

بسم الله الرحمن الرحيم

Sudan University of Science and Technology

College of Graduate Studies (CGS)

College of Engineering, School of Civil Engineering

**QUESTIONNAIRE on the Impact of Modern Technology in
Construction Industry on Quality and productivity**

OBJECTIVE: to investigate the Impact of Using Modern Technology on
the Improvement of Construction Quality Control and Productivity

COMMITMENT: The findings of this questionnaire will strictly be utilized
for research purposes only without any obligation to the
respondents

PLEASE MARK AS APPROPRIATE IN THE INDICATED BOX:

SECTION ONE: Company and Staff Data

1- Company Experience

a. Less than 10 years ☐ b. 10 years or more ☐

2- Nationality of the Staff and Workers in your company

a. Sudanese ☐ b. Foreign ☐

c. Both ☐

(i) Percentage Sudanese ☐ (ii) Percentage Foreign ☐

3- Type of the Company

(i) Consultant ☐ Public Sector ☐ Private sector ☐

(ii) Contractor ☐ Public Sector ☐ Private sector ☐

SECTION TWO: IMPLEMENTED TECHNIQUES & TECHNOLOGIES

4. What are the type(s) of equipment does the company use in Construction?

(i) Company's own

☐

(ii) Rent

☐

Type(s) of Equipment (You may attach your prepared list if you wish)

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.....

5- In your opinion, when is advanced technology needed for construction?

(i) For large projects

☐

(ii) For small projects

☐

(iii) For both large and small projects

6. When is improvement in quality and productivity required?

(i) Always

☐

(ii) Based on Project Type

☐

(iii) Based on Level of Risk

7. Did your company use advanced technology and techniques in any project?

(i) Yes

☐

(ii) In a few projects

☐

(iii) No

☐

8. For (iii) if (No) in 7 above, please indicate the reason for not using:

(i) Because of the cost

☐

(ii) because it is not important

☐

(iii) Other reasons (Please specify):

☐

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9. In your implemented projects, do you measure productivity?

(i) Always

☐

(ii) Sometimes

☐

(iii) Never

☐

10. For cases (i) and (ii) in 7, what method do you use to measure productivity?

(i) Computation of equipment productivity

(ii) Computation of materials productivity

(iii) Computation of labor productivity

(iv) Other methods (Please specify briefly):

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11. In your opinion, what are the important factors to increase productivity?

(i) Applying advanced technical and technological procedures

(ii) Employing laborers with high skill

(iii) Making all necessary material tests

(iv) Other factors (Please specify):

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12. What are the methods applied to improve quality?

(i) Using materials with appropriate characteristics

(ii) Conducting all the important tests for materials used

(iii) Other methods (Please specify):

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(iv) Do not carry out quality control for our projects

13. What is the percentage of success in the plan execution in your firm?

(i) 90 % to 100%

(ii) 80% to 90%

(iii) 70% to 80%

(iv) less than 70%

14- What are the managerial reasons that relate to unsuccessful of your projects?

(i) Poor planning

(ii) Poor monitoring and controlling

(iii) Poor advanced technology

(iv) Other reasons (please specify):

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In your opinion, please rate the following construction-related views, activities and factors by ticking the appropriate box that corresponds to the degree of agreement (1 – 5)

1	2	3	4	5
Strongly Agree	Agree	Disagree	Strongly disagree	Do not know

View/Activity/Factor	Degree of agreement				
	1	2	3	4	5
15. Success of any project depends on using advanced techniques and technology					
16. Use of modern equipment in implementation of works					
17. Using advanced technology to reduce implementation defects					
18. Use of advanced technology to reduce construction time					
19. Skill level of labor using the equipment					

21. Presence of Specification section in the company responsible for selection of appropriate equipment for each project					
22. Usage of old machinery is causes delays in road construction project					
23. Use of appropriate equipment leads to efficient utilization of construction materials					
24. Your construction company offers training courses for labors on using advanced technology					
25. Labor training raises their efficiency and hence leads to improved productivity and quality					
26. Your company makes periodic maintenance of equipment					
27. The company specifies the equipment needed and adds new ones frequently (every- ---years)					
28. The company conducts material tests before using to check compliance with standards and specifications					
29. Technological advances have improved durability of materials and allowed construction in moist and cold conditions.					
30. Advanced technology caused reduced labor costs.					

Thank you for your cooperation. We will provide you with a summary of the outcome in Sha Allah.

MSc Student Miyada