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Appendices

APPENDIX A: QUESTIONNAIRE

Dear Sir/Madam,

I am a post graduate candidate of Department of Civil Engineering, University of Moratuwa, conducting a research under the supervision of Prof. N. D. Guanawardana University of Moratuwa, as partial fulfillment of the requirement for the Degree of Master of Science in Construction Project Management.

The research title:

The effectiveness of social capital as an enabler of knowledge creation in construction organisations

Aim of the research:

To investigate whether social capital act as an effective enabler in knowledge creation in construction organisations and help construction organisations to make more informed decision on investment in social capital to improve innovative potential and competitive advantage.

I hereby guarantee the responses of the questionnaires will be used only for aforementioned purpose and will not be exposed to any third party. The research publication will not contain any personal details of the respondents. You are requested to sincerely respond to all the questions in the questionnaire.

Thank you.

Yours truly,

B.H.C. Jeevanthi

Social capital – Definition

Social capital is the sum of potential resources embedded within, available through, and derived from the network of relationships maintained by an individual or social unit (organisation). Thus, social capital comprises both the network and the resources that may be mobilised through that network (Nahapiet and Ghoshal, 1998, p.243).

Instructions

1. Purpose of this survey is to collect information on the ability of personal networks and resources that may be mobilised through those networks to create knowledge in your organisation.
2. This questionnaire should be filled with persons from the managerial staff related to the field of construction in the organisation (e.g. Project Directors, Director Operations, Project Coordinators, Project Managers, Design Managers, Senior Engineers, Senior Quantity Surveyors, etc.).
3. This questionnaire survey consists of Part A, Part B and Part C and you are requested to fill all three parts.
4. **The collected information will remain confidential.**

Part A: Company background information

Name of the organisation:

Years in the field of construction:

Years in the capacity of M1 grade:

Main fields in M1/C1 Grade:

Buildings ☐

Roads ☐

Bridges ☐

Water supply & drainage ☐

Irrigation ☐

Dredging and reclamation ☐

Specialisation fields (if any):

Nr of direct employees:

Annual turn over (Rs. Million):

Part B: Information about the respondent

Name of the respondent (optional):

Designation/ Title:

Years in the field of construction:

Years in the company:

Sex:



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Male

☐

Female

☐

Part C: - Questionnaire Survey

Please tick (✓) or underline the answer which best describes the extent to which the following constructs apply to you and your organisation.

1.0 Overall pattern of connections between actors

1. To what extent do you discuss work related problems with your superiors through formal links?

☐ Never ☐ Rarely ☐ Occasionally ☐ Frequently ☐ Always

2. On average, how long does each discussion with your superiors last?

☐ No discussions ☐ 1-15 min ☐ 15-30 min ☐ 30-60 min ☐ > 1hr

3. To what extent do you discuss work related problems with your colleagues (or informal networks)?

☐ Never ☐ Rarely ☐ Occasionally ☐ Frequently ☐ Always

4. On average, how long does each discussion with your colleagues last?

☐ No discussions ☐ 1-15 min ☐ 15-30 min ☐ 30-60 min ☐ > 1hr

5. You always feel free to communicate with your superiors to solve work related problems.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

6. You always feel free to communicate with your colleagues to solve work related problems.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

7. To what extent do you use old friendship ties (links) to tackle current problems of projects which you have not faced before or to get work related advice?

☐ Never ☐ Rarely ☐ Occasionally ☐ Frequently ☐ Always

2.0 Resources embedded in social networks (e.g. interpersonal trust, accepted behaviour patterns, identification, obligations and expectations)

8. Most of your organisation members are reliable and dependable in terms of their ability to meet obligations and perform a task in problem solving events or dealing with change events.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

9. You have mutual understanding that other members behave in same way as you during shared problem solving.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

10. If you ask other members for help when you get into difficult problems, you can feel confident that they will actively engage in problem solving with you.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

11. You have been lenient in making judgments when your organisation/ group members make mistakes during problem solving.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

12. You can always share your opinion openly and freely in problem solving discussions in the organisation.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

13. Constructive criticisms are always encouraged among organisation members during problem solving discussions.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

14. Most of the time there is a team work among yourself and other members during problem solving activities or dealing with organisational/projects change events.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

15. Your organisation always tolerates failures among yourself and other members during trial and error work or experimentation.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree



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16. Your organisation is always willing to value new things, efficient and effective methods of working and work procedures invented by organisation members.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

17. You feel accepted as a member of the organisation/group when you engage in shared problem solving or dealing with change events.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

18. You feel helping other members to solve work related problems as your personal obligation in the organisation.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

19. Your main concern is about your organisational needs in making solutions to difficult problems.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

20. You expect some recognition (or praise) among other organisation/ group members when you engage in knowledge creation activities such as solving a difficult problem, experimentation, etc.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

3.0 Shared engineering culture and storey telling practice

21. To what extent you and other members are using similar language, meaning and interpretations when you are discussing project/work related problems in formal context?

☐ Never ☐ Rarely ☐ Occasionally ☐ Frequently ☐ Always

22. To what extent you are using slang or lingo when engaging in informal knowledge sharing discussions with other organisation /group members?

☐ Never ☐ Rarely ☐ Occasionally ☐ Frequently ☐ Always

23. To what extent you have discussed organisational myths or stories on project problems, success and failure stories of previous projects with other members during problem solving discussions?

☐ Never ☐ Rarely ☐ Occasionally ☐ Frequently ☐ Always

4.0 Level of accessibility to information and knowledge during problem solving

24. You always know who owns knowledge you need in formal organisation structure (formal relations) to deal with immediate work related problems.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

25. You can search and access knowledge easily through informal links in the organisation when you face a challenge.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

26. You can always exchange knowledge with others by different interpersonal channels in the organisation.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

27. You have many informal communication channels in the organisation to exchange and combine knowledge with other members.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

28. You have many old personal relationships to access knowledge and expertise that is otherwise difficult to obtain to solve immediate problems.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

5.0 Level of perception on the outcome of knowledge sharing activities

29. You believe you will be receiving valuable knowledge by participating knowledge sharing activities in your organisation.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

30. The knowledge you receive from other organisation/group members during problem solving discussions is useful in helping to get your work done.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

31. You always use technical norms or standards developed by other members as frame of reference for your work.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

32. You would participate knowledge sharing activities in the organisation although you are unknown what you are going to learn there or what path you will take in the pursuit of this knowledge.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree



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6.0 Level of motivation to knowledge exchange and combination

33. You would take the initiative to exchange experience with other members in the event of a problem.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

34. You would propose ideas as far as possible in problem solving discussions.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

35. You are willing to take a part in problem solving discussions sponsored by other members.



☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

36. You will turn to other members for help if you get into difficulties in the organisation.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

37. Your organisation members consider knowledge sharing as a daily habit.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

7.0 Level of capability to combine knowledge

38. You can understand knowledge other members provide during problem solving discussions.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree



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39. You can communicate and exchange ideas with other members easily during problem solving discussions.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

40. You can hold the latest progress in your field in the organisation.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

41. You can distinguish and collect new knowledge and information rapidly.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

42. You can study knowledge you are lack of rapidly.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

43. Your creativity can be enhanced by participation in problem solving discussions in the organisation.

☐ Strongly disagree ☐ Disagree ☐ Don't know ☐ Agree ☐ Strongly agree

I would like to thank you for the information given and time you have dedicated to this research. If you are interested to know the outcome of this research, it would be my pleasure to share it with you.



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APPENDIX B: QUESTIONNAIRE REFERENCES

Sub-construct	Indicators	Measurement items	Source
Structural dimension	Network ties	Q1	Chua (2002); Chow and Chan (2008)
		Q3	
	Network configuration	Q2	
		Q4	
		Q5	Li and Zhu (2009)
		Q6	
	Appropriable organisation	Q7	Researcher
Relational dimension	Interpersonal trust	Q8	Li and Zhu (2009); Chua (2002); Chow and Chan (2008)
		Q9	
		Q10	
		Q11	
		Q12	
		Q13	
		Q14	
	Sense of identification	Q15	Researcher
		Q16	
		Q17	
	Obligations & expectations	Q18	Li and Zhu (2009)
		Q19	
		Q20	
Cognitive dimension	Shared language & codes	Q21	Chua (2002)
		Q22	
	Shared narratives	Q23	

Accessibility to knowledge	Accessibility to knowledge 1	Q24	Li and Zhu (2009)
	Accessibility to knowledge 2	Q25	
	Accessibility to knowledge 3	Q26	
	Accessibility to knowledge 4	Q27	
	Accessibility to knowledge 5	Q28	Researcher
Anticipation of value	Anticipation of value 1	Q29	Researcher
	Anticipation of value 2	Q30	
	Anticipation of value 3	Q31	
	Anticipation of value 4	Q32	
Motivation to knowledge	Motivation to knowledge 1	Q33	Li and Zhu (2009)
	Motivation to knowledge 2	Q34	
	Motivation to knowledge 3	Q35	
	Motivation to knowledge 4	Q36	
	Motivation to knowledge 5	Q37	
Combination capability	Combination capability 1	Q38	Li and Zhu (2009)
	Combination capability 2	Q39	
	Combination capability 3	Q40	
	Combination capability 4	Q41	
	Combination capability 5	Q42	
	Combination capability 6	Q43	Researcher

APPENDIX C: VARIABLE ALLOCATION DOCUMENT

Variable	Indicator variable	Reference to questionnaire item
Structural dimension	Network ties 1	Q1
	Network ties 2	Q3
	Network configuration 1	Q2
	Network configuration 2	Q4
	Network configuration 3	Q5
	Network configuration 4	Q6
	Appropriable organisation	Q7
Relational dimension	Interpersonal trust 1	Q8
	Interpersonal trust 2	Q9
	Interpersonal trust 3	Q10
	Interpersonal trust 4	Q11
	Norms of corporation 1	Q12
	Norms of corporation 2	Q13
	Norms of corporation 3	Q14
	Norms of corporation 4	Q15
	Norms of corporation 5	Q16
	Sense of identification	Q17
	Obligations & expectations 1	Q18
	Obligations & expectations 2	Q19
	Obligations & expectations 3	Q20
Cognitive dimension	Shared language & codes 1	Q21
	Shared language & codes 2	Q22
	Shared narratives	Q23

Accessibility to knowledge	Accessibility to knowledge 1	Q24
	Accessibility to knowledge 2	Q25
	Accessibility to knowledge 3	Q26
	Accessibility to knowledge 4	Q27
	Accessibility to knowledge 5	Q28
Anticipation of value	Anticipation of value 1	Q29
	Anticipation of value 2	Q30
	Anticipation of value 3	Q31
	Anticipation of value 4	Q32
Motivation to knowledge	Motivation to knowledge 1	Q33
	Motivation to knowledge 2	Q34
	Motivation to knowledge 3	Q35
	Motivation to knowledge 4	Q36
	Motivation to knowledge 5	Q37
Combination capability	Combination capability 1	Q38
	Combination capability 2	Q39
	Combination capability 3	Q40
	Combination capability 4	Q41
	Combination capability 5	Q42
	Combination capability 6	Q43

