction sector regarding to its value is still not easy task, this sector has a vital role in economy, because for government has priority. This is the reality for all countries, and for those countries who is newly developing and who is developed

Objective of research:

This research is describing the impact of construction industry and economic growth in Afghanistan by consideration of taking data from 8 construction industries through filing a questionnaire to find out the result of those industries and how it can increase GDP of Afghanistan and discussing the relationship between construction industry and economic growth through a literature review.

Limitation of research:

There are two limitation confront to the research, first, the data is not collected from the government for a specific period of time and also the questionnaire is not filed by them, second, the questionnaire is only filed by those construction projects which is currently under progress.

Research Gap:

The impact of construction industry on the economy of Afghanistan is not carried out earlier, and it was not discussed that how the construction industry is important for the growth of economy.

Literature Review:

Anaman, K.A and Amponsah, C. O. (2007) studied th construction sector's contribution to the economic growth. They have suggested some recommendation to the policy maker, government should pay full attention to the construction sector because this sector can increase the economic growth and economic development is the unique way to decrease poverty. They studied the causal link between construction sector and economic growth in distinct paper published in same journal which provided result as the construction has strong relationship with economic growth.

Anaman, K.A and Tsi, C.O. (2017) in causal links between construction sector's growth and macro economy's growth in Ghana; his study showed that construction sector has third position in macro-economics in Ghana and it is speedily growing sector. After analyzing data, he found that the construction industry is a major driver of economic growth in Ghana. He used time-series data from 1968 to 2004, to conduct a simple Granger causality

test, with the help of stationary variables in granger causality test, and finally, he found the result which indicates the real GDP growth caused by construction sector growth within three years lag.

Barro R.J. (1991) studied economic development in a cross-sectional country. He investigated that the prior human investment caused of GDP and the real growth rate per capita across 98 countries for a time period 1960 to 1985. With high rate of contribution to the GDP and those countries in which human capital is considered as high as possible, it provides low rate of fertility. economic development is inversely belonging to the participation of the government expenditures in GDP. But the participation of public in investment is less significant compared to the government share, development rates are positively belonging to measures of country stability and inversely belonging to a proxy for business distortions.

Basu, K. and Maerense, A. (2007) studied the causes and pattern of the GDP growth in India. Their paper shows the wide parameters of the development of the Indian economy since the country's freedom and a cross-country assessment of where India stands, drawing out the examples noticeable in these aggregative insights. They provide a review of the on-going discussion on the segments of the Indian development and the general significance of the various strategies during the 1980s and 1990s. It adds to this discussion by recognizing the milestone years, and breaking down the governmental issues behind a portion of the financial matters. The paper additionally investigated the components behind the adjustments in India's reserve funds rate and the connection among development and advancement, from one perspective, and the idea of work market guideline, on the other.

Berk, N. and Bicen, S. (2017) studied causal relation between construction industry growth and GDP growth in emerging countries, they used quarterly data for the period of 2001 Q1 to 2016 Q2 from Turkey to conduct Granger causality test for determination of the relationship of construction industry investment and economic growth, their study shows the importance of construction industry and suggested the possibility of basic problems to solve in short run, but for gaining advantages from long term construction investment, there is need of identification of new industries. They find that the Turkish economy is directly affected by the construction sector.

Burke (2002) discussed the relationship the economic cycle and stock market. He studied two ancient aggregate stock market crashes and their impact on GDP growth. The theoretically showed that how the stock market can impact the economic cycle and against utilizing a vector auto-regression model. He used granger causality test to determine the causal relationship between economic cycle and stock market.

Dakhil, A. (2013) researched in his PhD study, the construction sector's contribution to the economic growth in Libya. His goal was to find out the significance role of the construction industry in economic growth, for achieving this purpose he undertakes various tests including granger causality test, unit root test (ADF), and cointegration test and similarly he used the VAR model to find the importance role of the construction sector in GDP in Libya. He remined that construction can influence other sector like services, health services and agriculture. He said, the construction sector is also depending the GDP growth for short term, but construction investment has long term impact on GDP while GDP has short term effect on construction investment. He didn't find any special linkage with other sectors except trade sector, trade sector has bidirectional relation with the construction sector. But closed relationship has been found with the manufacturing, electricity and transport services. He also gave some recommendation to the authorities and policy makers. Libya is suffering from unemployment; the construction sector is the best solution for the same issue.

Erol I. and Unal U. (2015) searched for role of construction industry in GDP with the consideration of Turkey. they investigated the causal relationship between construction sector and GDP while using the data from Turkey for the period 1998 Q1 to 2014 Q4. Also, the study complied three variables which are RGDP growth, Real interest rate and Construction sector growth. They utilized various tests which included VAR model used for indicating the causality relationship in a multivariate setting, they also used Zivot Andrew test which are using for indicating the building breaks in data, and the other three test which are the granger causality test, unit root test and co-integration test are used either. They took 17 years data, they divided into small sub-periods for better analysis. The study shows that the construction has a vital role in the economic growth of Turkey but it is not a main driver of the economic growth. Although is depended on variety in aggregate economy. They found construction sector and real interest as bidirectional to each other while suggestion that the construction is not a permanent solution to Turkish economic growth.

Flangan, R. and W.Lu. (2007) discussed the competitiveness in construction sector. This exploration, in this way, audits the surviving writing from four perspectives: idea of aggressiveness, intensity inquire about at the development business level, intensity inquire about at the firm level, and aggressiveness explore at the task level. The survey presents the cutting-edge advancement of intensity look into in development, distinguishes the examination holes, and proposes new headings for further investigations. Further research is prescribed to approve past thinks about in development rehearses, distinguish the systems that support shared improvement of intensity at various levels, and how to accomplish its supportability by grasping new administration and/or on the other hand financial aspects strategies. Finally, his research provides the case study of the recent competitiveness study in the construction sector and he suggested new alignment for more research. The widely competitiveness in construction has been accepted by the numerous writers and it will bring much positive effects to the present construction work and it can cause new development.

Green (1997) investigated the role of both the residential and non-residential construction work on socioeconomic through the economic cycle. He used ADF test for identification of the stationary data and utilizing Granger causality test. Output of the test described economic growth is granger caused by residential construction sector, while economic growth is not granger caused by non-residential construction sector.

Hubei, W. and Yunnan, K. (2013). were Analyzed the relationship of construction industry and GDP by optimizing the UK and China data, they find some similarities in both countries regarding construction and their attributes. He showed a high correlation coefficient among the growth of construction Value Added and GDP. Jackman, M. (2010) studied residential construction and economic growth in developing countries: using case for Barbados. Since the global monetary crises, the Barbados also face with economic crisis in 2009, but with the stimulation of economic growth, providing many job chances and in the construction field, hence it is using huge amount of materials, it provided a high contribution to the economy. He tested the relationship between construction and economy, the paper concluded there is a bidirectional relationship between these sectors. Therefore, construction has to be considered a major sector of the economy.

Khan, R.A. (2005) investigated the role of construction industry in GDP using empirical evidence from Pakistan economy. He said construction industry and their activities are to be taken as one of the aggregate sources of GDP growth, creating and economic activities. Construction and engineering services sectors play significance role in the economic uplift and improvement of the country. It is good mechanism of making the employments and offering job occasion to millions of unskilled, skilled and semi-skilled manpower. It may have important role in making income in both informal and formal sector. He mentioned 2.3% construction value added to the GDP of Pakistan and 6.1% employment in construction sector. The study exhibits the global contribution of the construction industry to the economy. Globally, total contribution of the construction sector was estimated \$3000 billion in 1998, 77% output was made by high income countries and 23% output was made by low income countries. He undertaken three tests which are unit root test, cointegration test and granger causality test, to find out the relationship between those two sectors, the output of the test indicates the concrete relationship between the construction sector and country economy. The result exhibits that construction is granger cause of GDP and not possible vise-versa in case of Pakistan.

Ofori, G. (1988) Construction sector and economic growth in Singapore, he found that construction sector drive significance role in the growth of Singapore economy, to maintain a sustainable socioeconomic development, construction can establish the infrastructure, and also it is huge helper to the macro-economic growth, the awareness of the government about the needs and importance of the construction industry and its direct support, have substantial benefit for the sector, these are contributing to the sector to fulfil its all tasks effectively and efficiently.

Raftery. J. et al (1998) discussed construction sector and globalization, and in Asia, the construction sector development case study. They nominated three trends for the todays development in case of construction industry: (1) for covering the construction project vertical integration has to be increased, (2) most private sectors involved in infrastructure project, (3) encouraging abroad investors for local constructions, they took Japan as the study subject, and the found result illustrate the important recent development and improvement in the construction sector from the globalization, construction sector development and industrial policy point of view in Asia. The

obstacles in front of the trade through global are going to be omitted and most countries are interesting for investment in abroad countries, this situation bring a competition among the global countries in the construction sector and trade.

Materials and methodology:

This study is basically tended to find the contribution of construction projects in Afghanistan through a survey. By providing a list of questioners, holding the data from different construction projects. After the collection of data, a simple statistical analysis would be applied. This research will determine the value added of even one project to the economy. Survey is the way of getting information and more knowledge about a specific topic by providing of questionnaire to the pre-identified people or organization. For achieving the specific objectives, various kind of survey can be applied and it depend upon the method and approaches. Survey is the main way of collecting data. It may be used for various purposes. A critical procedure has to be taken to gain the data from the correspondent respondent, and respondent must be able to appropriately answer the questions without any biased ideas which can bring impact on the result of the research. Survey has various ways to get data by asking people or organizations with distributing of questionnaire, such as tour to the practical site, using media, email, social network, QR codes or URLs. Here is the sample of questionnaire.

A Survey for inv	estigation of	the effect of	construction in	idustry on country
	econom	y and its gro	wth pattern	dustry on country
Company Name: X	3 R B			Date: 10/01/2020
Project Name Kab	il Jalada	bud 2nd	high way	•
About project 7/				
	Project	.islocar	red	alulubad
1. f. f. N. 54	bad	bout 2	righ way	feabal
		bridges	Many On	The Man Lat hard
Form Filled by Ahma	4i	0-3	-17.2 07.2	aluluhad
Project Location : Tale	Subod A,	Thoni Stan	separy t	to Surkhroad.
1. This construction			y engineering inde	ustry.
☐ Strongly Agree	Agree	□Neutral	□ Disagree □ S	Strongly Disagree
2. Your construction	project has an	important role	for growth of the	economy,
Strongly Agree	☐ Agree	□Neutral	☐ Disagree ☐ S	Strongly Disagree
3. Your construction	project will co	entribute to appr		
Afghanistan.				
☐ Strongly Agree	☐ Agree	□Neutral	☐ Disagree ☐S	Strongly Disagree
4. Your construction p	project will pro	ovide employm		
of the workforce in			250	•••••••••••••••••••••••••••••••••••••••
Strongly Agree	☐ Agree	□Neutral	☐ Disagree	☐Strongly Disagree
5. Construction GDP i	s an essential	part of econom	nic growth.	
☐ Strongly Agree	□ Agree	□Neutral	☐ Disagree	☐Strongly Disagree
6. The growth rate of the	he labour forc	e in your projec	et is not going to	affect economic
growth.				
☐ Strongly Agree	☐ Agree	□Neutral	Disagree	☐Strongly Disagree
7. Your Construction p	roject employ	ed tremendous	workforces.	
Strongly Agree	□Agree	□Neutral	☐ Disagree	☐Strongly Disagree

Data and Analysis

The data from the construction project has been collected by me with the filling of questionnaire by the concerned person whether they are (Project Manager, Chief Engineer, Site Engineer, Contractor, Consult Engineer) Site visit for various construction projects done for the aim that I wanted to see the Projects size from the near and site pictures has been taken by me. Those projects from whom I collected the data and site pictures, they were various in size, some of the projects were in large size and some of them were small in size, because that is the reason for variety filling the questionnaires and they selected different options from the questionnaires some of the large projects as an example the East zone 600 beds hospital has few structures in same project at same location and they constructed more than 70% and various building were going on as parallel but in small projects as an example of Bamiyan local road construction, it has only 10 km construction road in scope which has less impact on our economy and their late benefits are less compare to large size construction, large size construction can take large number of skilled and unskilled labour and using huge amount of raw materials at a limited time.



East Zone Hospital

Result and Discussion:

The data analyzation has been done by the Microsoft Excel, first the data is collected from the projects by filling a form of questionnaire and for each response a specific value has given, hence, bringing these responses value to Ms. Excel to make a table from, then making a pie chart for the result. And now I am going to discuss the result from the chart

ID	Ql	Q2	Q3	Q4	Q5	Q6	Q 7	Q8	Q9	Q10	Qll	Q12
project-1	4	4	2	3	4	1	3	3	4	5	4	5
project-2	4	4	2	2	4	2	4	3	3	4	4	4
project-3	4	5	4	5	4	2	5	5	4	5	4	4
project-4	4	3	2	3	4	1	2	4	5	3	4	4
project-5	4	4	3	3	4	2	3	4	4	4	4	5
project-6	2	2	1	1	5	2	3	3	3	4	3	4
project-7	3	4	2	2	4	1	3	4	3	3	3	4

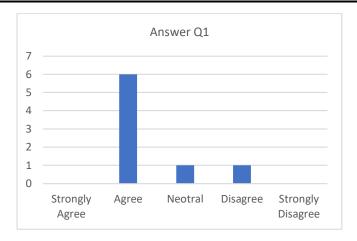
Table: Responses values of the questionnaire from the ongoing projects.

Data analyzation and formulating a bar chart will be given to each questionnaire. And for each questionnaire one bar chart will be given.

Responses for question-1:

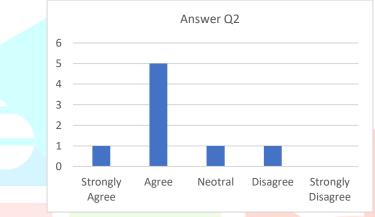
project-8

In the below bar chart, the bars showed the acceptances of the project's responses. The result indicates that, 6 responses are agreed about their industry is coming under heavy industry out of 8 and one neutral and disagreed.



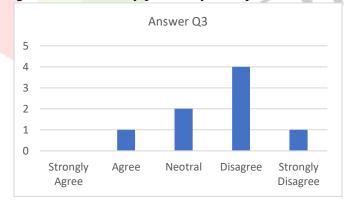
Responses for question-2:

For question-2 the maximum of the responses is Agree and minimum is varying, some of these are strongly agree, neutral and disagree. It depends on worth and ability of the project and its impact the growth of economy positively.



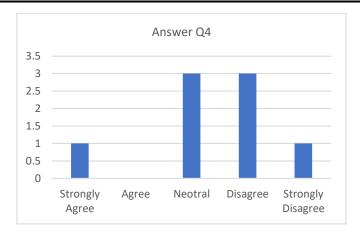
Responses for question-3:

For question-3 the maximum of the responses is disagreeing which are 4 out of 8 projects, and the remaining have various responses, one project is agreed about that their project can contribute 0.5% to the economy, although one project is strongly disagree about 0.5% contribution to the economy. It is indicating the ability of the project to contribute to the growth of economy positively. It depends on the size of project.



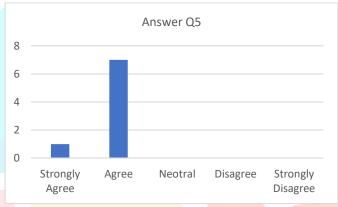
Responses for question-4:

For question-4 this portion of the questionnaire concentrate on the recruitment in construction projects, According to this survey the maximum of the responses is 3 for two terms, three projects selected neutral and other three projects selected disagree option, and also one project is strongly agreed and one project is strongly disagreed for the term that their project contributing 0.5% in employment, it also depend on the size of project to contribute to the employment of workforce.



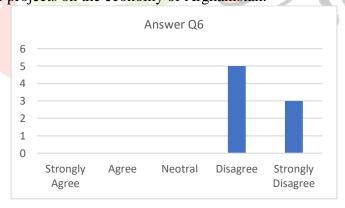
Responses for question-5:

For question-5 this question exhibited the connection of the construction industry and economics, the maximum of the responses agreed is 7, out of 8 projects and one project is strongly agreed about their project is important for the growth of economics. It described that all of the construction projects are very important for the accelerating economy.



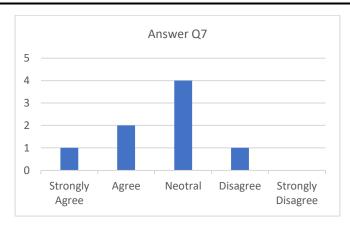
Responses for question-6:

For question-6 All the projects are focused on their importance and showing their impact on the growth of economy, the number of the responses is 5 disagreed and 3 strongly disagreed. The construction projects are disagreed with non-impact of projects on the economy of Afghanistan.



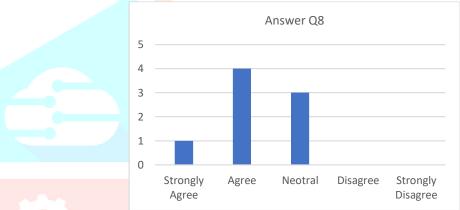
Responses for question-7:

For question-7 the maximum number of the responses for this question are 4 which all 4 are neutrals, they showed the projects consent about recruiting high number of the workforce, those projects employed numbers workforce but they couldn't consider to be in high rank of the employing workforce in Afghanistan, and one project is strongly agreed and one is only agree, these projects are slightly bigger in size and one is disagreed for employing tremendous workforces, this type of project is very small in size, which doesn't has big capacity for employing, this depend on the ability of the project to contribute to the employment of workforce.



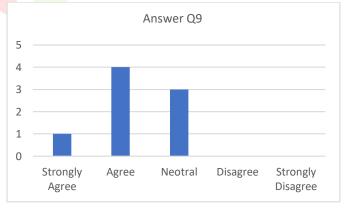
Responses for question-8:

For question-8, maximum of the responses is 4 they are agreed for that question that their project has broader scope for the increasing economy, and one project is strongly agreed for this term, this project is bigger and heavy, three projects out of 8 are neutral, they couldn't predict that their projects will have broader scope for the accelerating economy and nor they rejected. The construction projects showed that they would be able to contribute to the economy after its completion.



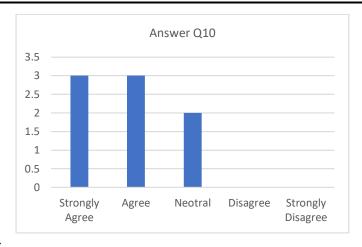
Responses for question-9:

For question-9 this is important question because we want to know how the construction industry is vital for economy and social benefits, and also to understand how strongly connection does construction sector has with other sectors. According to this survey the maximum of the responses 4 are agreed, 3 neutrals, and one is strongly agreed. Hence, most of the projects showed their acceptance that they have relation with other sector, and none of them rejected their relation with other sectors.



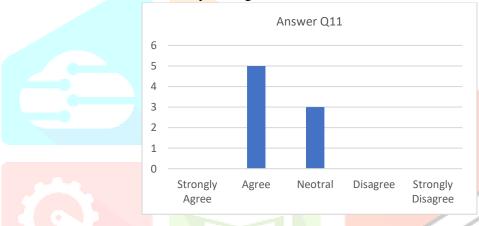
Responses for question-10:

For question-10 this question has to be mostly responded positively since the construction had started, they are using huge amount natural resource, when we are using natural resources, it may increase our economy and as well as it is easy to access and less expensive, according to the survey the maximum of the responses is 3 strongly agreed, 3 agreed and 2 neutral, most of the projects are accepting that they are using tremendous amount of natural resources affectively. Only two projects may use less amount of natural resource.



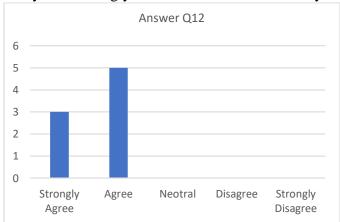
Responses for question-11:

For question-11 this question is common for all the projects and they have to be considered in economic growth, all the projects whether it is big project or small projects are very important in increasing economy and their values are considering in economy. Here are the responses of the ongoing projects that they exhibit their consents, the maximum of the responses is 5 agreed, 3 neutral all the projects are accepting that, their construction GDP would be consider in the economy of Afghanistan.



Responses for question-12:

For question-12 this is the last question, we want to know the strongly relation between construction industry and economic growth, here are the responses of the projects, the maximum of the responses is 5 agreed and 3 strongly agreed, none of the projects rejected the correlation of the construction industry and economic growth. The projects are accepting that they have strongly correlation with the economy.



All those recommended bar chart for all of the projects responses values for each question has brought. The bar chart showed that some the responses are whether, strongly agreed and strongly disagreed, which provided with the value 5, and 1 respectively. I have total 12 strongly agreed responses from 8 different projects and 5 strongly disagreed responses for different questions, these strongly disagreed term indicates very low consent of the

member in the term. But on the other hand, strongly agreed exhibit highly concentration of the staff in the given terms.

Conclusion

This research has described the importance of the construction industry and their role in the country's economy. Defined construction and construction industry, construction is the converting of vision into reality, and construction industry is a major sector of the economy which can contribute to economy in aggregate form. Construction is containing budget, plans, execute, designs, repair and maintaining immobile infrastructures and buildings which involved with building complexes, highways, railways, power and mechanical and containing other facilities and skills. Disused various researcher's paper regarding to the importance role and impact of construction sector in the nation economy. The global contribution of the construction sector has discussed. Many writers found the strict relationship between the construction industry and country economy. Though construction is not the main driver of the economy, but it is the main and crucial sector of the economy. As per my survey by providing a questionnaire and filling them by the construction projects related skill staff whether they are (chief engineer, project manager, site engineer, contractor, and etc.) and analyzing these collected data through MS-Excel, Most of the projects showed their consent about contribution to the economy and none of the project strongly rejected their contribution to the economy in aggregate form. As per my survey 25% of the construction projects can contribute 0.5% GDP to the economy of Afghanistan. And also 25% of the construction projects employed 0.5% workforce in Afghanistan. Moreover, construction sector can not drive economic growth in Afghanistan but against Afghanistan's economy drive construction industry.

References:

- 1. Anaman, K.A., and Amponsah, O.C. 2007. Analysis of the causality links between the growth of the construction industry and the growth of the macroeconomy in Ghana. construction management economic. 25: 951-961.
- 2. Arokiaprakash, A. 2016. Case Study on Construction Projects for Quantifying the Scope for Improvement of the Construction Efficiency. Improvement of Efficiency of a Construction. 2430–2433
- 3. Berk, N. and Biçen, S. 2017. Causality between the Construction Sector and GDP Growth in Emerging Countries The Case of Turkey Athens J. Mediterr Stud. 4: 19-36.
- 4. Bao, Z. and Lu, W. 2020. Developing efficient circularity for construction and demolition waste management in fast emerging economies: Lessons learned from Shenzhen, China. Sci. Total Environ. 724.
- 5. Barro, R.J. 1991. Economic Growth in a Cross Section of Countries. Q. J. Econ. 106: 407.
- 6. Basu, K. and Maertens, A. 2007 The pattern and causes of economic growth in India. Oxford Rev. Econ. Policy. 23: 143-167.
- 7. Benachio, G.L.F., Freitas, C.D., and Tavares, S.F. 2020. Circular economy in the construction industry: A systematic literature review. J. Clean. Prod. 260.
- 8. Dakhel, A. 2013. The contribution of the construction industry to economic development in Libya. A thesis submitted in fulfilment of the requirements of Liverpool John Moores University for the degree of Doctor of Philosophy October 2013 abstract. no. October.
- 9. Durdyev, S. and Ismail, S. 2012. Role of the construction industry in economic development of Turkmenistan. Energy Educ. Sci. Technol. Part A Energy Sci. Res. 29: 883-890.
- 10. Erol and Unal, U. 2015. Role of Construction Sector in Economic Growth: New Evidence from Turkey. Munich Pers. RePEc Arch. Pap. 67. no. 41193.
- 11. Fan, Y. S. Wu., Lu, Y., and Zhao, Y. 2019. Study on the effect of the environmental protection industry and investment for the national economy: An input-output perspective. J. Clean. Prod. 227: 1093–1106.
- 12. Flanagan, R., Shen, W.Lu.L.and Jewell, C. 2007. Competitiveness in construction: A critical review of research. Constr. Manag. Econ. 25: 989-1000.
- 13. Foulkes, A. and Ruddock, L. 2003. Defining the Scope of the Construction Sector," Constr. Sect. 3: 89-98.

- 14. Harris, R. and Arku, G. 2006. Housing and economic development, The evolution of an idea since 1945 Habitat Int. 30: 1007-1017
- 15. Harry, V.A.Jr. Center. 2005. What is The Construction Industry An Economic Fact Book. Int. Congr. Ser. 1277 p 39.
- 16. Jackman, M. 2010. Relationship between residential construction and economic growth, 109 international real estate. 13:109-116.
- 17. Jiang, Q. 2013. Analysis on the relationship between GDP and construction based on the data of UK and China. 1269-1272,
- 18. Jones C. I. 2016. The facts of economic growth. Elsevier. 2
- 19. Karimi, A.M. 2018. Challenges of Rural Economy and Women Economic Empowerment in Afghanistan. A Concept Note. SSRN Electron. 89756.
- 20. Khan, R.A., Liew M.S. and Ghazali, B.Z. 2014. Malaysian construction sector and Malaysia vision 2020. developed nation status. procedia Soc. Behav. Sci. 109: 507-513.
- 21. Kwabena, A. and Charity O. A. 2017. How the Growth of the construction industry can help accelerate economic development. institute of economic affairs, accra, published in the ghanaian times newspaper in a four-part series. 1–7.
- 22. López, L.A.R., Roca, R.X. and Gassó, S.D. 2020. The circular economy in the construction and demolition waste sector A review and an integrative model approach. J. Clean. Prod. 248
- 23. Lopes, J., Ruddock L., and Ribeiro, F. L.2002. Investment in construction and economic growth in developing countries. Build Res, Inf. 30: 152-159.
- 24. Mokhtariani, M., Sebt, M.H. and Davoudpour, H.2017. Characteristics of the Construction Industry from the Marketing Viewpoint: Challenges and Solutions. Civ. Eng.J. 3:701-714.
- 25. Ngowi, A. B., Pienaar E., Talukhaba, A. and Mbachu, J. 2005. The globalization of the construction industry A review, Build. Environ. 40: 135–141.
- 26. Ofori G. 1988. Construction industry and Economic growth in Singapore. Constr. Manag. Econ. 6: 57-70.
- 27. Ofori G. 1994. Construction industry development, Role of technology transfer. Constr. Manag. Econ. 12: 379-392.
- 28. Oladinrin, T., Ogunsemi, D. and Aje, I.2012. Role of construction sector in economic growth: empirical evidence from Nigeria. futy j. environ. 7, no. 1
- 29. Oyedele, O.A. 2016. Impacts of construction industry on socio-economic development of Nigeria. Res. Gate.
- 30. Raftery, J., Pasadilla, B., Chiang, Y. H., M., Hui, E.C. and Tang B. S.1998. Globalization and construction industry development: Implications of recent developments in the construction sector in Asia. Constr. Manag. Econ. 16: 729-737.
- 31. Rahman, S.H.A., Endut, I.R., Faisol, N. and Paydar, S.2014. The importance of collaboration in construction industry from contractors' perspectives. procedia soc. behav. 129:414–421.
- 32. Rey, S. 2016. The Valuation of Equities and the GDP Growth Effect: A Global Empirical Study. Int. J. Finance. Stud. 4. p. 21.
- 33. Schwartz, P. The Institute of economic affairs determinants of economic growth in Ghana. 14.
- 34. Sheppard, R.2003. Capital markets financing for developing-country infrastructure projects. DESA discuss. 28.
- 35. Sitsabo, D.2012. Relationship of construction sector to economic growth. Int. congr. constr. Manag. 213-225
- 36. Stasiak, B.R. and Potkány, M.2015. Construction costs analysis and its importance to the economy. procedia econ. Finance. 34: 35-42.
- 37. Tebaldi, E.2014. The economic impact of the construction industry on the economy of Rhode Island In 2013. 1–23.

- 38. Turbit, N.2013. The project perfect white paper collection defining the scope of a project. 1–6.
- 39. Wells, J. 1984. The construction industry in the context of development: A new perspective. Habitat Int. 8: 3-4, 9-28.
- 40. Wells, J.1985. The role of construction in economic growth and development. Habitat Int. 9: 55–70.
- 41. Zakaria, B.A., Rahman, A.K., Othman, N.A.M., Yunus, M.R., Dzulkipli. and Osman, M.A.F.2014. The Relationship between Loyalty Program, Customer Satisfaction and Customer Loyalty in Retail Industry: A Case Study. Procedia - Soc. Behav. Sci. 129: 23-30.

