

Appendix (1): The questionnaire

Sudan University for Sciences & Technology
College of Graduate Studies and Scientific Research
A questionnaire of a study for total fulfillment for PhD. Degree

N.B

This questionnaire is merely for scientific research, all information are for the purpose and shall be kept confidential.

Part 1 (General)

1. Name -----
2. Profession -----
3. Work place (optional)-----
4. Experience

Less than 5 years 5 – 10 years More than 10 years

5. Date of response -----

Part 11 (Administrative)

1. Scope of work(your entity)

Contracting Consultancy Other (explain)

2. Are you satisfied of your current work in Sudan?

Fully satisfied partially satisfied Not satisfied

3. In future if you have an opportunity then you will:

Develop your scope Keep unchanged Change your scope

4. Do you believe that the administration of works in your entity run in structured plans?

Always Yes In most cases Eventually Never at all

5. If your answer is NO, what you suggest to remedy the situation?

No	Answer	1st	2nd	3rd	4th
1	Restructuring of human resource				
2	Train employees				
3	Establishing work regulations				
4	Miscellaneous(explain)				

6. What are the common problems of construction companies in Sudan as you believe?

No	Answer	1st	2nd	3rd	4th
1	Suffer of financial complications				
2	Suffer of legal complications				
3	Suffer of technical problems				
4	Suffer of managerial problems				
5	The situation is perfect				

7. Do you think that construction companies in Sudan are qualified for expected development?

Absolutely Yes Yes, but partially to some extent No

8. For what reasons do you justify the entry of foreign construction companies to Sudan?

No	Answer	1st	2nd	3rd	4th
1	Larger resources				
2	Genuine products				
3	Reasonable cost				
4	Commit to schedule				
5	Fear of local companies				

9. Do you think that taxes and value added represent an onus for local companies?

- They are a basic problem
- They are essential but need to be discounted
- The problem in the way of collection
- They do not constitute a problem

10. How can you evaluate the required guarantees for executing projects?

No	The guarantee	impossible	hard	reasonable	nominal
1	The bid bond				
2	The performance bond				
3	The advanced payment bond				
4	The retention money				
5	The maintenance bond				

11. If these bonds constitute a problem, how can the solution be?

- To be cancelled
- To be discounted
- To be partially cancelled
- To be merged in one bond

Part III (Technical)

1. How can you evaluate the graduates of engineering colleges in Sudan?

- Initially they are not competent
- Technically qualified
- Technically and managerially qualified
- Qualified for all works

2. What are the aspects in which they need more knowledge?

- Technical aspects
- Administrative skills
- Knowledge in legal aspects
- Academic aspects

3. Do you think that there is a systematic training programs for engineers and their supporting staff in Sudan?

Yes To some extent No

4. If the answer is YES, is there any positive effect on the industry?

Yes,clearly

Limited effect

Expected effect

Qualified for all works

5. Are you confronted by any obstacles in having dosages of training?

Yes To some extent No

6. If the answer is Other than No ,the causes are:

Financial

Time factor

Available courses are inconvenient

No desires

7. Do you think, the Sudanese companies have presence outside the brooders?

Yes Yes but limited presence No presence at all

8. If the answer is Other than YES , it is because of:

Weaknesses in potential capabilities

Communication problems

Lack of confidence

Poor labor skills

9. How can you evaluate the local labors which work in construction industry?

Ineligible

Qualified in some disciplines

Traditionally qualified in all disciplines

Promptly qualified

10. From your experience how do local labors gain their qualifications?

- By practice
- By scientific training
- By professional training
- By immitating

11. What output do you think to be achieved due to deficiencies (whatever) in qualified Sudanese labor in terms of negative impact?

No	Answer	Severe impact	Significant impact	Low impact	No effect
1	productivity				
2	quality				
3	cost				
4	Increase in time				
5	Customer satisfaction				

12. Do you think that construction projects in Sudan are executed in standardized methods since the feasibility stage till project completion?

Yes, always in most cases in some cases Not at all

13. Do you think that the used equipment and machineries comply with

14. Standard specifications?

- Complete compliance
- Highly complying
- Low compliance
- Incomplying

15. If the answer was NO, how could it be treated?

- Establishing specifications
- Classification of contractors
- Encouraging qualityby setting regulations
- No problem,keep same situation

16. Do you believe that, current laws and regulations are sufficient to take care of the profession?

Yes To some extent No

17. If the answer was NO, do you see the solution in:

Revision of laws

Establishment of detailed regulations

To cancel some laws for ineffectiveness

18. Are you convinced by the roles played by the Building Administration (Ministry of Urban planning) toward managing the building process?

Yes To some extent No

19. If the answer was NO, what are the reasons behind this negligence?

Limitations in laws

Unfamiliarity with laws

Miscellaneous (explain)

PART IV (LEGAL)

1. Do you think that the construction contract must work for solving all problems facing the project?

Yes, absolutely

In most cases

In scarce cases

Only deserves rights but not solving problems

2. From your experience, how could a balanced contract is formulated?

By establishing standardized contracts

Increase of legal knowledge for parties

Giving more time for parties to form their contract

Leave all for legal advisers

3. Is there any specialized department in your company for establishing engineering contracts?

Yes Not fully specialized No

4. How contracts are written and revised in your company?

By Engineers By Legal Advisers by the G.Manager Others

5. There are many reasons behind disputes in construction industry, how could they be ranked according to their effect?

No	Reasons	Strong	Moderate	Slight	No effect
1	Deficiencies in documents				
2	Contradictions of documents				
3	Ambiguity in specifications				
4	Ill interpretation of contract clauses				
5	Reasons out of the wills of the parties				

6. Disputes are considered to be a common phenomena in the Sudanese construction industry:

Agree Agree, but it is not common Not agree

7. What are the sequences of the following remedies in minimizing disputes in the construction industry?

No	Remedy	1st	2nd	3rd	4th
1	improve contract formation				
2	Adequate project planning				
3	Nomination of suitable contractor				
4	Improve project documents				

8. When disputes were arising between the parties, they solved by:

Amicably by negotiation

As per contract terms

Legal action

Others (explain)

9. Are tender documents revised in your company before calling for or entering into tenders?

Yes Sometimes No

10. If the answer was YES, the common found mistakes were as:

Comprehensiveness of documents

Adjustment of quantities

Conflicts in specifications

11. Contract documents are necessary and they are used to interpret their clauses:

Fully agree to some extent don't agree

12. To what extent will deficiencies in project documents affect the contract?

Highly Moderately Weakly No effect

13. If the answer was YES, the reason behind this is:

Amendment of the document

Lack of qualified person

Lack in information

14. From your involvements in your company what is the average variation percent in project costs?

Less than 5%

5% - 15%

15% -25%

More than 25%

15. What is the percentage of varied projects out of that you had been involved in?

Less than 10%

- 10% - 20%
- 20% -50%
- More than 50%

16. Do you think that this variation obstacle the project objectives?

- Yes
- Most times
- Sometimes
- No

17. If the variation was more than 25%, how would it dealt with?

- Payments according to contract
- More than 25% increase is not admitted
- Agreement on new rates
- New contract

18. When forming construction contracts, the reference will be:

- Sudanese law
- Sudanese conditions of contracts
- FIDIC conditions for contracts

19. What is your opinion about the Sudanese Conditions for Building Contracts?

- Have not seen it
- Sufficient,cover all aspects
- It lacks some aspects
- Cannot be relied upon

20. To what extent can FIDIC Conditions for Contracts be depend on?

- Absolutely reliable
- In most cases
- In some cases
- Cannot be adopted

21. Do you think that the Sudanese Arbitration Act (2005) meets all the profession aspirations?

- Absolutely yes Yes, but need more revisions No

22. Do you think that the construction contracts in Sudan are balanced and meet the needs?

- Yes Yes, but need more improvement No

23. If the answer was NO, who is responsible for such deficiencies?

- The owner
- The consultant
- The legal adviser

24. How can you arrange the following terms of contract regarding their breach by the parties?

- Payment clause
- Compliance to spec. and conditions
- Commitment to time schedule
- Variations and extra works

12.2 APPENDIX (2): The Results of the Analysis

Frequencies

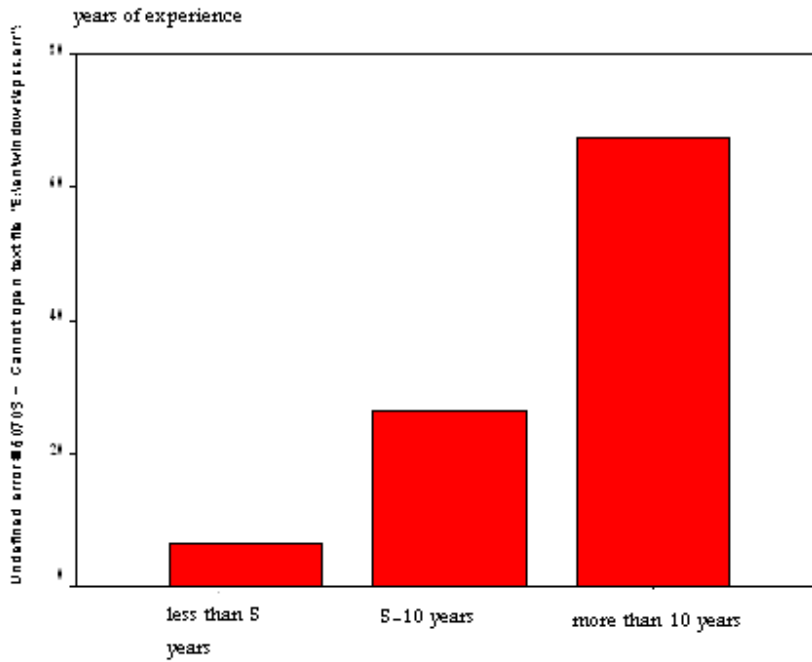
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Statistics

Experience:

N	Valid	95
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		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	6	6.3	6.3	6.3
	5-10 years	25	26.3	26.3	32.6
	More than 10 years	64	67.4	<u>67.4</u>	100.0
	Total	95	100.0	100.0	



Frequencies

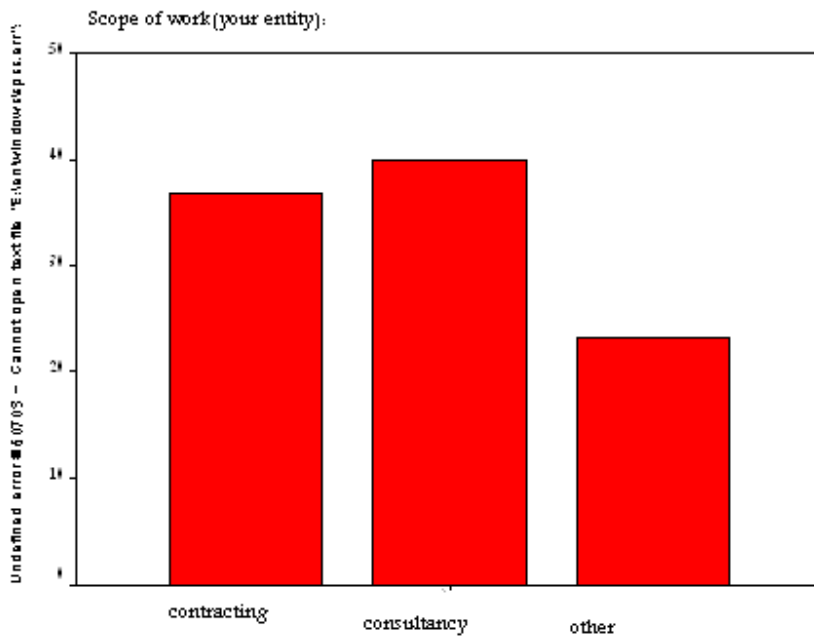
Notes

Statistics

Scope of work (your entity):

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Contracting	35	36.8	<u>36.8</u>	36.8
	Consultancy	38	40.0	<u>40.0</u>	76.8
	Other	22	23.2	<u>23.2</u>	100.0
	Total	95	100.0	100.0	



Frequencies

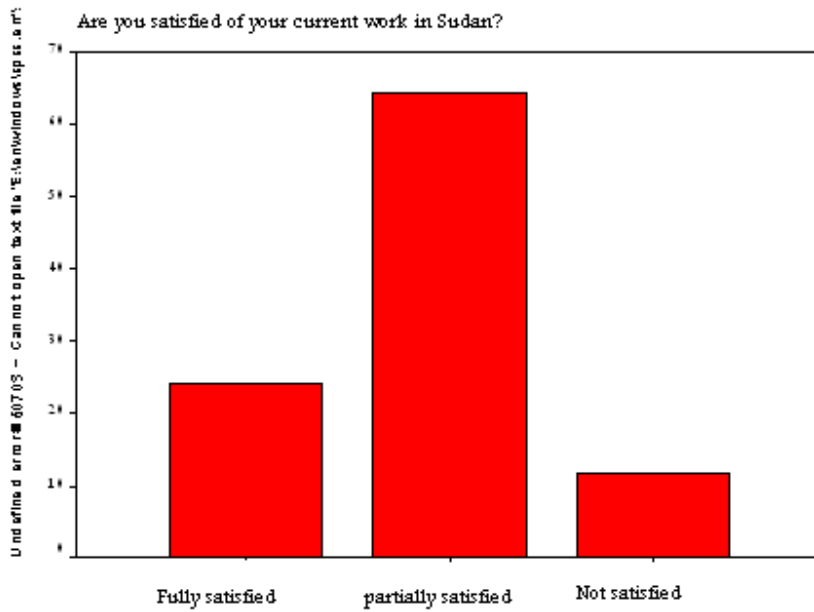
Notes

Statistics

Are you satisfied of your current work in Sudan?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully satisfied	23	24.2	24.2	24.2
	Partially satisfied	61	64.2	64.2	88.4
	Not satisfied	11	11.6	11.6	100.0
	Total	95	100.0	100.0	



Frequencies

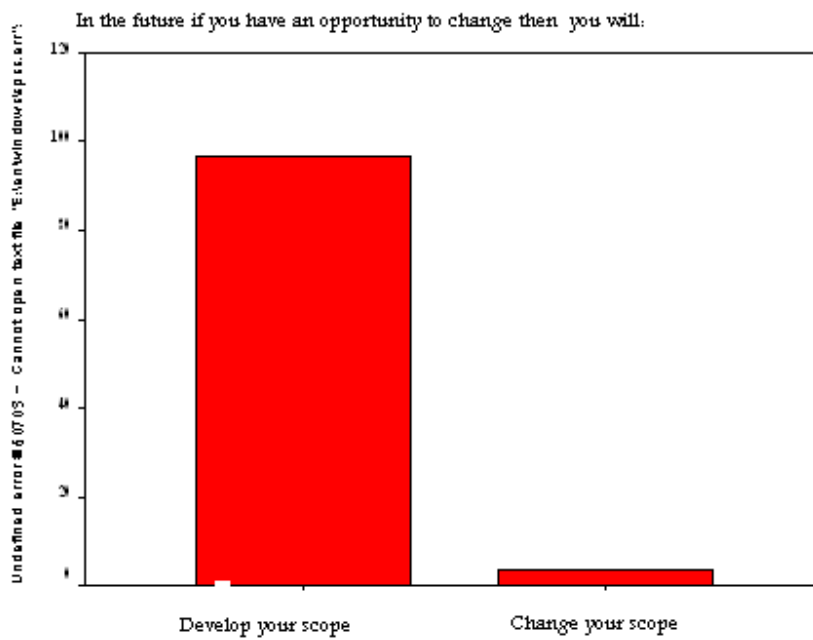
Statistics

Notes

In future if you have an opportunity then you will:

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Develop your scope	92	96.8	96.8	<u>96.8</u>
	Keep unchanged	3	3.2	3.2	100.0
	Total	95	100.0	100.0	



Frequencies

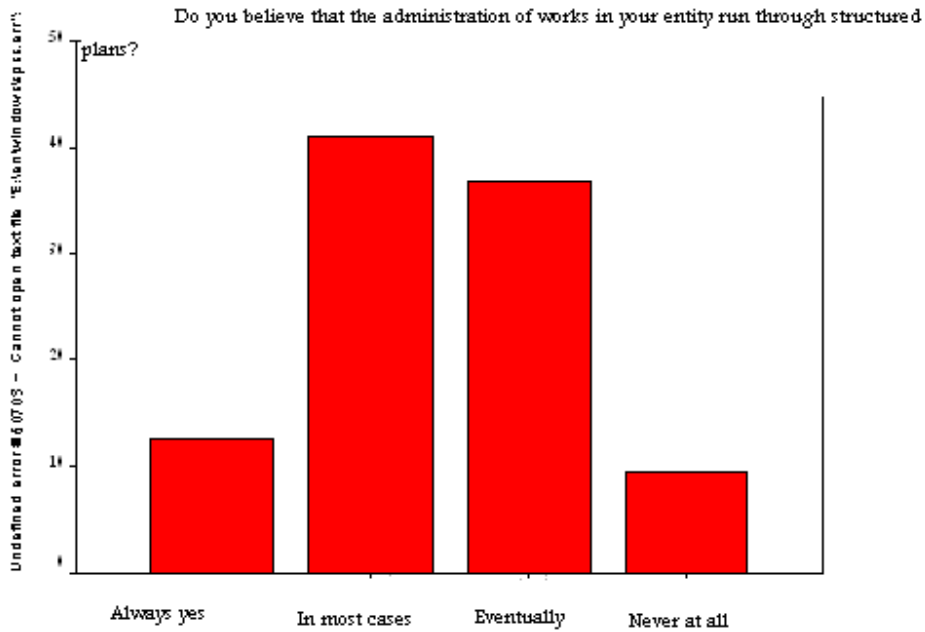
Notes

Statistics

Do you believe that the administration of works in your entity run in structured plans?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always Yes	12	12.6	12.6	<u>12.6</u>
	In most cases	39	41.1	41.1	53.7
	Eventually	35	36.8	36.8	90.5
	Never at all	9	9.5	9.5	100.0
	Total	95	100.0	100.0	



Frequencies

Notes

Statistics

What are the common problems of construction companies in Sudan as you believe?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	47	49.5	49.5	49.5
	Second	27	28.4	28.4	77.9
	Third	18	18.9	18.9	96.8
	Fourth	3	3.2	3.2	100.0
	Total	95	100.0	100.0	



Frequencies

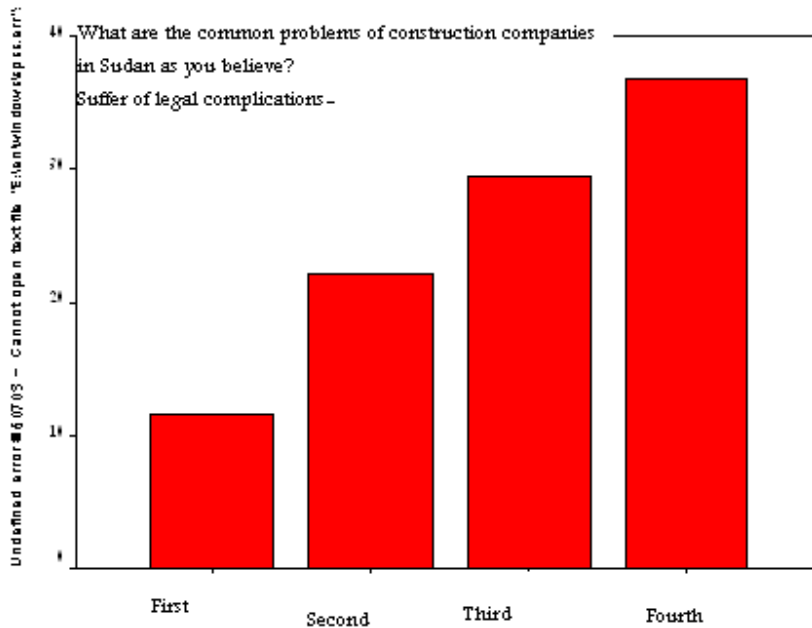
Notes

Statistics

**What are the common problems of construction companies in Sudan as you believe?
Suffer of legal complications-**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	11	11.6	11.6	11.6
	Second	21	22.1	22.1	33.7
	Third	28	29.5	29.5	63.2
	Fourth	35	36.8	36.8	100.0
	Total	95	100.0	100.0	



Frequencies

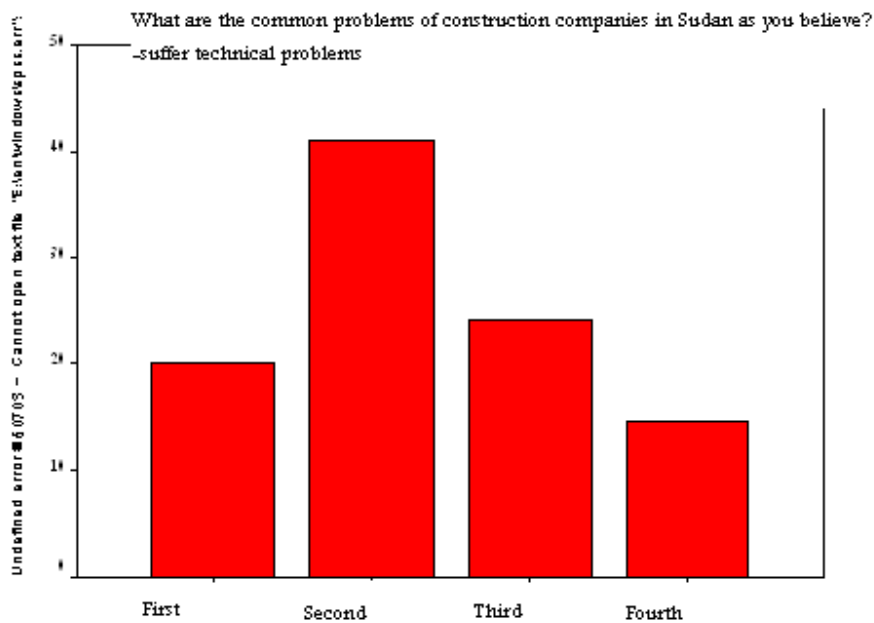
Notes

Statistics

**What are the common problems of construction companies in Sudan as you believe?
-suffer technical problems**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	19	20.0	20.0	20.0
	Second	39	41.1	41.1	61.1
	Third	23	24.2	24.2	85.3
	Fourth	14	14.7	14.7	100.0
	Total	95	100.0	100.0	



Frequencies

Notes

Statistics

**What are the common problems of construction companies in Sudan as you believe?
-suffer administrative problems**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	37	38.9	38.9	38.9
	Second	23	24.2	24.2	<u>63.2</u>
	Third	21	22.1	22.1	85.3
	Fourth	14	14.7	14.7	100.0
	Total	95	100.0	100.0	



Notes

Frequencies

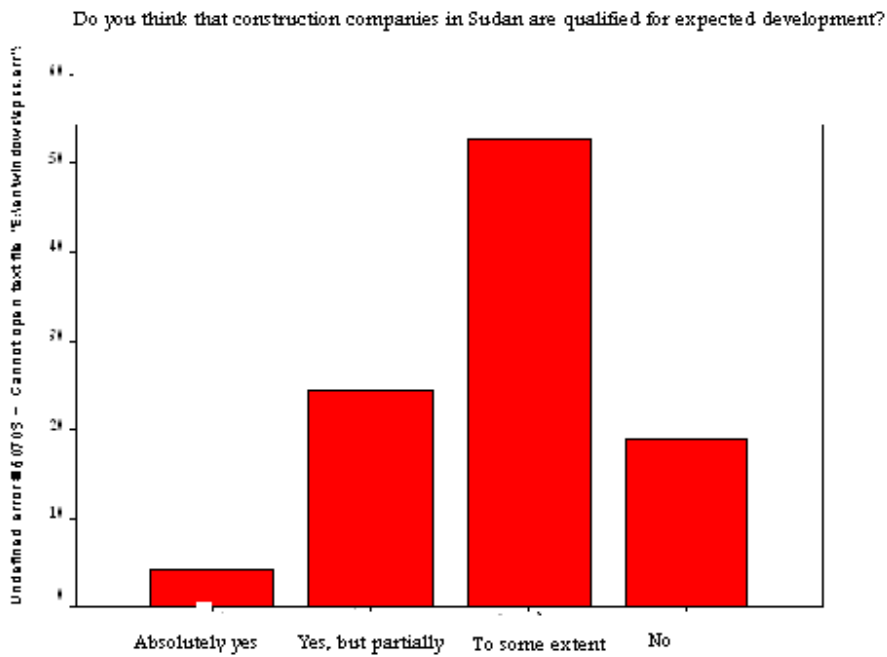
Notes

Statistics

Do you think that construction companies in Sudan are qualified for expected development?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Absolutely Yes	4	4.2	4.2	4.2
	Yes, but partially	23	24.2	24.2	28.4
	To some extent	50	52.6	52.6	81.1
	No	18	18.9	18.9	100.0
	Total	95	100.0	100.0	



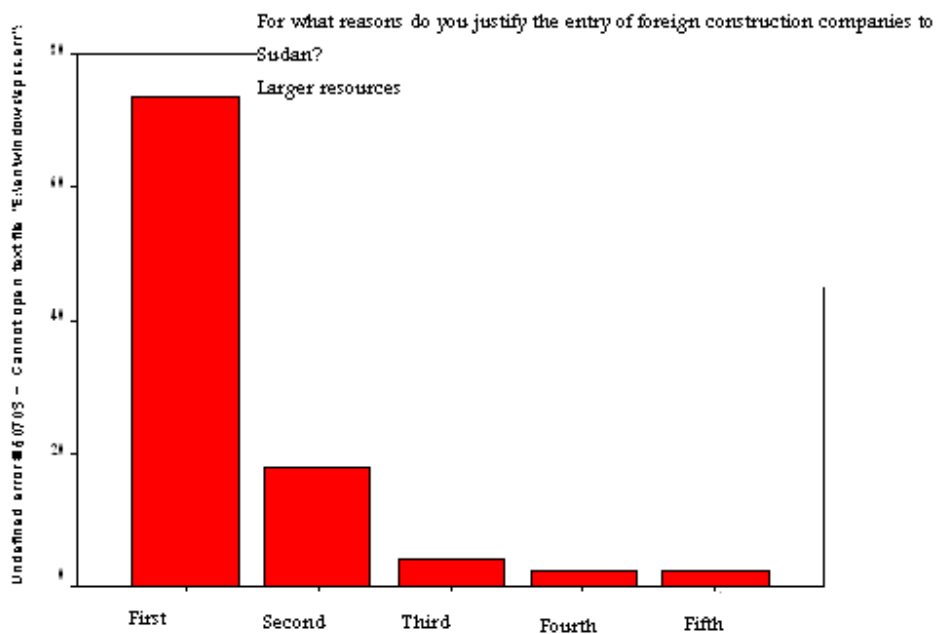
Frequencies

Notes
Statistics

For what reasons do you justify the entry of foreign construction companies to Sudan?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	70	73.7	73.7	73.7
	Second	17	17.9	17.9	91.6
	Third	4	4.2	4.2	95.8
	Fourth	2	2.1	2.1	97.9
	Fifth	2	2.1	2.1	100.0
	Total	95	100.0	100.0	



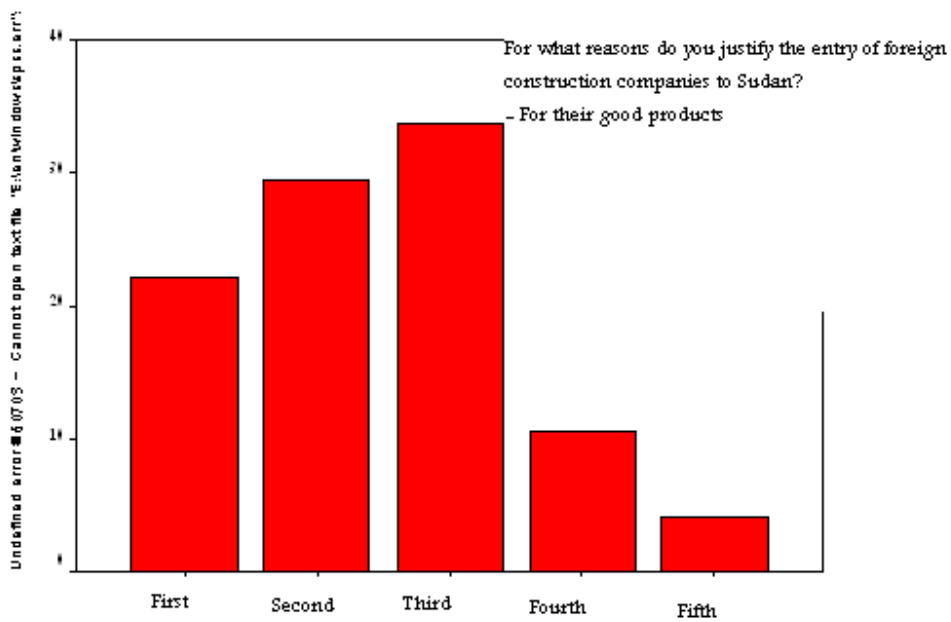
Frequencies

Statistics Notes

**For what reasons do you justify the entry of foreign construction companies to Sudan?
-For their good products**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	21	22.1	22.1	22.1
	Second	28	29.5	29.5	51.6
	Third	32	33.7	33.7	85.3
	Fourth	10	10.5	10.5	95.8
	Fifth	4	4.2	4.2	100.0
	Total	95	100.0	100.0	



Frequencies

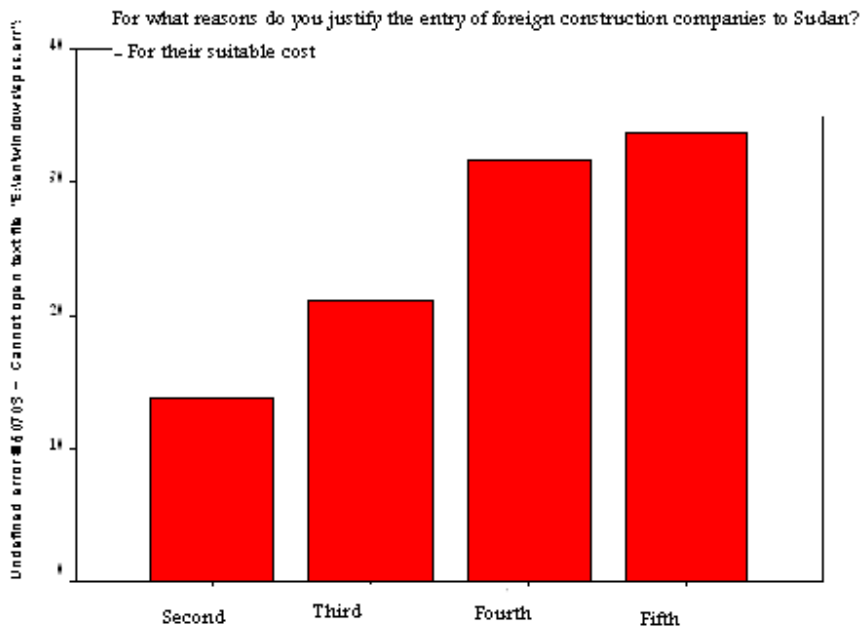
Notes

Statistics

**For what reasons do you justify the entry of foreign construction companies to Sudan?
-For their suitable cost**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Second	13	13.7	13.7	13.7
	Third	20	21.1	21.1	<u>34.7</u>
	Fourth	30	31.6	31.6	66.3
	Fifth	32	33.7	33.7	100.0
	Total	95	100.0	100.0	



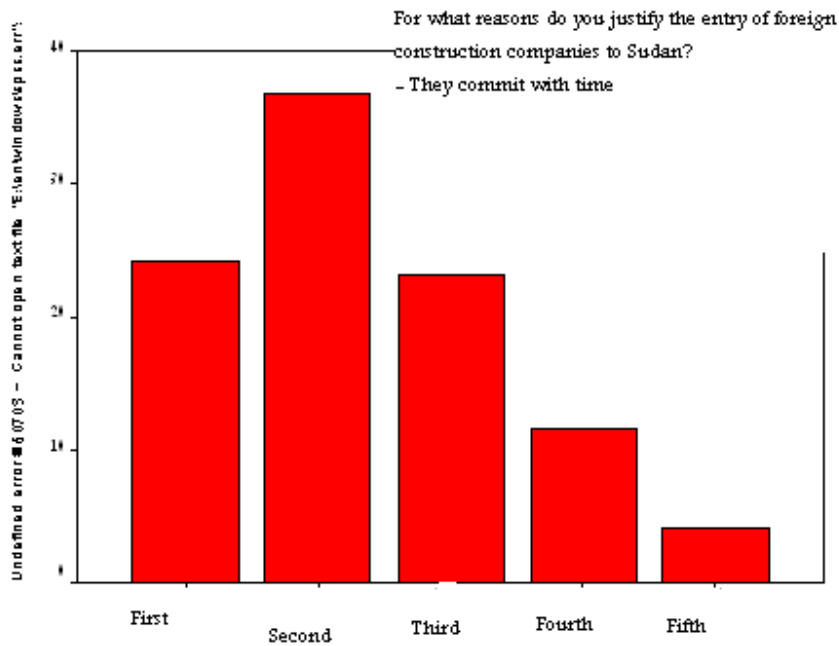
Frequencies

Notes
Statistics

For

**What reasons do you justify the entry of foreign construction companies to Sudan?
-They commit with time**

N		Valid	95		
		Missing	0		
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	23	24.2	24.2	24.2
	Second	35	36.8	36.8	<u>61.1</u>
	Third	22	23.2	23.2	84.2
	Fourth	11	11.6	11.6	95.8
	Fifth	4	4.2	4.2	100.0
	Total	95	100.0	100.0	



Frequencies

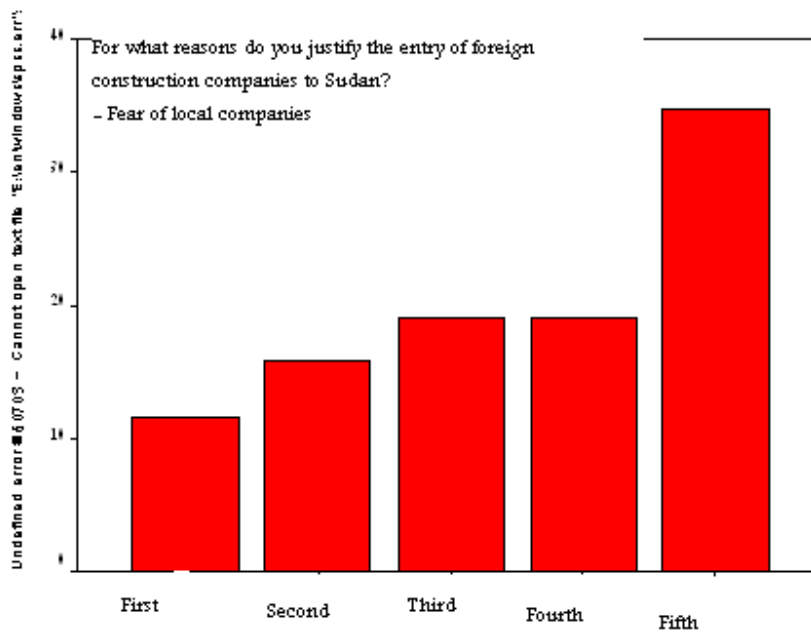
Statistics

Notes

**For what reasons do you justify the entry of foreign construction companies to Sudan?
- Fear of local companies**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	11	11.6	11.6	11.6
	Second	15	15.8	15.8	27.4
	Third	18	18.9	18.9	46.3
	Fourth	18	18.9	18.9	65.3
	Fifth	33	34.7	34.7	100.0
	Total	95	100.0	100.0	



Frequencies

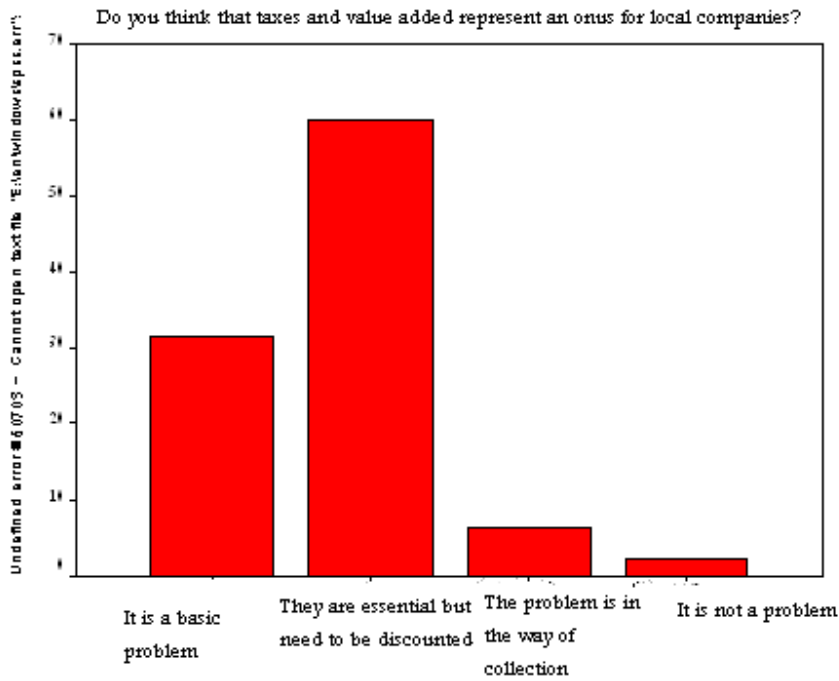
Notes

Statistics

Do you think that taxes and value added represent an onus for local companies?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	It is a basic problem	30	31.6	31.6	31.6
	They are essential but need to be discounted	57	60.0	60.0	91.6
	The problem is in the way of collection	6	6.3	6.3	97.9
	It is not a problem	2	2.1	2.1	100.0
	Total	95	100.0	100.0	



Frequencies

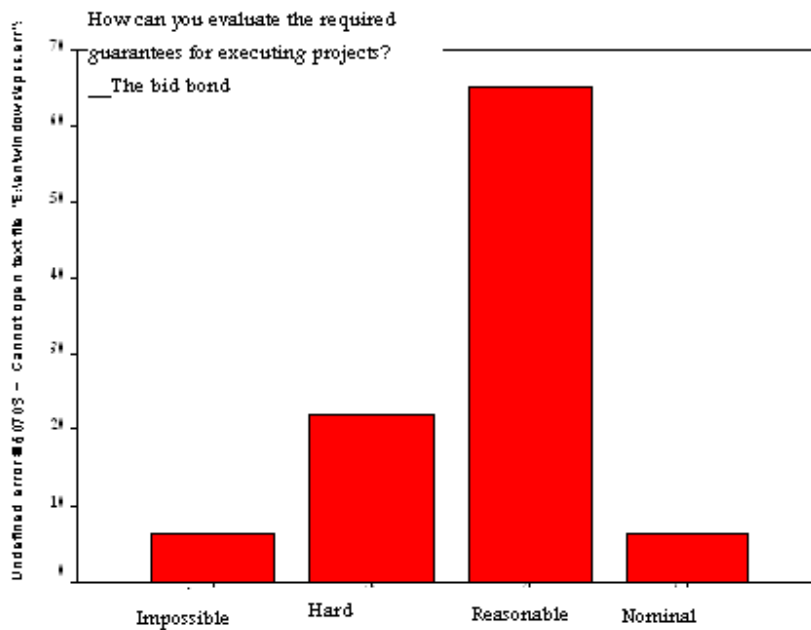
Notes

Statistics

**How can you evaluate the required guarantees for executing projects?
-The bid bond**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impossible	6	6.3	6.3	6.3
	Hard	21	22.1	22.1	28.4
	Reasonable	62	65.3	65.3	93.7
	Nominal	6	6.3	6.3	100.0
	Total	95	100.0	100.0	



Frequencies

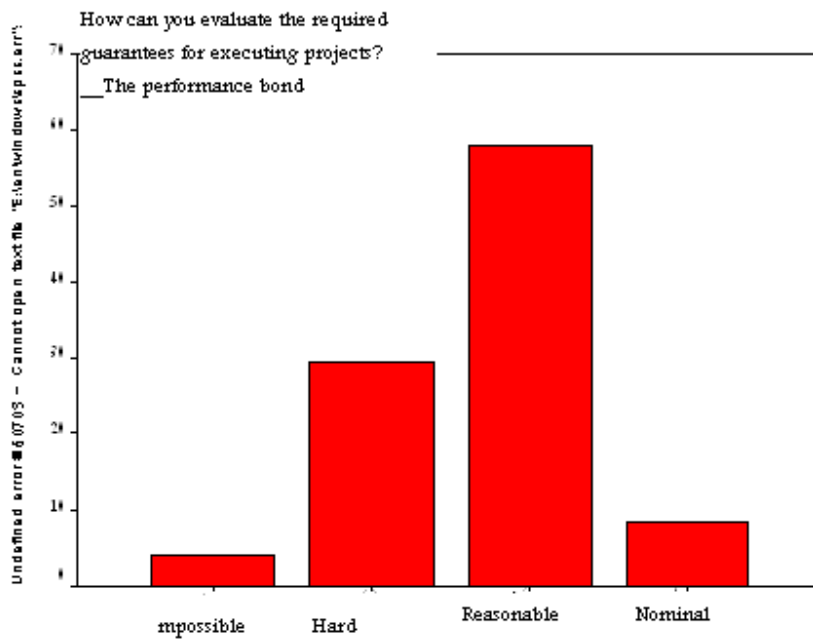
Notes

Statistics

**How can you evaluate the required guarantees for executing projects?
-The performance bond**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impossible	4	4.2	4.2	4.2
	Hard	28	29.5	29.5	33.7
	Reasonable	55	57.9	<u>57.9</u>	91.6
	Nominal	8	8.4	8.4	100.0
	Total	95	100.0	100.0	



Frequencies

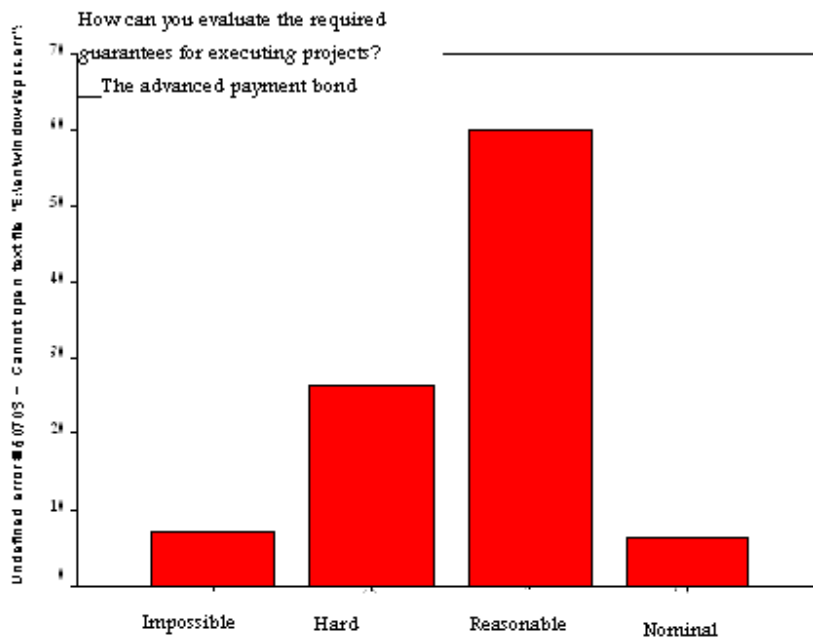
Notes

Statistics

**How can you evaluate the required guarantees for executing projects?
-The advanced payment bond**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impossible	7	7.4	7.4	7.4
	Hard	25	26.3	26.3	33.7
	Reasonable	57	60.0	60.0	93.7
	Nominal	6	6.3	6.3	100.0
	Total	95	100.0	100.0	



Frequencies

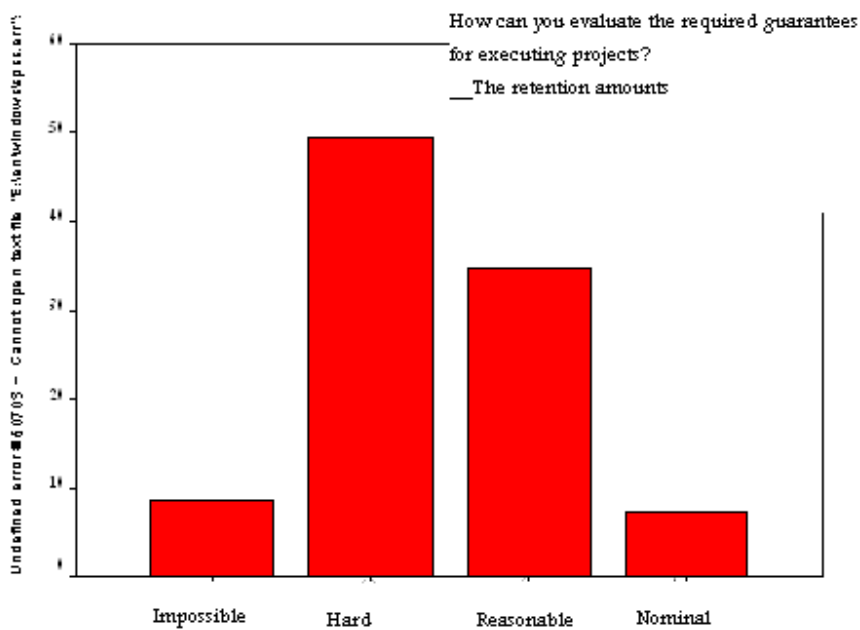
Notes

Statistics

**How can you evaluate the required guarantees for executing projects?
-The retention amounts**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impossible	8	8.4	8.4	8.4
	Hard	47	49.5	49.5	<u>57.9</u>
	Reasonable	33	34.7	34.7	92.6
	Nominal	7	7.4	7.4	100.0
	Total	95	100.0	100.0	



Frequencies

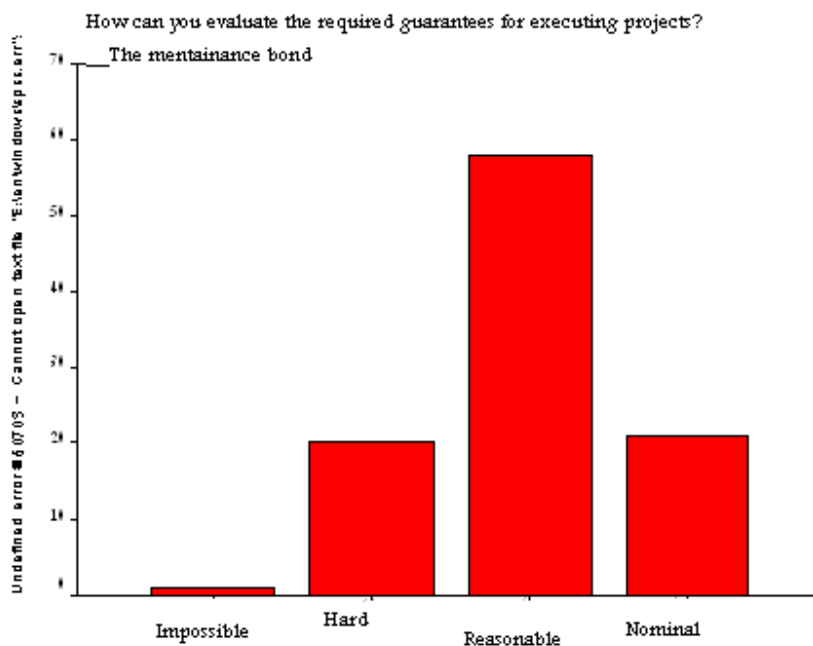
Notes

Statistics

**How can you evaluate the required guarantees for executing projects?
-The mentainance bond**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impossible	1	1.1	1.1	1.1
	Hard	19	20.0	20.0	21.1
	Reasonable	55	57.9	<u>57.9</u>	78.9
	Nominal	20	21.1	21.1	100.0
	Total	95	100.0	100.0	



Frequencies

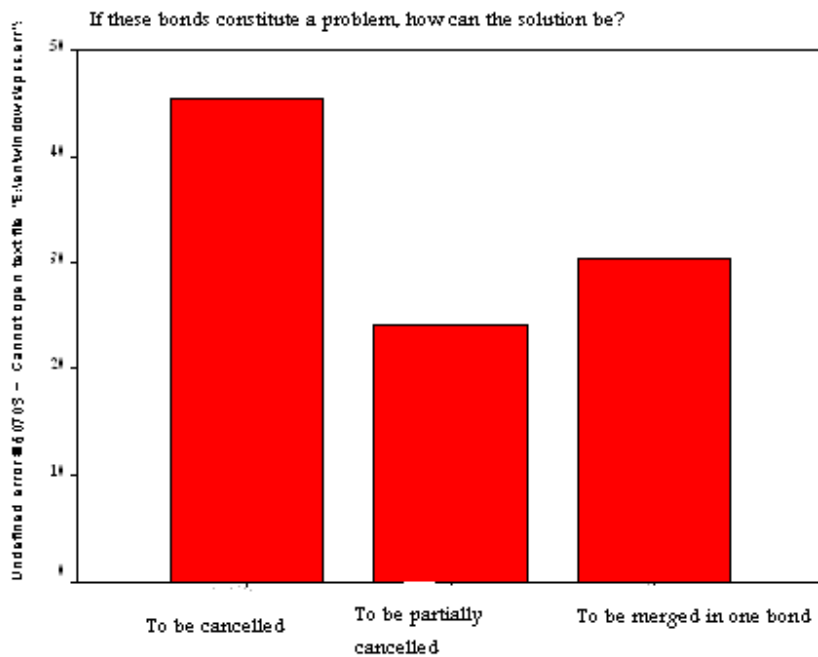
Notes

Statistics

If these bonds constitute a problem, how can the solution be?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To be cancelled	43	45.3	45.3	45.3
	To be partially cancelled	23	24.2	24.2	<u>69.5</u>
	To be merged in one bond	29	30.5	30.5	100.0
	Total	95	100.0	100.0	



Frequencies

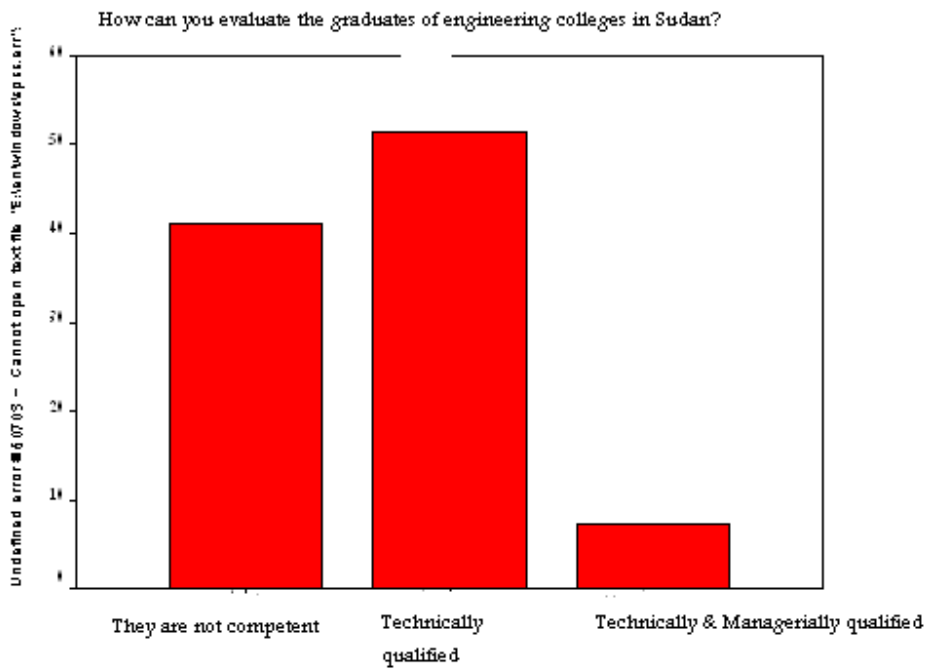
Statistics

Notes

How can you evaluate the graduates of engineering colleges in Sudan?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	They are not competent	39	41.1	41.1	<u>41.1</u>
	Technically qualified	49	51.6	<u>51.6</u>	92.6
	Technically & Managerially qualified	7	7.4	7.4	100.0
	Total	95	100.0	100.0	



Frequencies

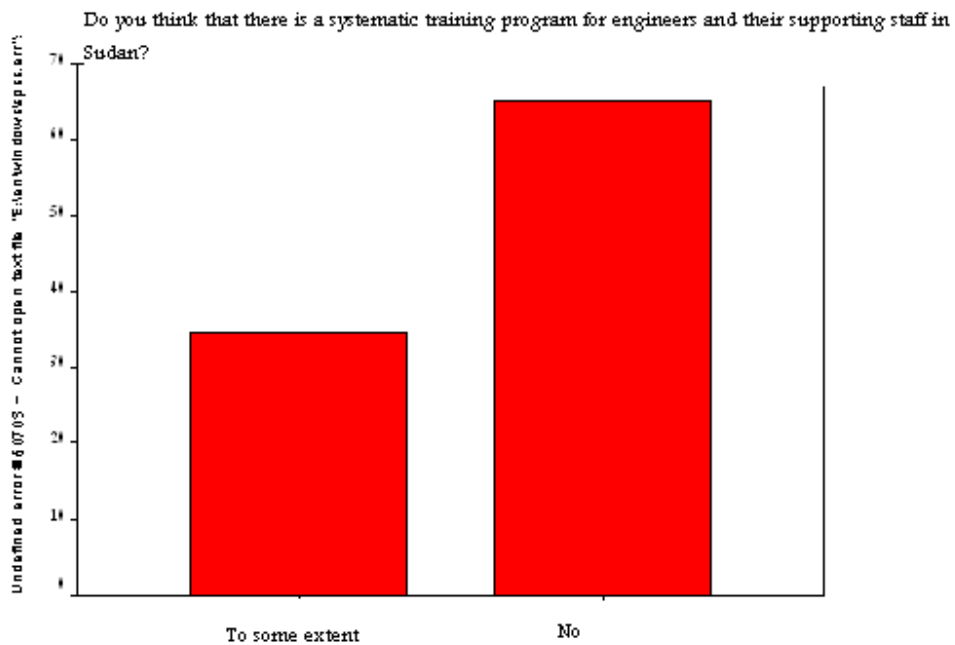
Notes

Statistics

Do you think that there is a systematic training program for engineers and their supporting staff in Sudan?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To some extent	33	34.7	34.7	34.7
	No	62	65.3	65.3	100.0
	Total	95	100.0	100.0	



Frequencies

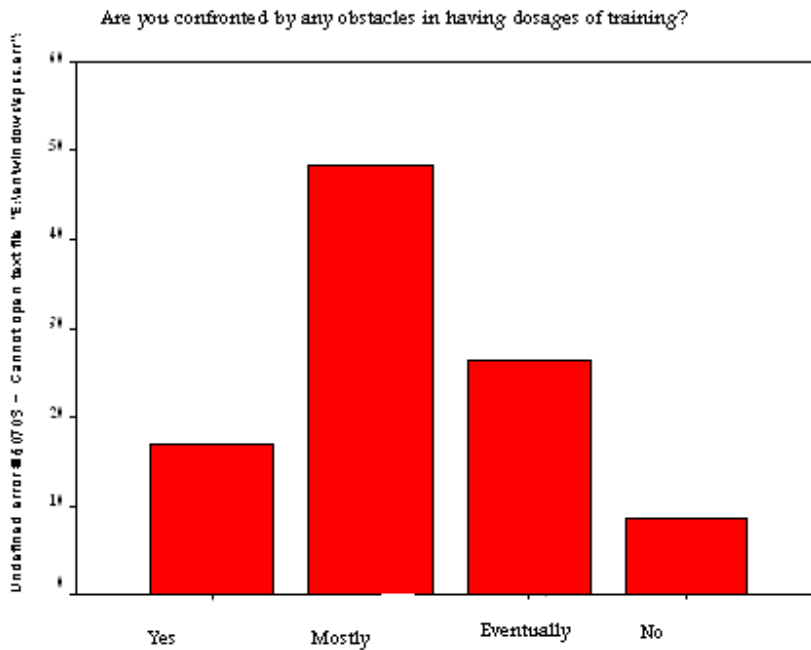
Notes

Statistics

Are you confronted by any obstacles in having dosages of training?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	16	16.8	16.8	16.8
	Mostly	46	48.4	48.4	65.3
	Eventually	25	26.3	26.3	91.6
	No	8	8.4	8.4	100.0
	Total	95	100.0	100.0	



Frequencies

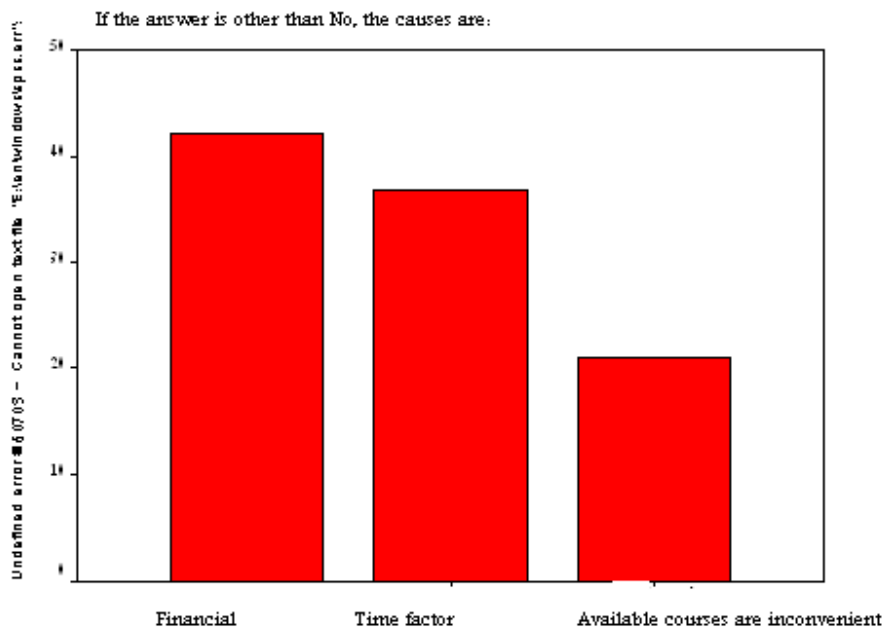
Notes

Statistics

If the answer is other than No, the causes are:

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Financial	40	42.1	42.1	42.1
	Time factor	35	36.8	36.8	<u>78.9</u>
	Available courses are inconvenient	20	21.1	21.1	100.0
	Total	95	100.0	100.0	



Frequencies

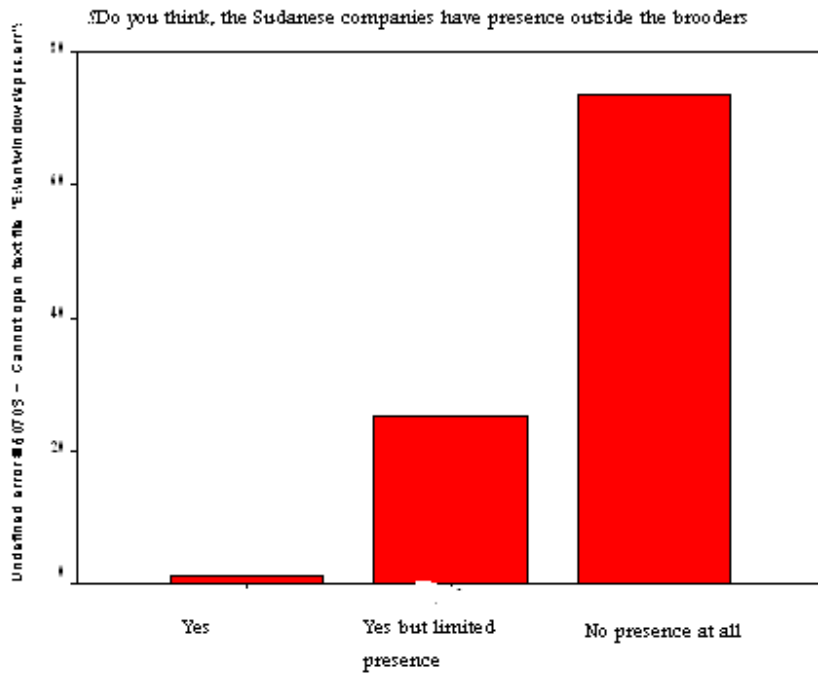
Notes

Statistics

Do you think, the Sudanese companies have presence outside the brooders?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	1	1.1	1.1	<u>1.1</u>
	Yes but limited presence	24	25.3	25.3	26.3
	No presence at all	70	73.7	73.7	100.0
	Total	95	100.0	100.0	



Frequencies

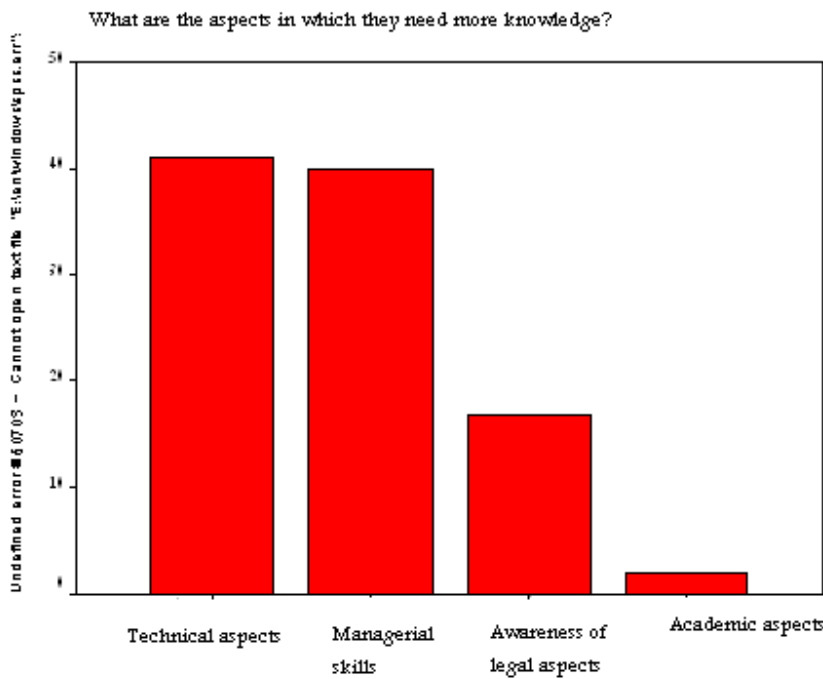
Notes

Statistics

What are the aspects in which they need more knowledge?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Technical aspects	39	41.1	<u>41.1</u>	41.1
	Managerial skills	38	40.0	<u>40.0</u>	81.1
	Awareness of legal aspects	16	16.8	<u>16.8</u>	97.9
	Academic aspects	2	2.1	<u>2.1</u>	100.0
	Total	95	100.0	100.0	



Frequencies

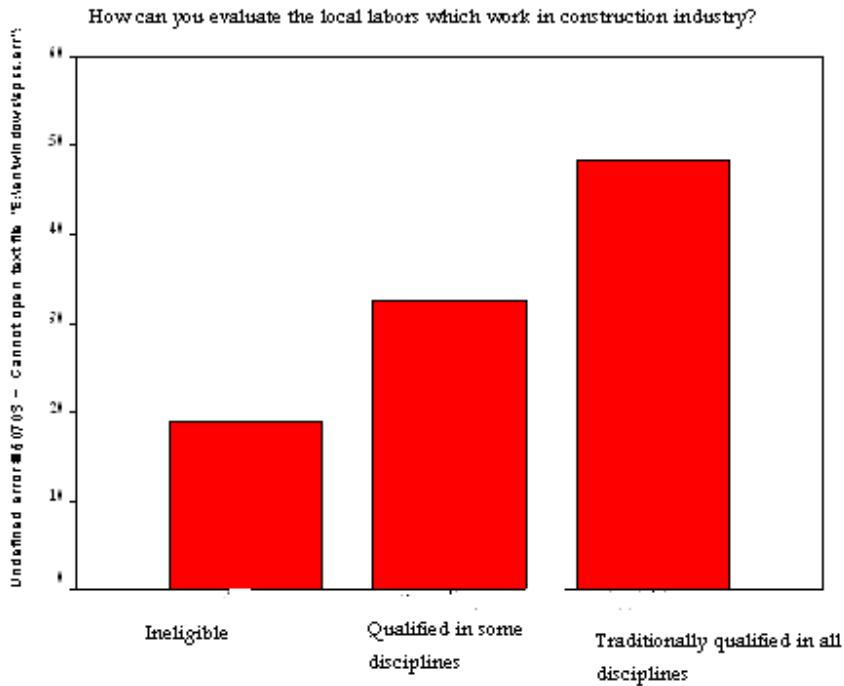
Notes

Statistics

How can you evaluate the local labors which work in construction industry?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ineligible	18	18.9	18.9	18.9
	Qualified in some disciplines	31	32.6	32.6	51.6
	Traditionally qualified in all disciplines	46	48.4	48.4	100.0
	Total	95	100.0	100.0	



Frequencies

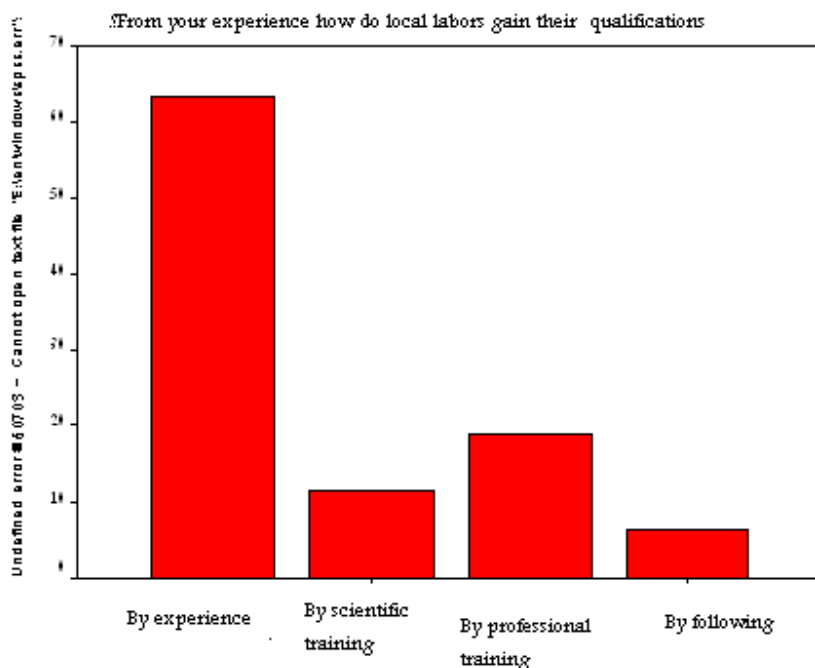
Statistics

Notes

From your experience how do local labors gain their qualifications?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	By experience	60	63.2	63.2	<u>63.2</u>
	By scientific training	11	11.6	11.6	74.7
	By professional training	18	18.9	18.9	93.7
	By following	6	6.3	6.3	100.0
	Total	95	100.0	100.0	



Frequencies

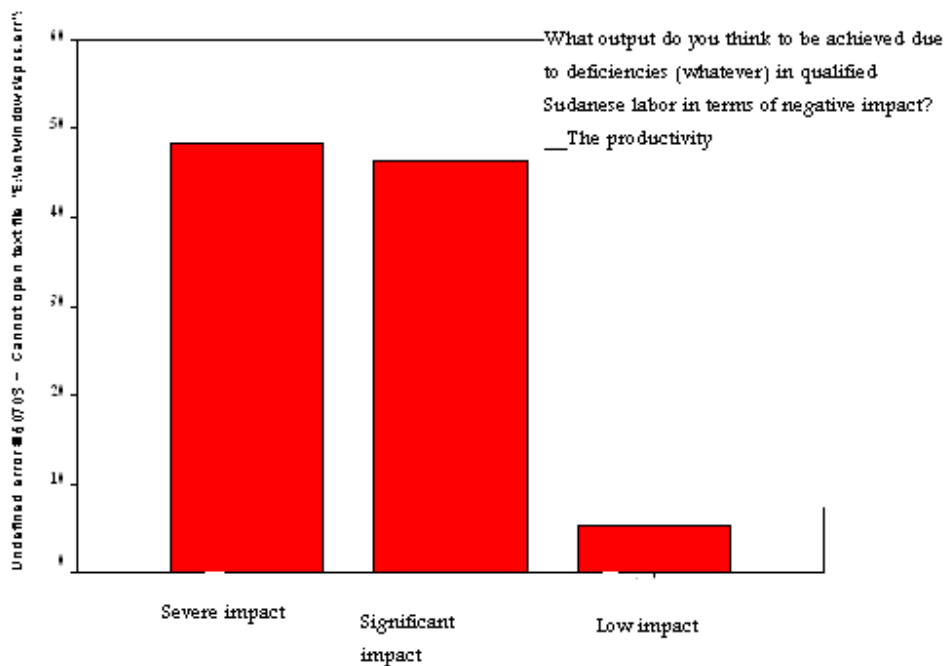
Statistics

Notes

**What output do you think to be achieved due to deficiencies (whatever) in qualified Sudanese labor in terms of negative impact?
The productivity-**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Severe impact	46	48.4	48.4	48.4
	Significant impact	44	46.3	46.3	<u>94.7</u>
	Low impact	5	5.3	5.3	100.0
	Total	95	100.0	100.0	



Frequencies

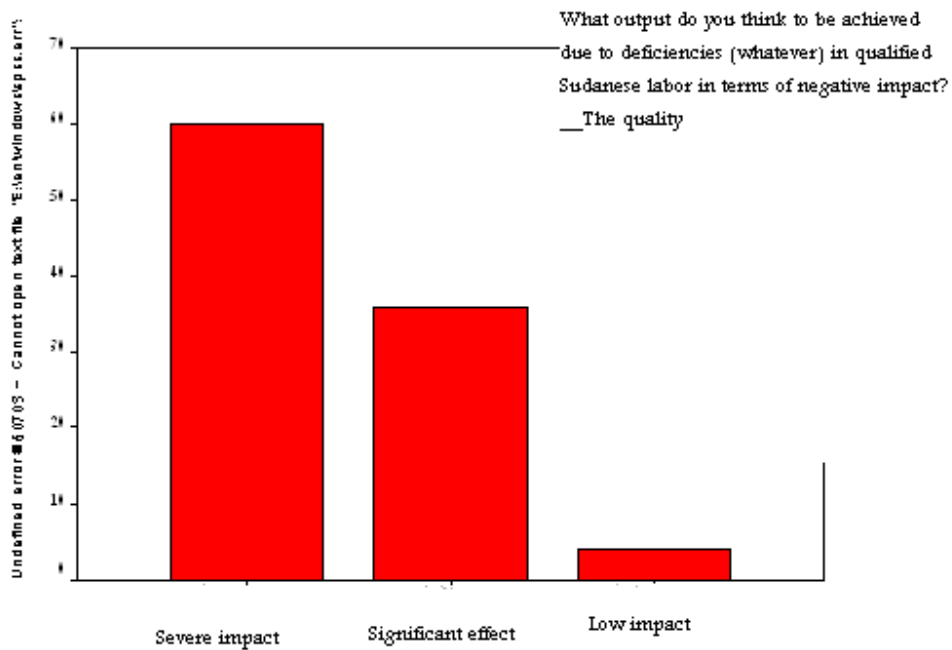
Notes

Statistics

**What output do you think to be achieved due to deficiencies (whatever) in qualified Sudanese labor in terms of negative impact?
The quality-**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Severe impact	57	60.0	60.0	60.0
	Significant effect	34	35.8	35.8	<u>95.8</u>
	Low impact	4	4.2	4.2	100.0
	Total	95	100.0	100.0	



Frequencies

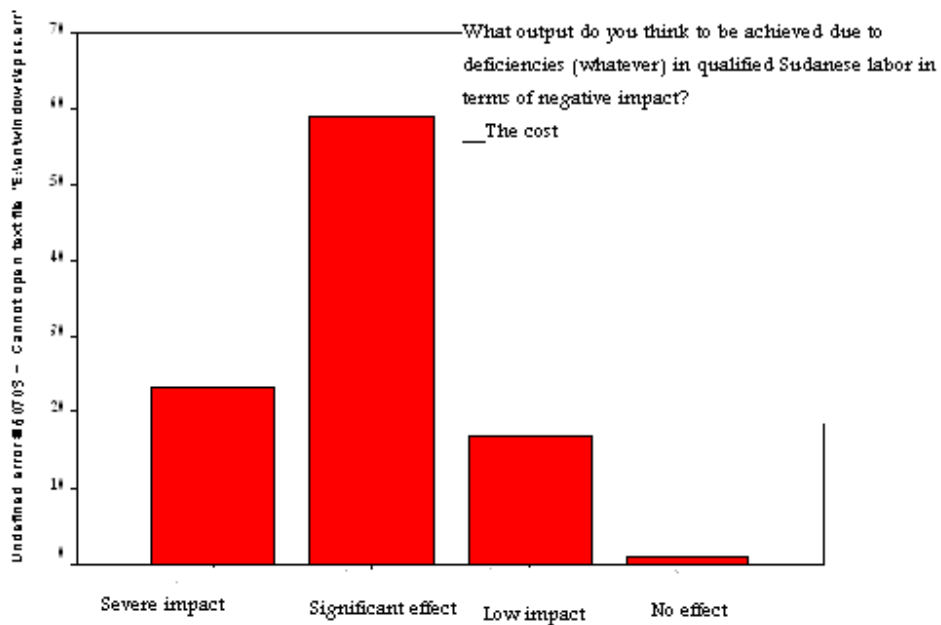
Notes
Statistics

What output do you think to be achieved due to deficiencies (whatever) in qualified Sudanese labor in terms of negative impact?

The cost-

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Severe impact	22	23.2	23.2	23.2
	Significant effect	56	58.9	58.9	82.1
	Low impact	16	16.8	16.8	98.9
	No effect	1	1.1	1.1	100.0
	Total	95	100.0	100.0	



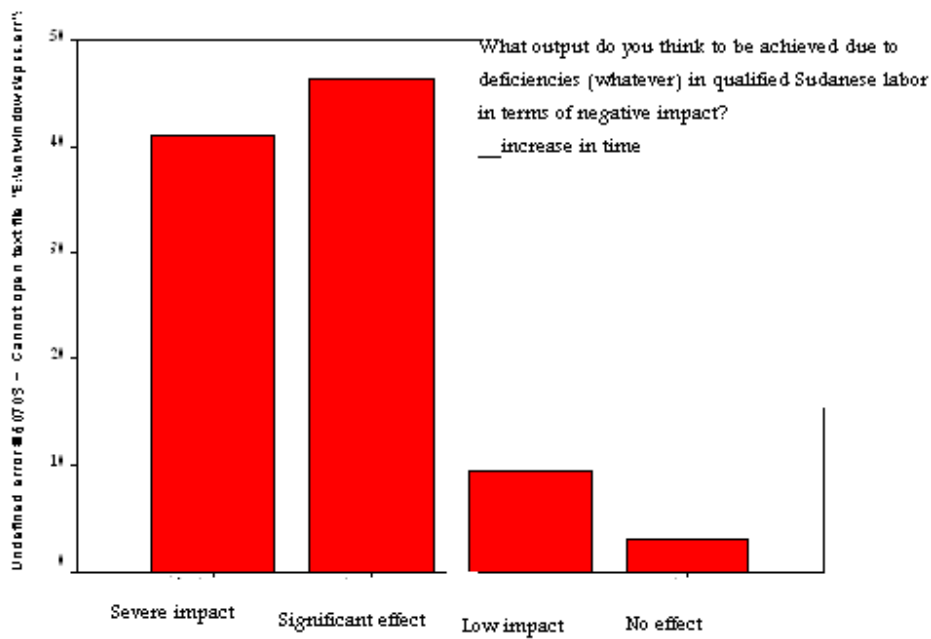
Frequencies

Notes

Statistics

**What output do you think to be achieved due to deficiencies (whatever) in qualified Sudanese labor in terms of negative impact?
Increase in time –**

N	Valid	95			
	Missing	0			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Severe impact	39	41.1	41.1	41.1
	Significant effect	44	46.3	46.3	87.4
	Low impact	9	9.5	9.5	96.8
	No effect	3	3.2	3.2	100.0
	Total	95	100.0	100.0	



Frequencies

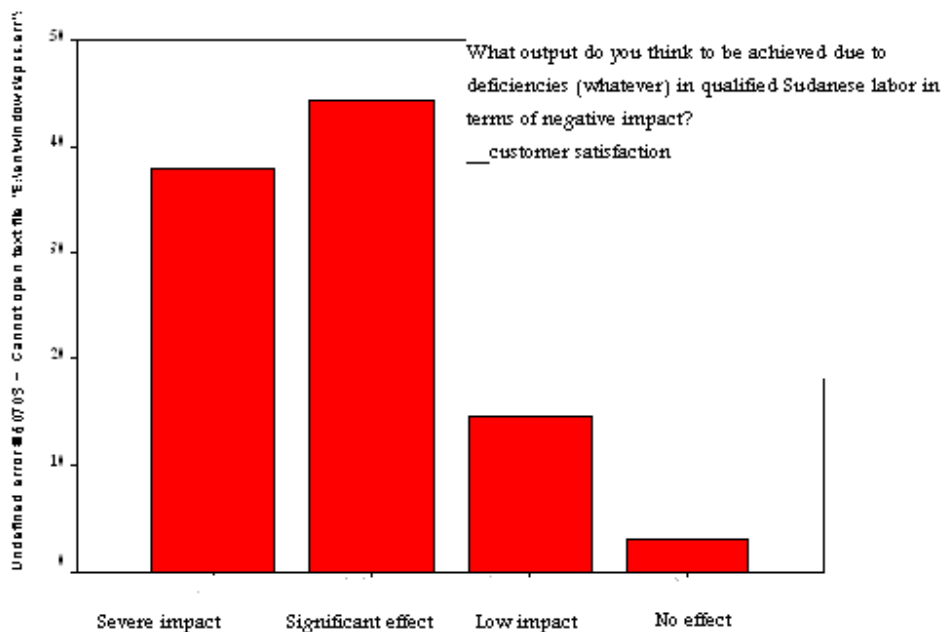
Statistics

Notes

**What output do you think to be achieved due to deficiencies (whatever) in qualified Sudanese labor in terms of negative impact?
- Customer satisfaction**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Severe impact	36	37.9	37.9	37.9
	Significant effect	42	44.2	44.2	82.1
	Low impact	14	14.7	14.7	96.8
	No effect	3	3.2	3.2	100.0
	Total	95	100.0	100.0	



Frequencies

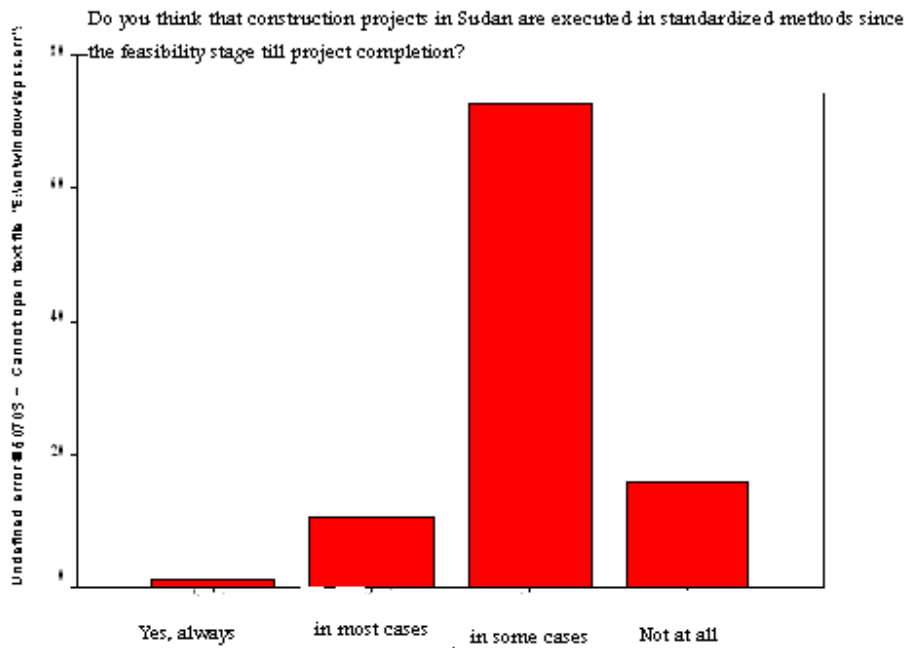
Statistics

Notes

Do you think that construction projects in Sudan are executed in standardized methods since the feasibility stage till project completion?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, always	1	1.1	1.1	1.1
	in most cases	10	10.5	10.5	11.6
	in some cases	69	72.6	72.6	84.2
	Not at all	15	15.8	15.8	100.0
	Total	95	100.0	100.0	



Frequencies

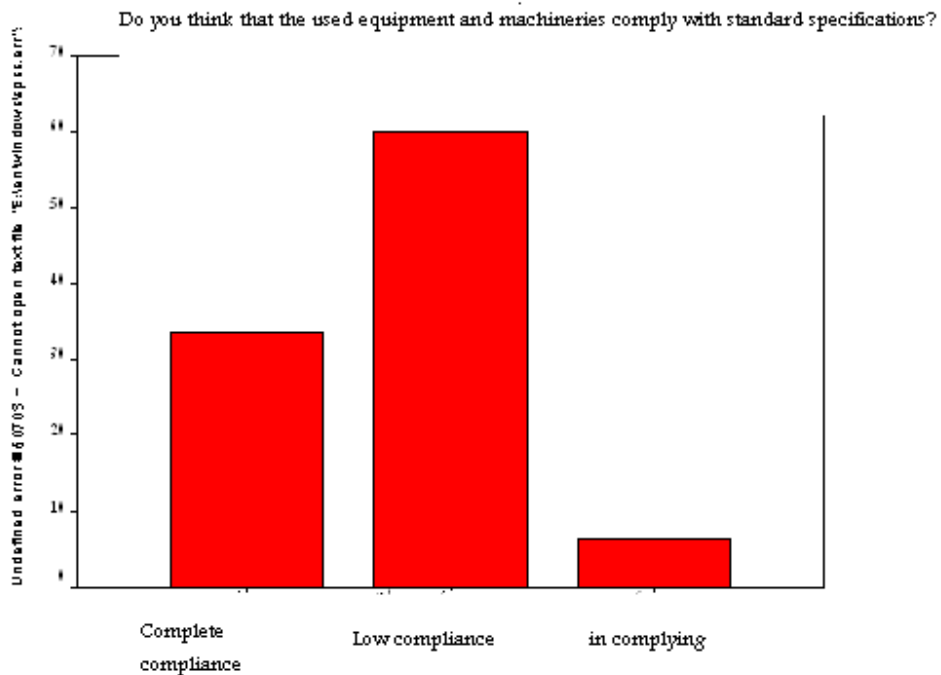
Statistics

Notes

Do you think that the used equipment and machineries comply with standard specifications?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Complete compliance	32	33.7	33.7	33.7
	Low compliance	57	60.0	60.0	93.7
	in complying	6	6.3	6.3	100.0
	Total	95	100.0	100.0	



Frequencies

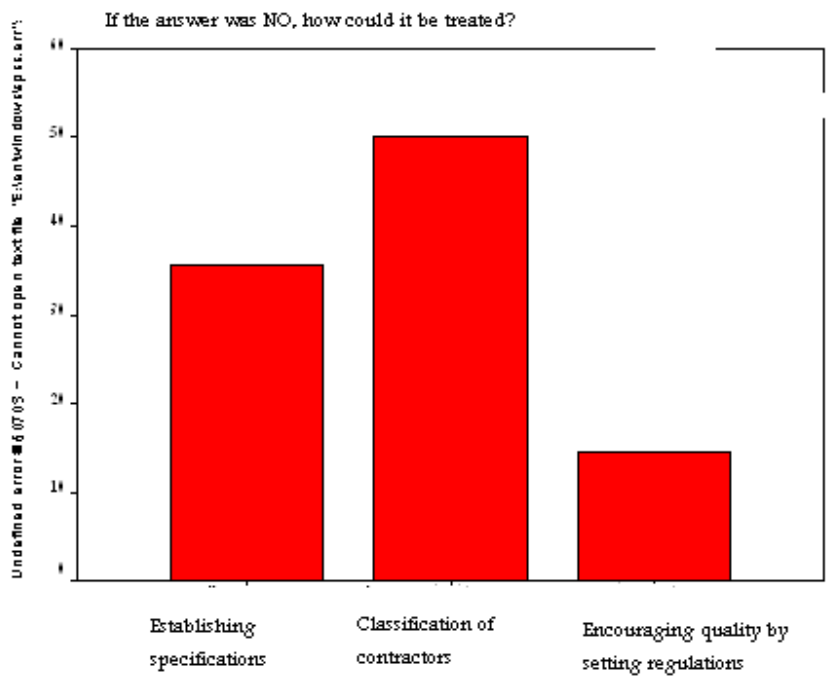
Statistics

Notes

If the answer was NO, how could it be treated?

N	Valid	48
	Missing	47

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Establishing specifications	17	17.9	35.4	35.4
	Classification of contractors	24	25.3	50.0	85.4
	Encouraging quality by setting regulations	7	7.4	14.6	100.0
	Total	48	50.5	100.0	
Missing	System Missing	47	49.5		
Total		95	100.0		



Frequencies

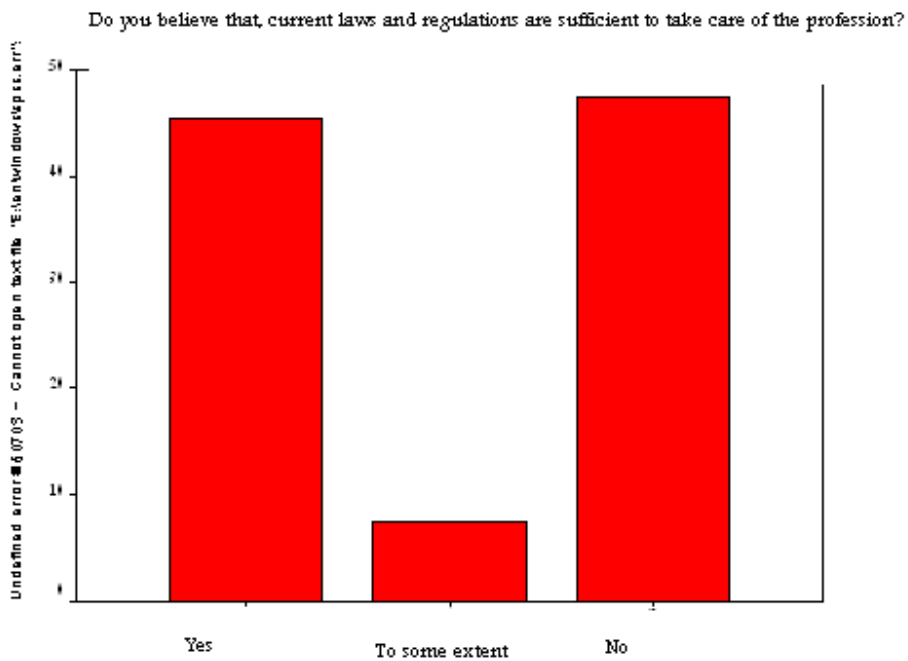
Notes

Statistics

Do you believe that, current laws and regulations are sufficient to take care of the profession?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	43	45.3	45.3	45.3
	To some extent	7	7.4	7.4	52.6
	No	45	47.4	<u>47.4</u>	100.0
	Total	95	100.0	100.0	



Frequencies

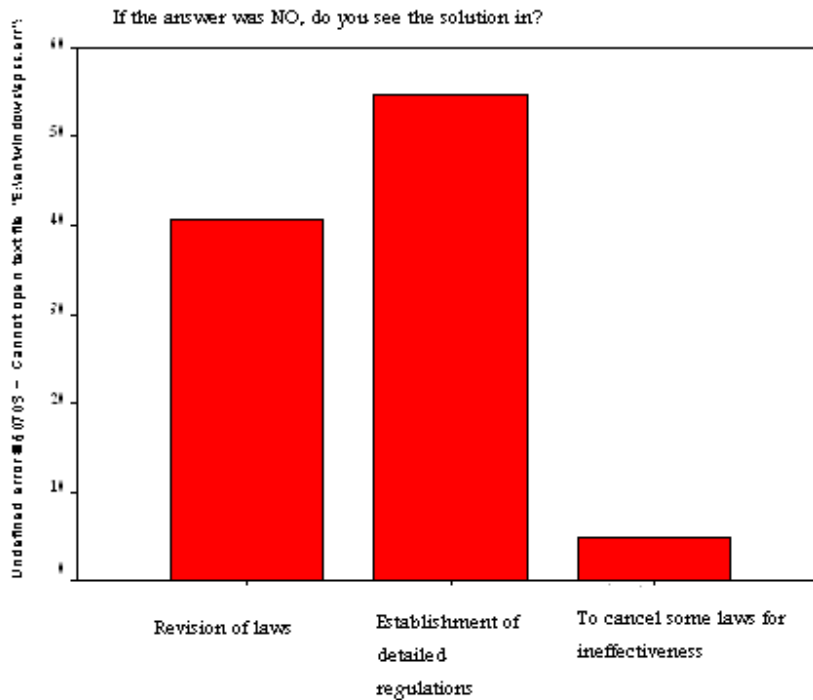
Statistics

Notes

If the answer was NO, do you see the solution in?

N	Valid	64
	Missing	31

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Revision of laws	26	27.4	40.6	40.6
	Establishment of detailed regulations	35	36.8	54.7	95.3
	To cancel some laws for ineffectiveness	3	3.2	4.7	100.0
	Total	64	67.4	100.0	
Missing	System Missing	31	32.6		
Total		95	100.0		



Frequencies

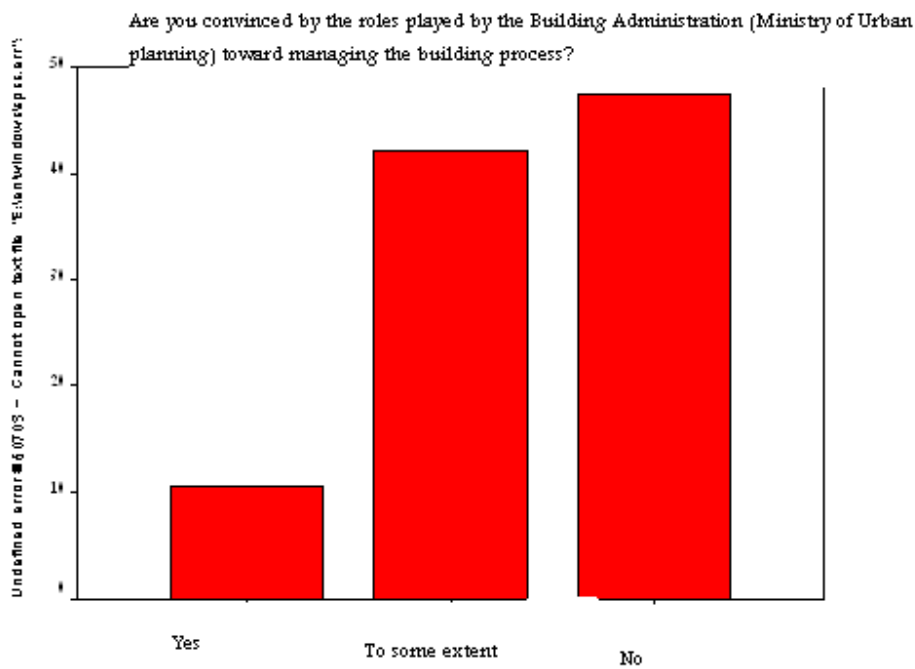
Statistics

Notes

Are you convinced by the roles played by the Building Administration (Ministry of Urban planning) toward managing the building process?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	10.5	10.5	10.5
	To some extent	40	42.1	42.1	52.6
	No	45	47.4	47.4	100.0
	Total	95	100.0	100.0	



Frequencies

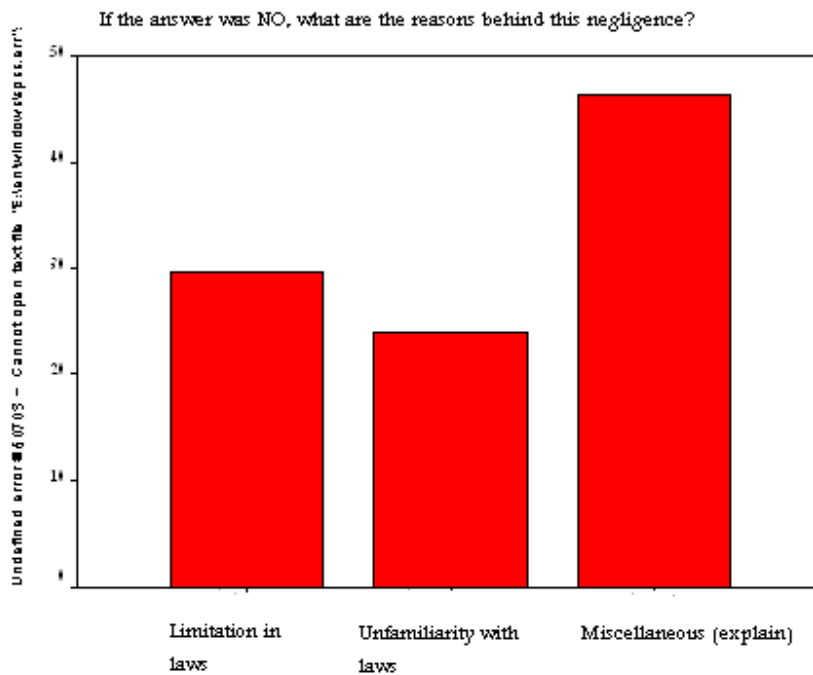
Statistics

Notes

If the answer was NO, what are the reasons behind this negligence?

N	Valid	54
	Missing	41

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Limitation in laws	16	16.8	29.6	29.6
	Unfamiliarity with laws	13	13.7	24.1	53.7
	Miscellaneous (explain)	25	26.3	46.3	100.0
	Total	54	56.8	100.0	
Missing	System Missing	41	43.2		
Total		95	100.0		



Frequencies

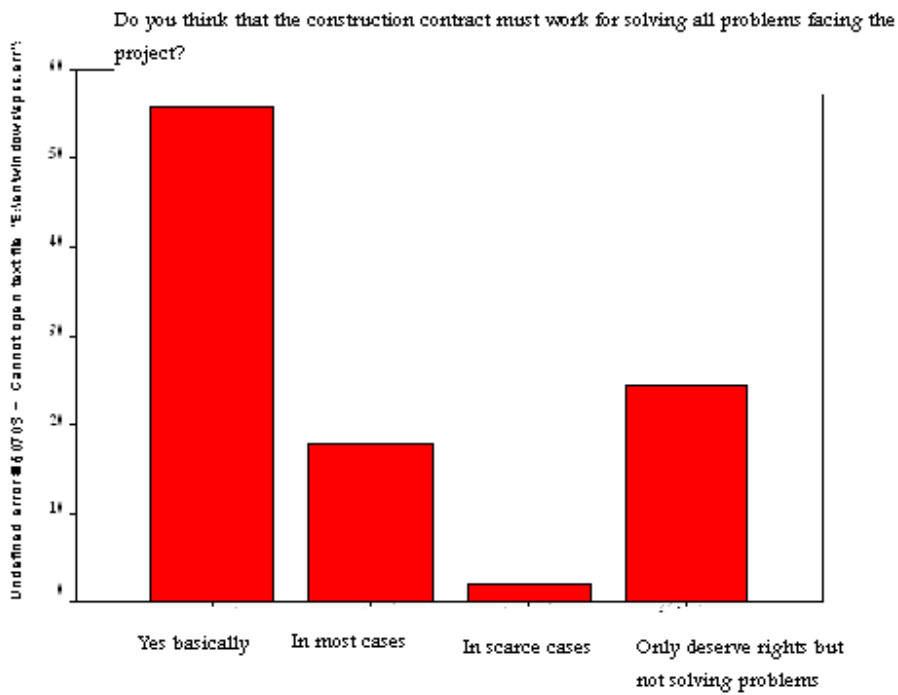
Statistics

Notes

Do you think that the construction contract must work for solving all problems facing the project?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes basically	53	55.8	55.8	55.8
	In most cases	17	17.9	17.9	73.7
	In scarce cases	2	2.1	2.1	75.8
	Only deserve rights but not solving problems	23	24.2	24.2	100.0
	Total	95	100.0	100.0	



Frequencies

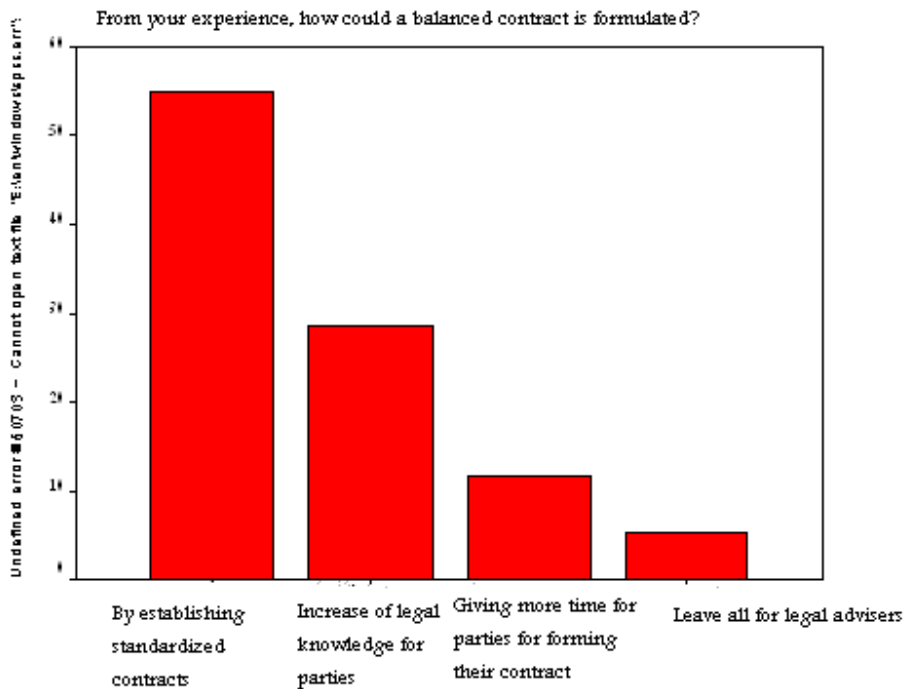
Notes

Statistics

From your experience, how could a balanced contract is formulated?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	By establishing standardized contracts	52	54.7	54.7	54.7
	Increase of legal knowledge for parties	27	28.4	28.4	83.2
	Giving more time for parties for forming their contract	11	11.6	11.6	94.7
	Leave all for legal advisers	5	5.3	5.3	100.0
	Total	95	100.0	100.0	



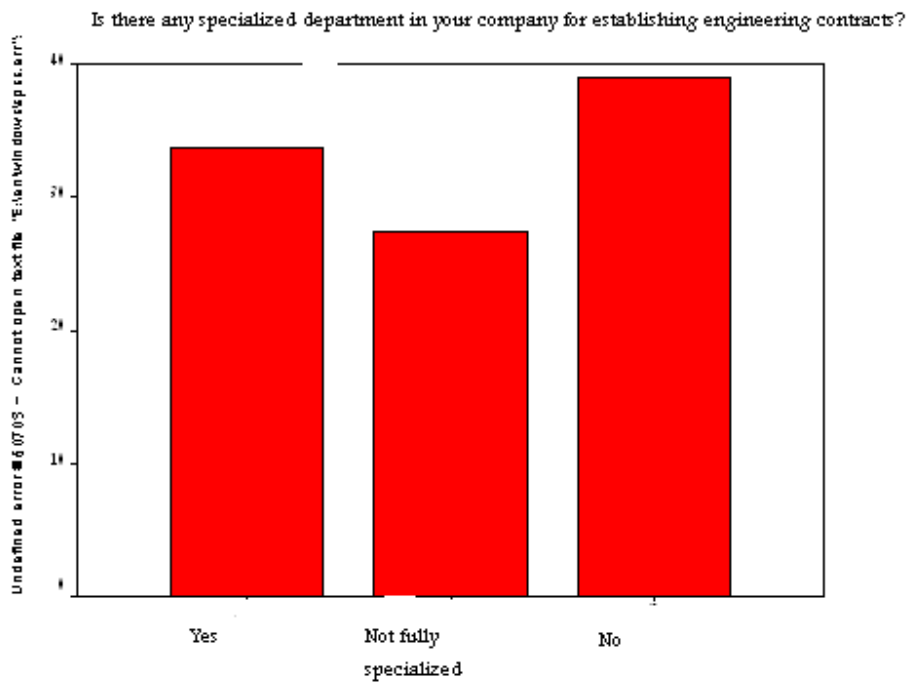
Frequencies

Statistics **Notes**

Is there any specialized department in your company for establishing engineering contracts?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	32	33.7	33.7	33.7
	Not fully specialized	26	27.4	<u>27.4</u>	61.1
	No	37	38.9	<u>38.9</u>	100.0
	Total	95	100.0	100.0	



Frequencies

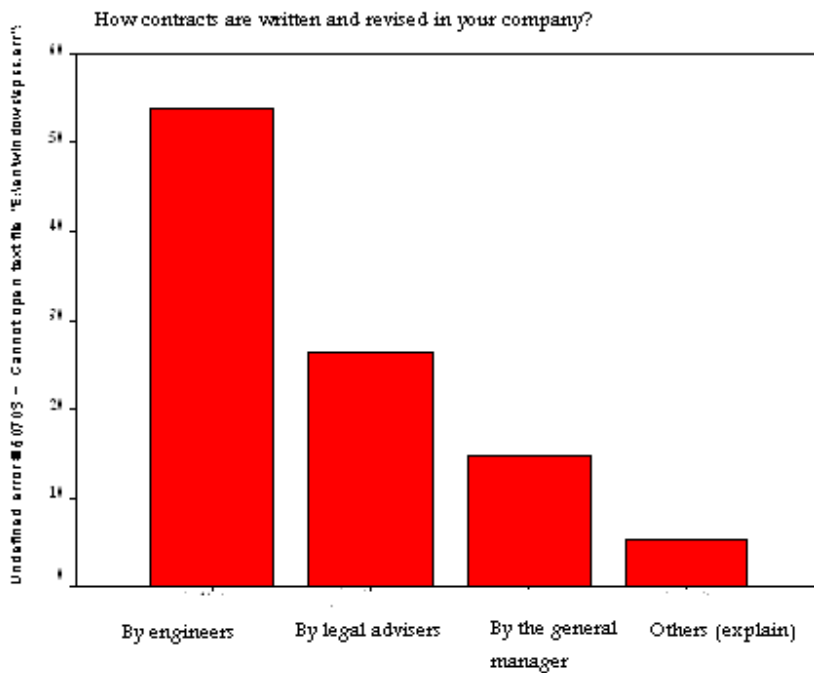
Notes

Statistics

How contracts are written and revised in your company?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	By engineers	51	53.7	53.7	<u>53.7</u>
	By legal advisers	25	26.3	26.3	80.0
	By the general manager	14	14.7	14.7	94.7
	Others (explain)	5	5.3	5.3	100.0
	Total	95	100.0	100.0	



Frequencies

Statistics

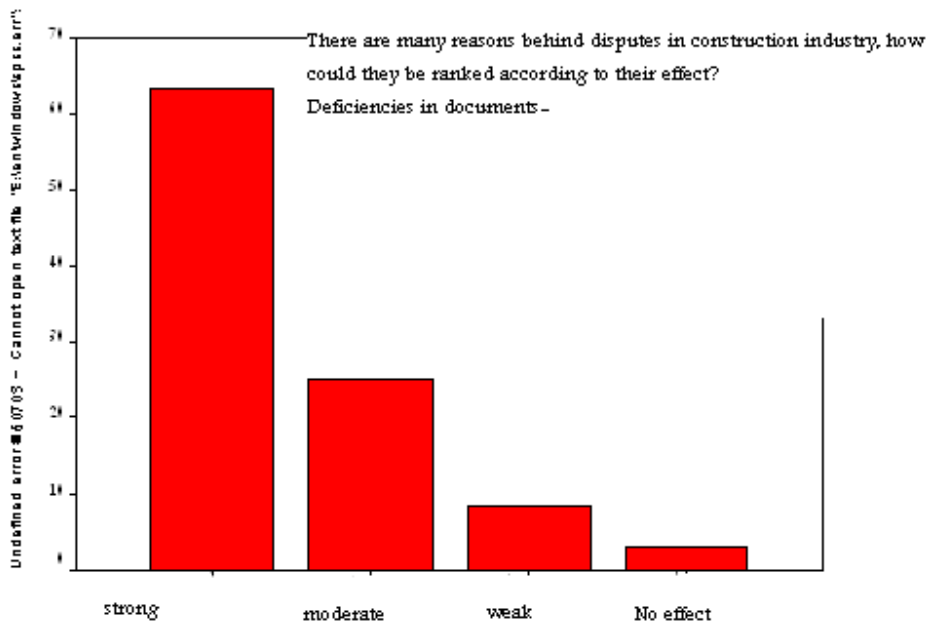
Notes

There are many reasons behind disputes in construction industry, how could they be ranked according to their effect?

-Deficiencies in documents

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strong	60	63.2	63.2	63.2
	moderate	24	25.3	25.3	88.4
	weak	8	8.4	8.4	96.8
	No effect	3	3.2	3.2	100.0
	Total	95	100.0	100.0	



Frequencies

Statistics

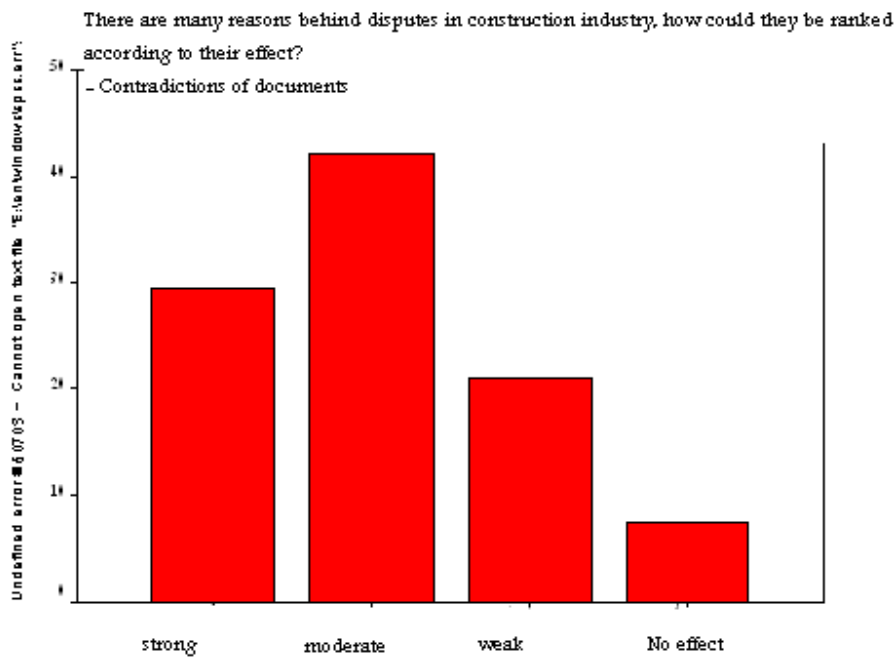
Notes

There are many reasons behind disputes in construction industry, how could they be ranked according to their effect?

-- Contradictions of documents

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strong	28	29.5	29.5	29.5
	moderate	40	42.1	42.1	71.6
	weak	20	21.1	21.1	92.6
	No effect	7	7.4	7.4	100.0
	Total	95	100.0	100.0	



Frequencies

Statistics

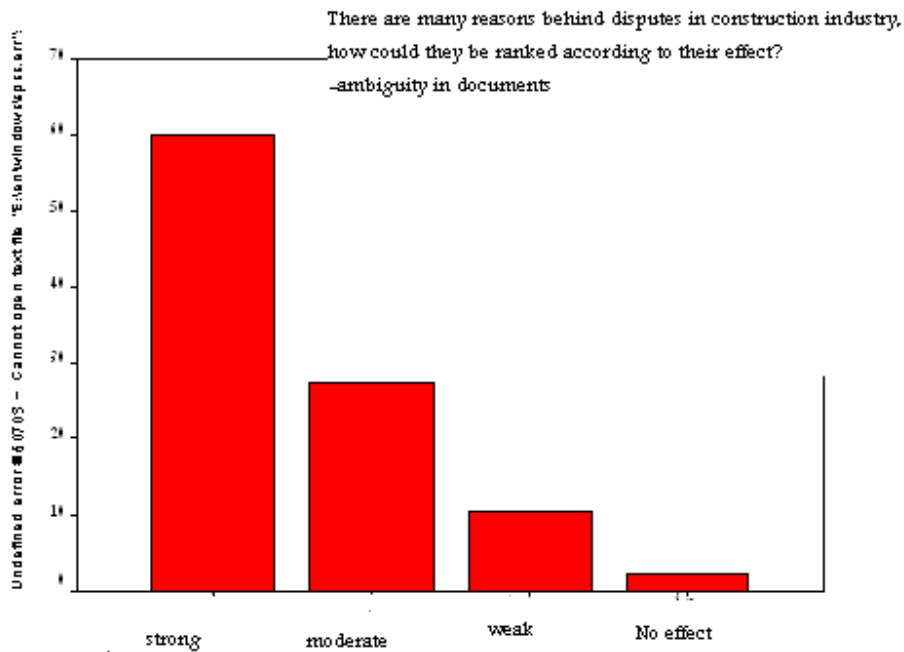
Notes

There are many reasons behind disputes in construction industry, how could they be ranked according to their effect?

-Ambiguity in documents

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strong	57	60.0	60.0	60.0
	moderate	26	27.4	27.4	87.4
	weak	10	10.5	10.5	97.9
	No effect	2	2.1	2.1	100.0
	Total	95	100.0	100.0	



Frequencies

Notes

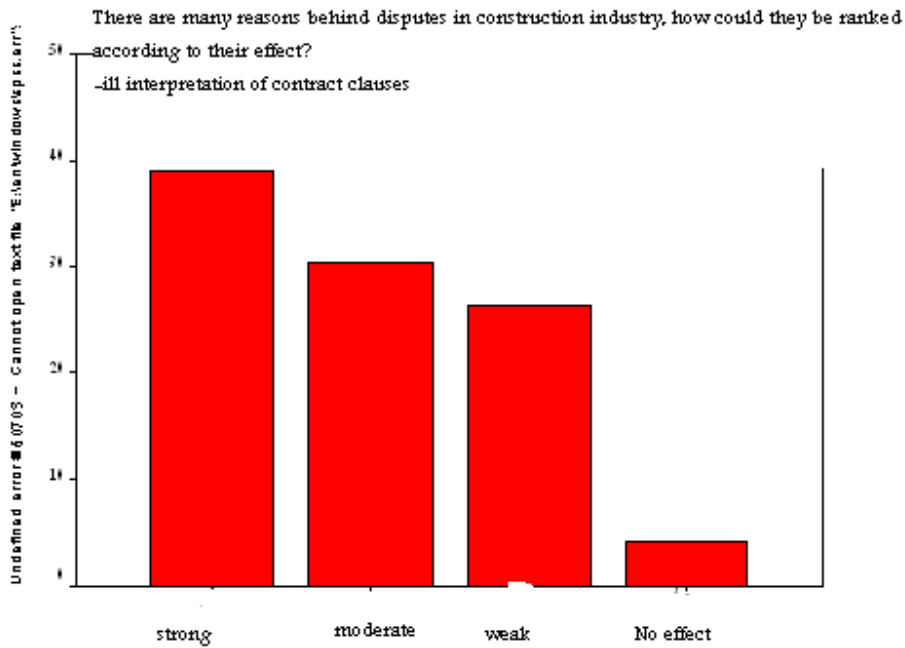
Statistics

There are many reasons behind disputes in construction industry, how could they be ranked according to their effect?

Ill interpretation of contract clauses-

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strong	37	38.9	38.9	38.9
	moderate	29	30.5	30.5	<u>69.5</u>
	weak	25	26.3	26.3	95.8
	No effect	4	4.2	4.2	100.0
	Total	95	100.0	100.0	



Frequencies

Statistics

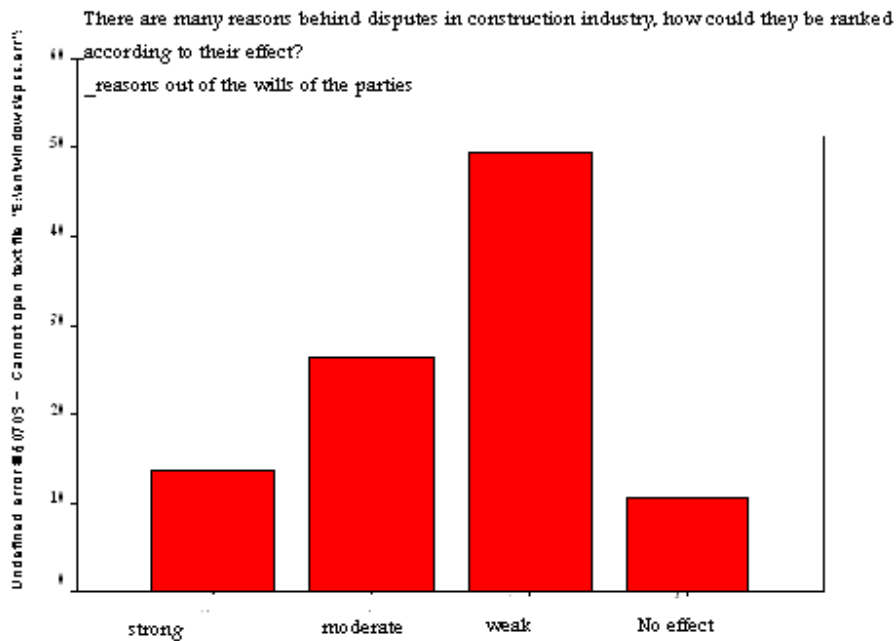
Notes

There are many reasons behind disputes in construction industry, how could they be ranked according to their effect?

Reasons out of the wills of the parties-

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strong	13	13.7	13.7	13.7
	moderate	25	26.3	26.3	40.0
	weak	47	49.5	<u>49.5</u>	89.5
	No effect	10	10.5	<u>10.5</u>	100.0
	Total	95	100.0	100.0	



Frequencies

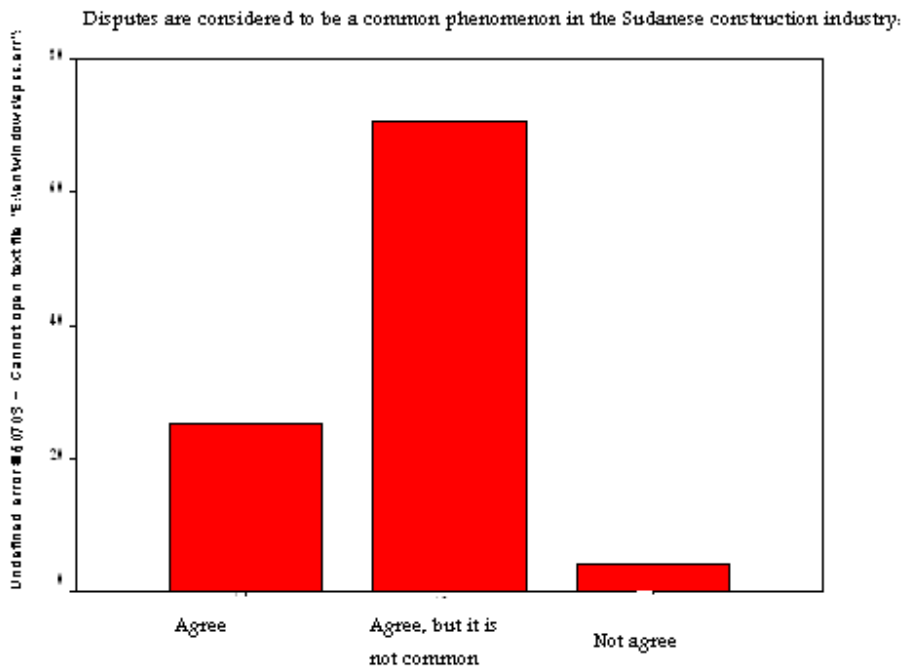
Notes

Statistics

Disputes are considered to be a common phenomenon in the Sudanese construction industry:

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	24	25.3	25.3	25.3
	Agree, but it is not common	67	70.5	70.5	95.8
	Not agree	4	4.2	4.2	100.0
	Total	95	100.0	100.0	



Frequencies

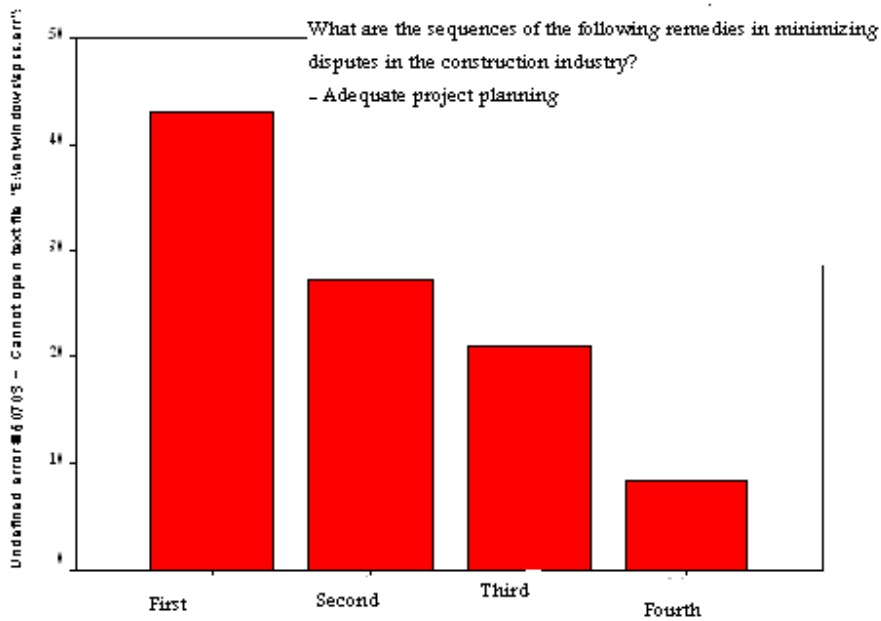
Notes

Statistics

**What are the sequences of the following remedies in minimizing disputes in the construction industry?
- Adequate project planning**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	41	43.2	43.2	43.2
	Second	26	27.4	27.4	70.5
	Third	20	21.1	21.1	91.6
	Fourth	8	8.4	8.4	100.0
	Total	95	100.0	100.0	



Frequencies

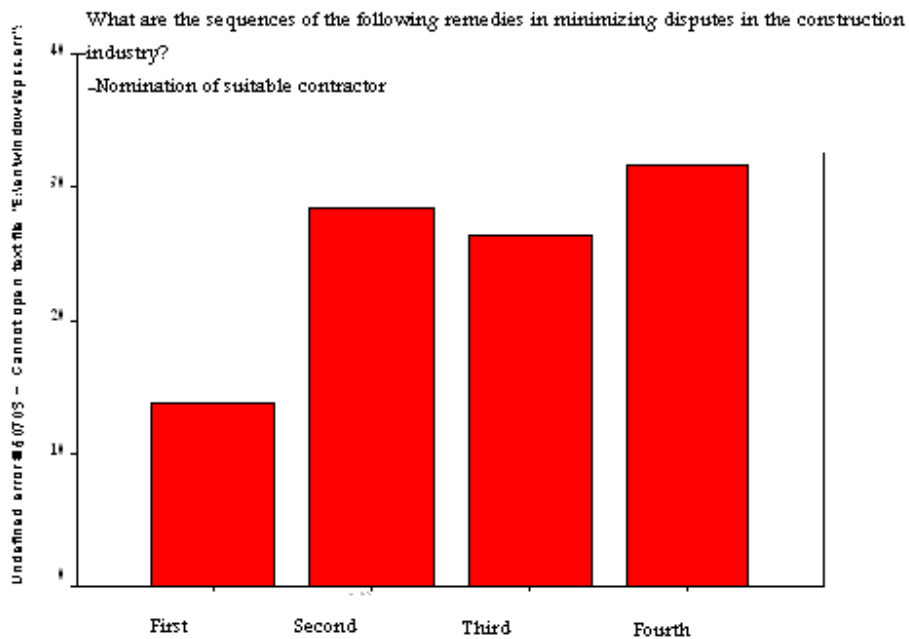
Notes

Statistics

What are the sequences of the following remedies in minimizing disputes in the construction industry?
 -Nomination of suitable contractor

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	13	13.7	13.7	13.7
	Second	27	28.4	28.4	42.1
	Third	25	26.3	<u>26.3</u>	68.4
	Fourth	30	31.6	<u>31.6</u>	100.0
	Total	95	100.0	100.0	



Frequencies

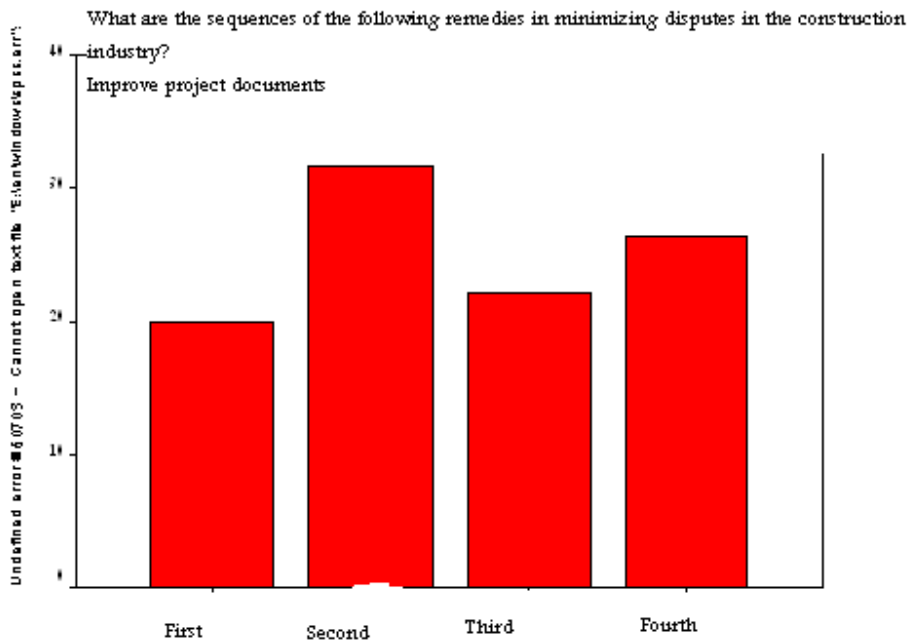
Notes

Statistics

**What are the sequences of the following remedies in minimizing disputes in the construction industry?
Improve project documents**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	19	20.0	20.0	20.0
	Second	30	31.6	31.6	51.6
	Third	21	22.1	22.1	73.7
	Fourth	25	26.3	26.3	100.0
	Total	95	100.0	100.0	



Frequencies

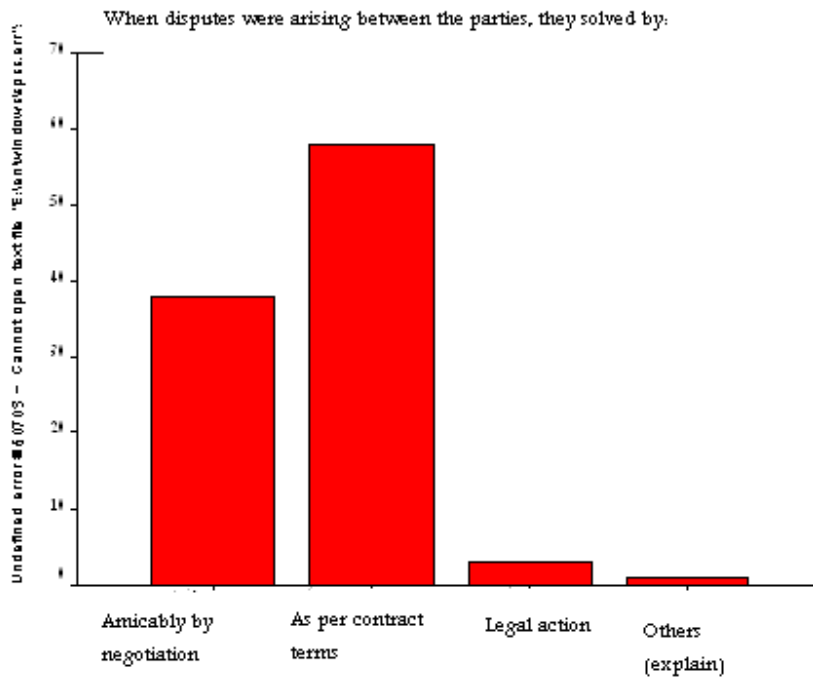
Statistics

Notes

When disputes were arising between the parties, they solved by:

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Amicably by negotiation	36	37.9	37.9	37.9
	As per contract terms	55	57.9	57.9	95.8
	Legal action	3	3.2	3.2	98.9
	Others (explain)	1	1.1	1.1	100.0
Total		95	100.0	100.0	



Frequencies

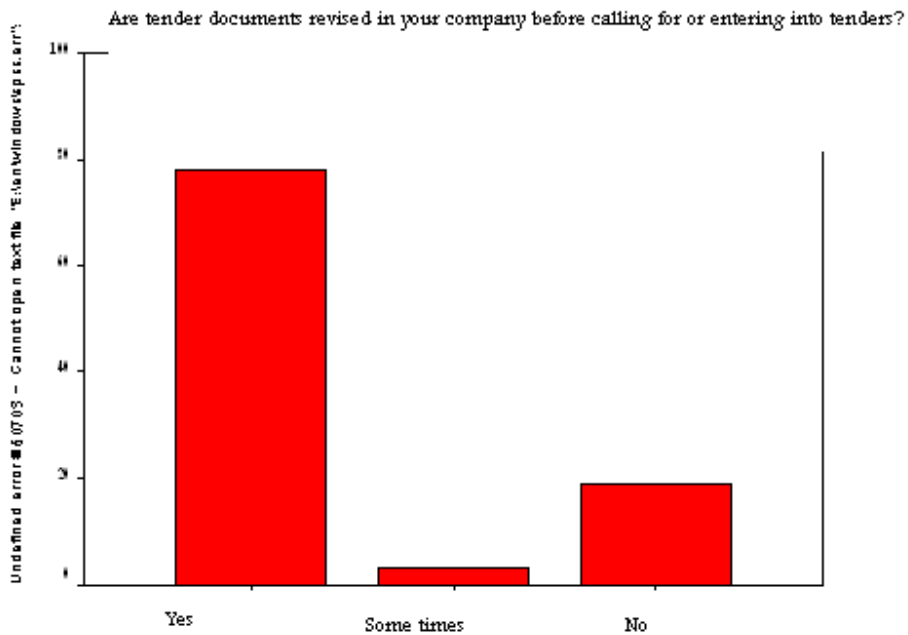
Notes

Statistics

Are tender documents revised in your company before calling for or entering into tenders?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	74	77.9	77.9	<u>77.9</u>
	Some times	3	3.2	3.2	81.1
	No	18	18.9	18.9	100.0
	Total	95	100.0	100.0	



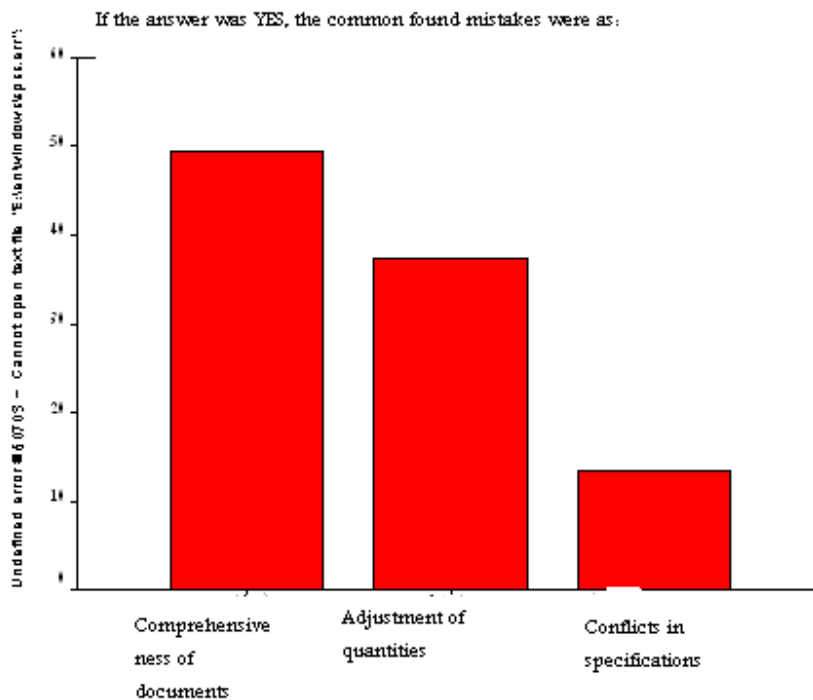
Frequencies

Statistics

Notes

If the answer was YES, the common found mistakes were as:

N		Valid	75		
		Missing	20		
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Comprehensive ness of documents	37	38.9	49.3	49.3
	Adjustment of quantities	28	29.5	37.3	86.7
	Conflicts in specifications	10	10.5	13.3	100.0
	Total	75	78.9	100.0	
Missing	System Missing	20	21.1		
Total		95	100.0		



Frequencies

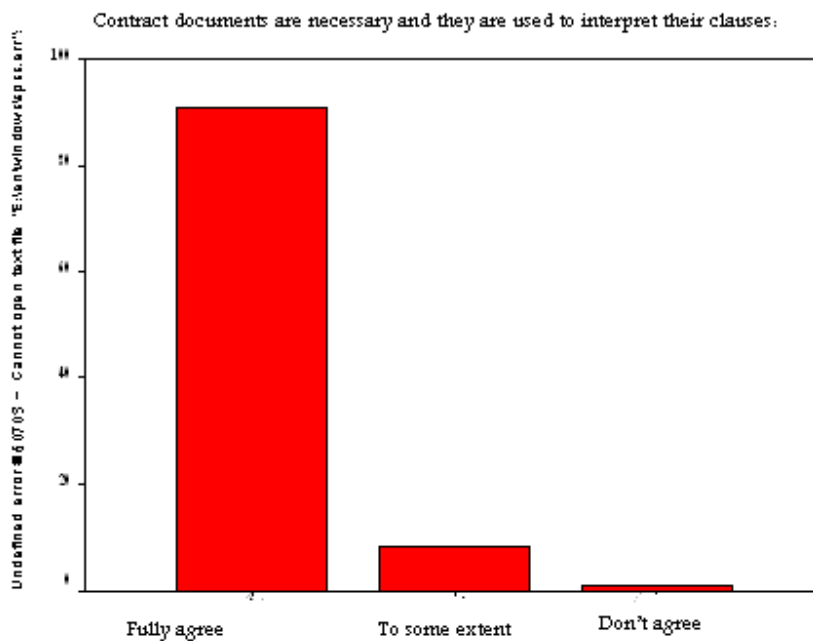
Statistics

Notes

Contract documents are necessary and they are used to interpret their clauses:

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully agree	86	90.5	90.5	<u>90.5</u>
	To some extent	8	8.4	8.4	98.9
	Don't agree	1	1.1	1.1	100.0
	Total	95	100.0	100.0	



Frequencies

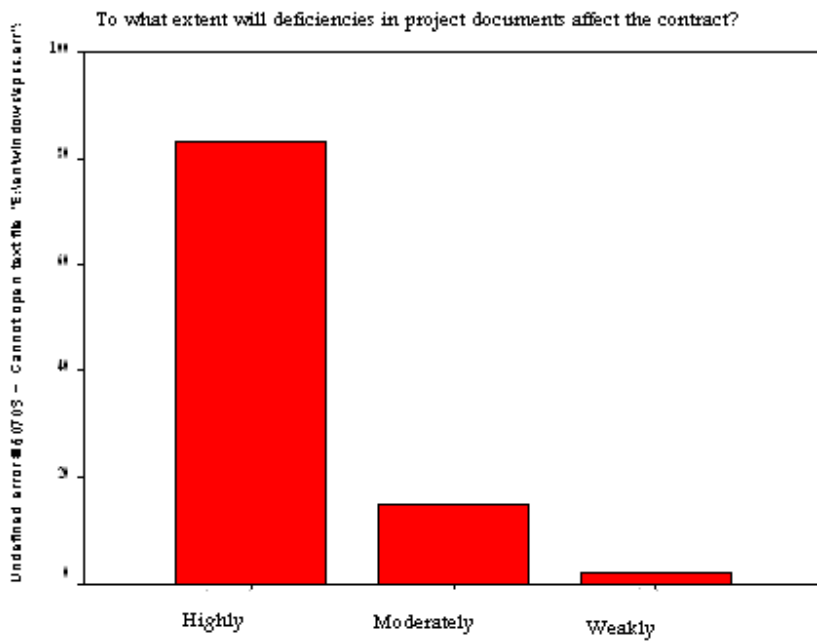
Notes

Statistics

To what extent will deficiencies in project documents affect the contract?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly	79	83.2	83.2	83.2
	Moderately	14	14.7	14.7	97.9
	Weakly	2	2.1	2.1	100.0
	Total	95	100.0	100.0	



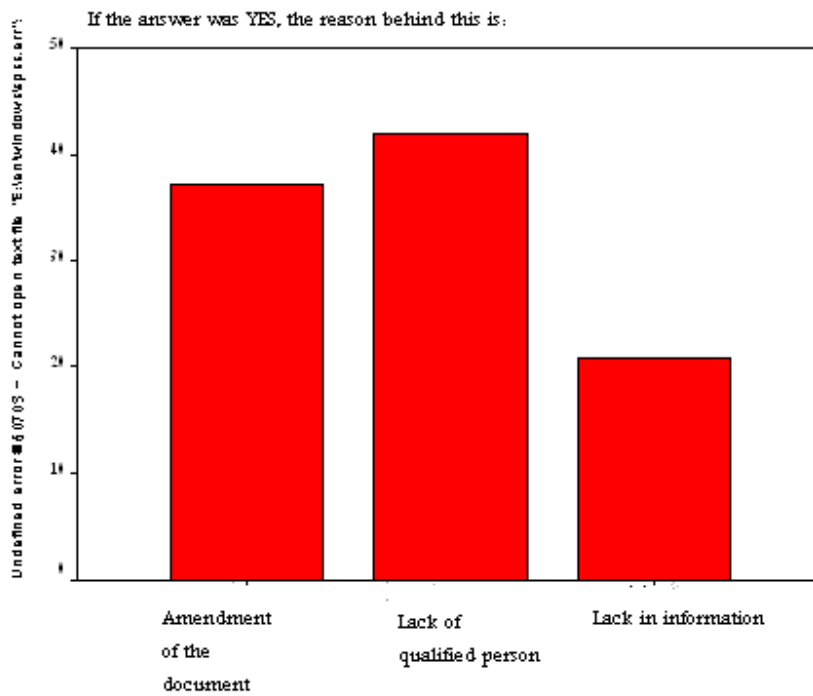
Frequencies

Statistics

Notes

If the answer was YES, the reason behind this is:

		Frequency	Percent	Valid Percent	Cumulative Percent
N	Valid	86			
	Missing	9			
Valid	Amendment of the document	32	33.7	37.2	37.2
	Lack of qualified person	36	37.9	41.9	79.1
	Lack in information	18	18.9	20.9	100.0
	Total	86	90.5	100.0	
Missing	System Missing	9	9.5		
Total		95	100.0		



Frequencies

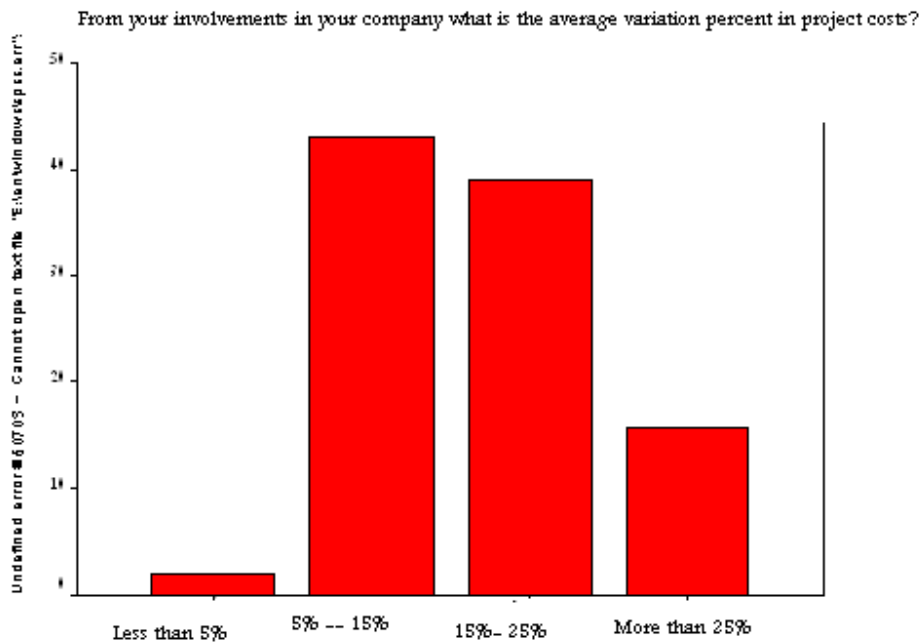
Notes

Statistics

From your involvements in your company what is the average variation percent in project costs?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5%	2	2.1	2.1	<u>2.1</u>
	5% -- 15%	41	43.2	43.2	45.3
	15% -- 25%	37	38.9	38.9	84.2
	More than 25%	15	15.8	15.8	100.0
	Total	95	100.0	100.0	



Frequencies

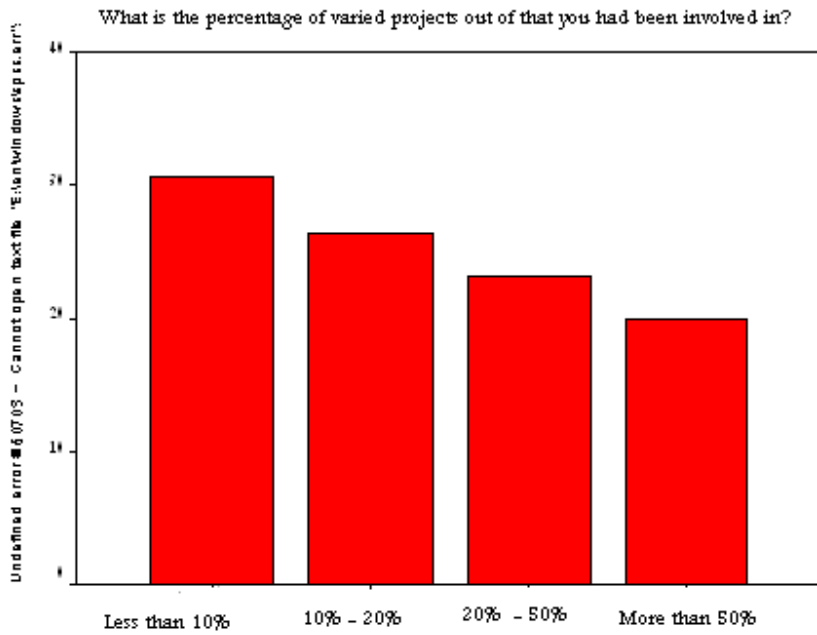
Notes

Statistics

What is the percentage of varied projects out of that you had been involved in?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 10%	29	30.5	30.5	<u>30.5</u>
	10% - 20%	25	26.3	26.3	56.8
	20% - 50%	22	23.2	23.2	80.0
	More than 50%	19	20.0	20.0	100.0
	Total	95	100.0	100.0	



Frequencies

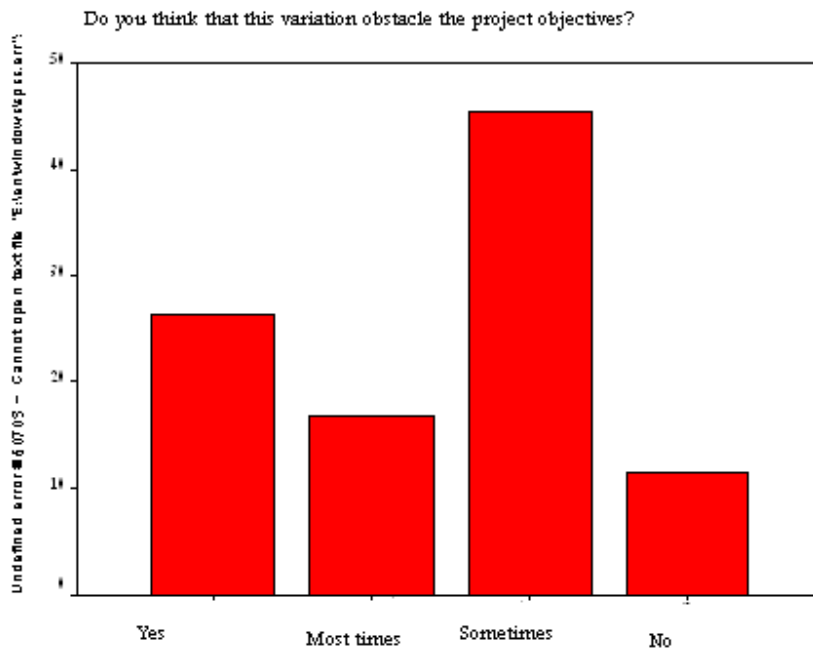
Statistics

Notes

Do you think that this variation obstacle the project objectives?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	25	26.3	26.3	26.3
	Most times	16	16.8	16.8	43.2
	Sometimes	43	45.3	45.3	<u>88.4</u>
	No	11	11.6	11.6	100.0
Total		95	100.0	100.0	



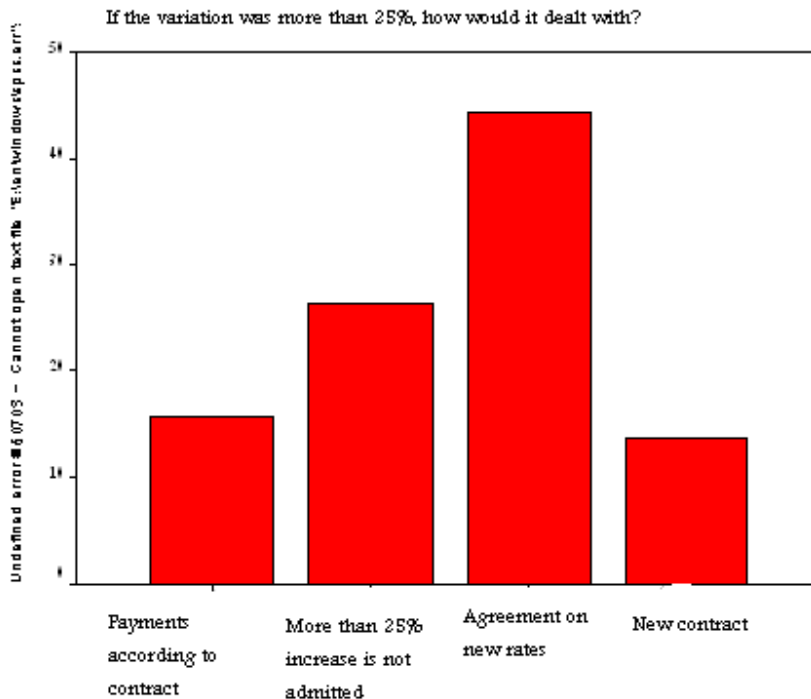
Frequencies

Statistics

Notes

If the variation was more than 25%, how would it dealt with?

		Frequency	Percent	Valid Percent	Cumulative Percent
N	Valid	95			
	Missing	0			
Valid	Payments according to contract	15	15.8	15.8	15.8
	More than 25% increase is not admitted	25	26.3	26.3	42.1
	Agreement on new rates	42	44.2	<u>44.2</u>	86.3
	New contract	13	13.7	<u>13.7</u>	100.0
	Total	95	100.0	100.0	



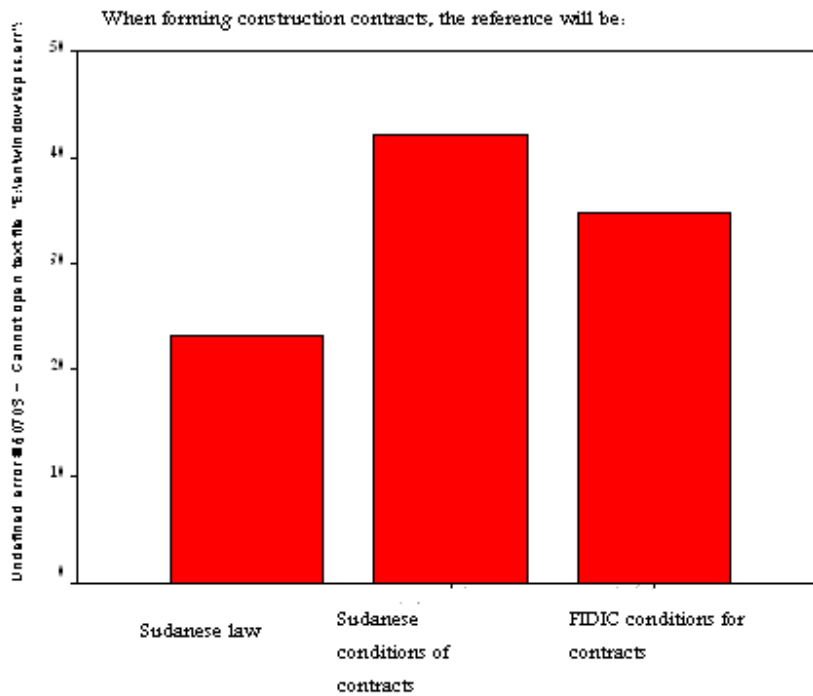
Frequencies

Statistics

Notes

When forming construction contracts, the reference will be:

		Frequency	Percent	Valid Percent	Cumulative Percent
N	Valid	95			
	Missing	0			
Valid	Sudanese law	22	23.2	23.2	23.2
	Sudanese conditions of contracts	40	42.1	42.1	65.3
	FIDIC conditions for contracts	33	34.7	34.7	100.0
	Total	95	100.0	100.0	



Frequencies

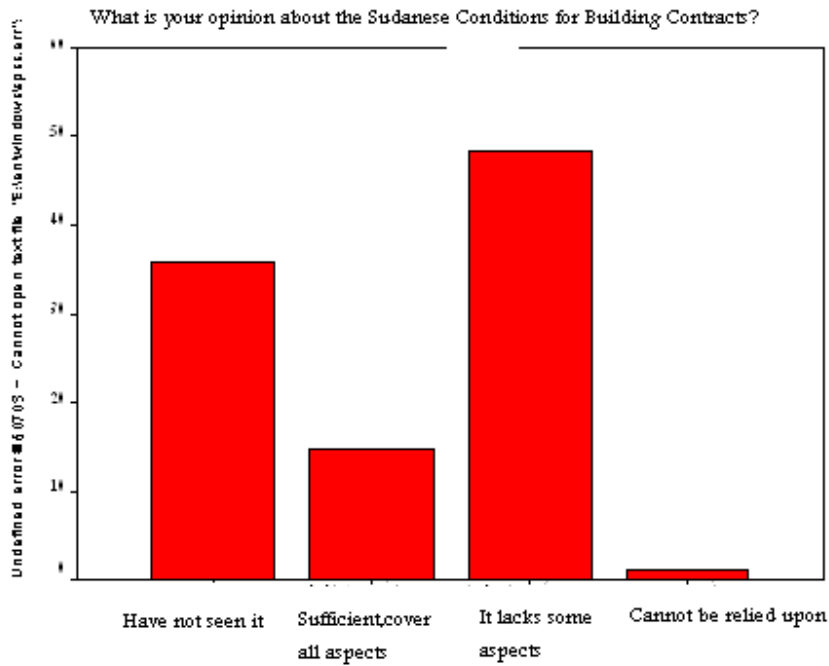
Statistics

Notes

What is your opinion about the Sudanese Conditions for Building Contracts?

N	Valid	95
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Have not seen it	34	35.8	35.8	<u>35.8</u>
Sufficient,cover all aspects	14	14.7	14.7	50.5
It lacks some aspects	46	48.4	<u>48.4</u>	98.9
Cannot be relied upon	1	1.1	1.1	100.0
Total	95	100.0	100.0	



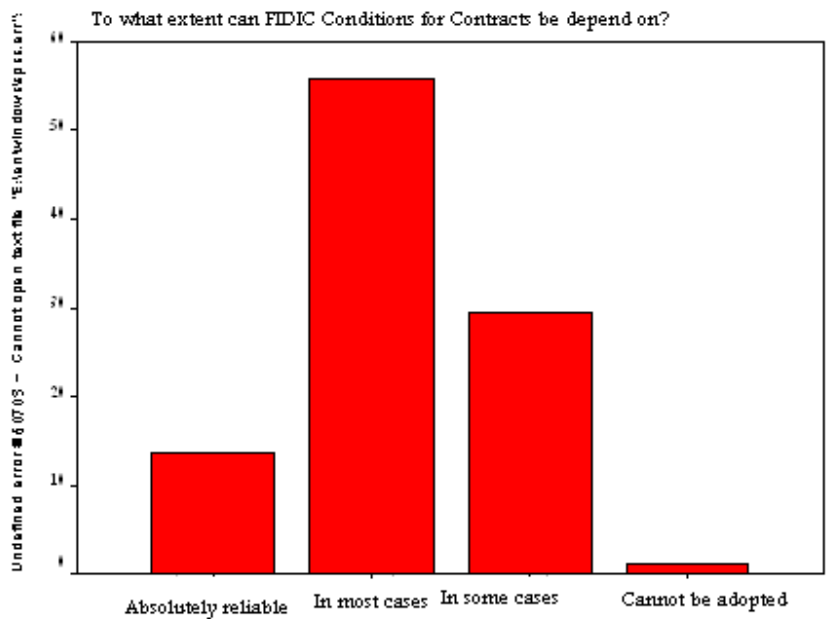
Frequencies

Statistics Notes

To what extent can FIDIC Conditions for Contracts be depend on?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Absolutely reliable	13	13.7	13.7	13.7
	In most cases	53	55.8	55.8	69.5
	In some cases	28	29.5	29.5	98.9
	Cannot be adopted	1	1.1	1.1	100.0
Total		95	100.0	100.0	



Frequencies

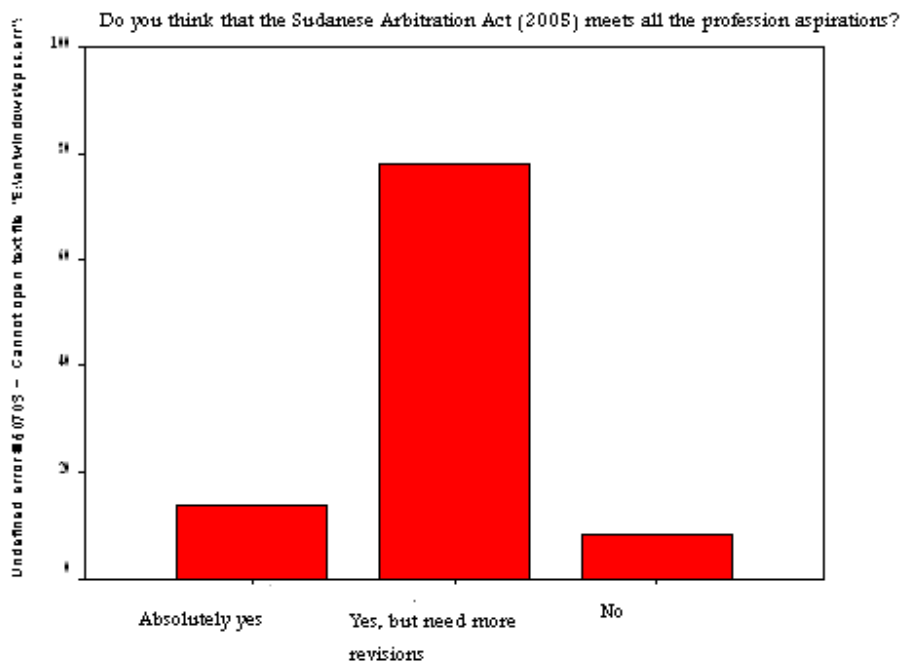
Notes

Statistics

Do you think that the Sudanese Arbitration Act (2005) meets all the profession aspirations?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Absolutely yes	13	13.7	13.7	13.7
	Yes, but need more revisions	74	77.9	77.9	91.6
	No	8	8.4	8.4	100.0
	Total	95	100.0	100.0	



Frequencies

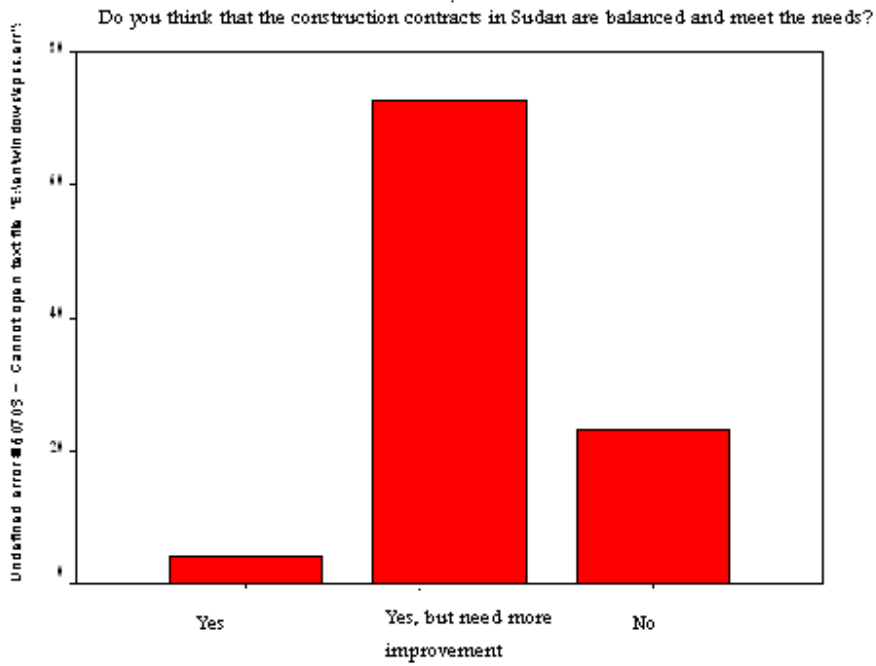
Notes

Statistics

Do you think that the construction contracts in Sudan are balanced and meet the needs?

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	4	4.2	4.2	4.2
	Yes, but need more improvement	69	72.6	<u>72.6</u>	76.8
	No	22	23.2	<u>23.2</u>	100.0
	Total	95	100.0	100.0	



Frequencies

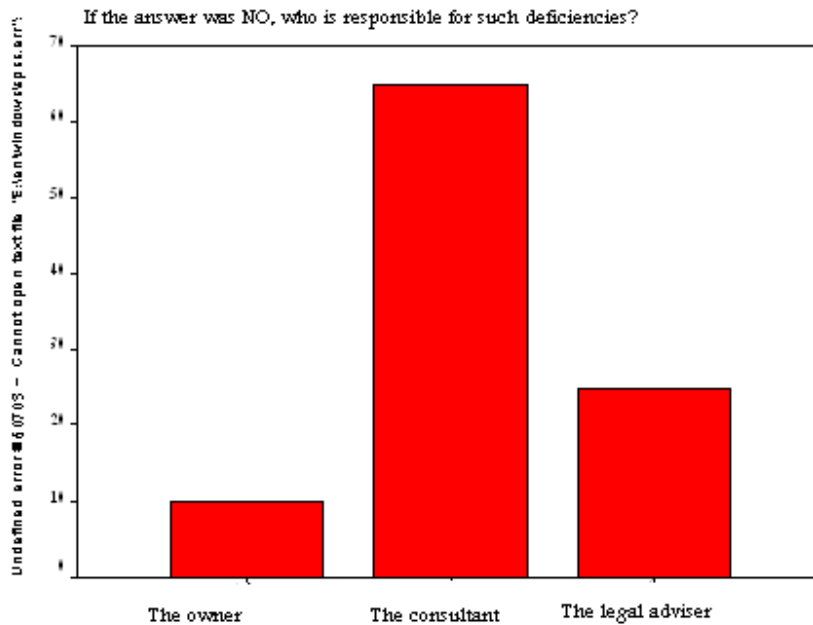
Statistics

Notes

If the answer was NO, who is responsible for such deficiencies?

N	Valid	40
	Missing	55

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	The owner	4	4.2	10.0	10.0
	The consultant	26	27.4	65.0	75.0
	The legal adviser	10	10.5	25.0	100.0
	Total	40	42.1	100.0	
Missing	System Missing	55	57.9		
Total		95	100.0		



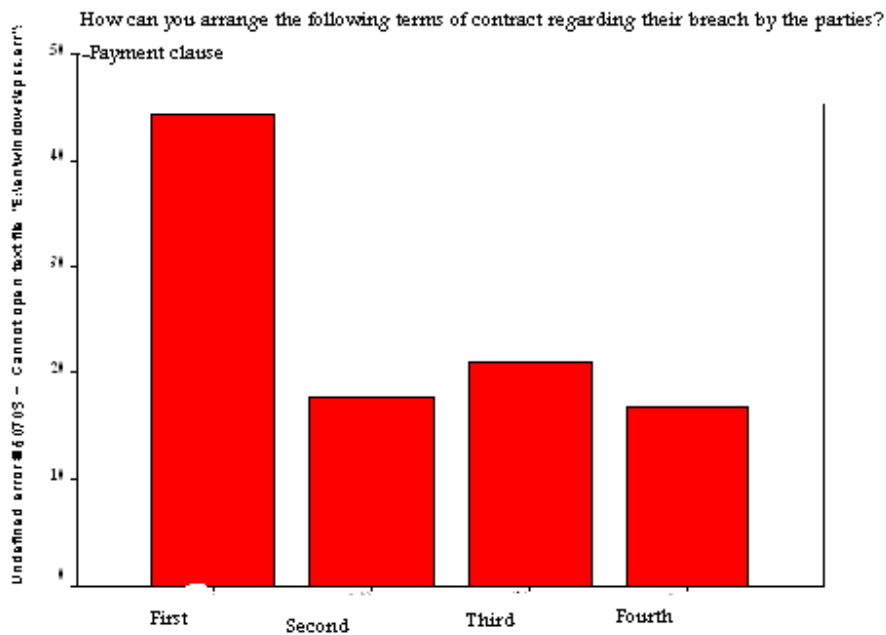
Frequencies

Statistics Notes

How can you arrange the following terms of contract regarding their breach by the parties?
-Payment clause

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	42	44.2	44.2	44.2
	Second	17	17.9	17.9	<u>62.1</u>
	Third	20	21.1	21.1	83.2
	Fourth	16	16.8	16.8	100.0
	Total	95	100.0	100.0	



Frequencies

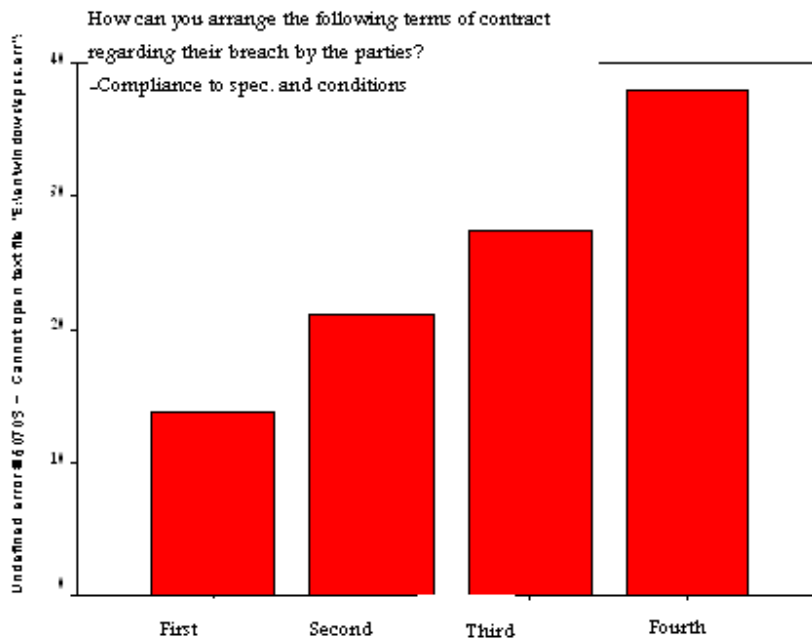
Statistics

Notes

How can you arrange the following terms of contract regarding their breach by the parties?
-Compliance to spec. and conditions

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	13	13.7	13.7	13.7
	Second	20	21.1	21.1	34.7
	Third	26	27.4	27.4	62.1
	Fourth	36	37.9	37.9	100.0
	Total	95	100.0	100.0	



Frequencies

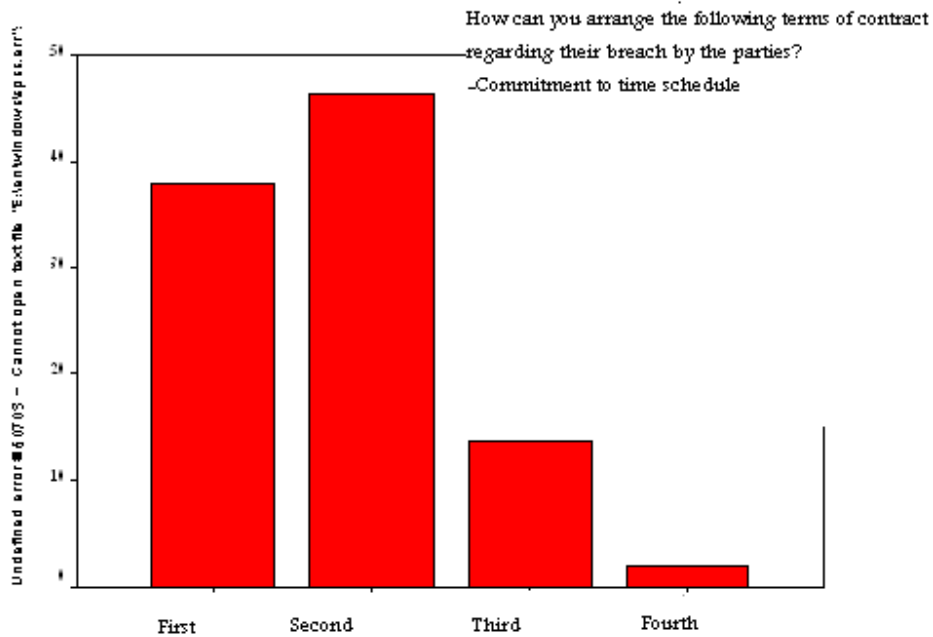
Notes

Statistics

**How can you arrange the following terms of contract regarding their breach by the parties?
-Commitment to time schedule**

N	Valid	95
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	36	37.9	37.9	37.9
	Second	44	46.3	46.3	84.2
	Third	13	13.7	13.7	97.9
	Fourth	2	2.1	2.1	100.0
	Total	95	100.0	100.0	



Frequencies

Statistics

Notes

**How can you arrange the following terms of contract regarding their breach by the parties?
- Variations and extra works**

N	Valid	95			
	Missing	0			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	8	8.4	8.4	8.4
	Second	13	13.7	13.7	<u>22.1</u>
	Third	36	37.9	37.9	60.0
	Fourth	38	40.0	40.0	100.0
	Total	95	100.0	100.0	

