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Main road 7 construction work in Pyhtää Finland



Infra Questionnaire 2012 – how is Infrastructure Cost Management in Europe?

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- 2008-2009 original survey
- 2011-2012 update survey

Questionnaire?



- Questionnaire part 1
2008-2009:
 - Answers NL, IRL, FIN
 - Report + results
- Questionnaire part 2
2011-2012:
 - Answers CH, CZH, UK
 - Results updated



Participants



6 countries, experienced personnel... Not thousands of answers

My position in my organisation	CZH	SWI	UK	FIN	IRL	NL
Executive management	1		1	26	10	
Project management		1		27	4	
Project operations				10	0	
Research and development				2	0	
Other tasks	1	1		4	0	
My experience of infrastructure projects in years	CZH	SWI	UK	FIN	IRL	NL
< 5				5	0	
5 - 10				2	2	
> 10	1	1	1	56	12	

Questions



1. Who is mainly responsible for cost planning and estimation in different project stages?
2. What kind of technique is commonly used for cost estimation in different project stages?
3. What project stage is the most important from cost planning's point of view?
4. How well is cost planning organised in different project stages?
5. What project stage is the most problematic from cost planning's point of view?
6. How well do the estimates in different project stages meet the project's final cost?
7. If cost planning techniques, databases or software would be developed/improved, it is mostly needed in...
8. Which project stage is generally in your opinion the least difficult to cost control?
9. In development of cost management I would concentrate first on (mark with 1) and then on (mark with 2)...

Questions



FS=Feasibility study, PL=Planning, DS=Design, CON=Construction, U&M=Use and Maintenance

1.	Who is mainly responsible for cost planning and estimation in different project stages?	FS	PL	DS	CON	U&M
	Client	37 %	31 %	6 %	5 %	45 %
	Designer/Engineer	50 %	51 %	43 %	26 %	22 %
	Construction economist / cost consultant	2 %	7 %	34 %	31 %	2 %
	Contractor	0 %	0 %	10 %	28 %	7 %
	Someone else	11 %	10 %	7 %	9 %	24 %
2.	What kind of technique is commonly used for cost estimation in different project stages?	FS	PL	DS	CON	U&M
	Price books published regularly	9 %	4 %	5 %	1 %	1 %
	Organisation's own databases (not available for others)	28 %	46 %	35 %	30 %	38 %
	Commercial software for estimation	3 %	13 %	24 %	23 %	2 %
	Estimator's own personal experience/data	60 %	37 %	36 %	38 %	53 %
	Other. What?	0 %	0 %	1 %	4 %	2 %
	I don't know	0 %	0 %	0 %	3 %	4 %

Questions



FS=Feasibility study, PL=Planning, DS=Design, CON=Construction, U&M=Use and Maintenance

3.	What project stage is the most important from cost planning's point of view?	FS	PL	DS	CON	U&M
	The most important is...	30 %	58 %	10 %	2 %	0 %
4.	How well is cost planning organised in different project stages?	FS	PL	DS	CON	U&M
	Well	44 %	45 %	53 %	29 %	9 %
	Satisfactory	26 %	47 %	42 %	42 %	42 %
	Poorly	32 %	8 %	5 %	9 %	29 %
5.	What project stage is the most problematic from cost planning's point of view?	FS	PL	DS	CON	U&M
	The most important is...	16 %	34 %	23 %	6 %	22 %
6.	How well do the estimates in different project stages meet the project's final cost?	FS	PL	DS	CON	U&M
	Well	1 %	3 %	13 %	41 %	32 %
	Satisfactory	56 %	84 %	82 %	56 %	62 %
	Poorly	43 %	13 %	7 %	3 %	6 %

Questions



FS=Feasibility study, PL=Planning, DS=Design, CON=Construction, U&M=Use and Maintenance

7.	If cost planning techniques, databases or software would be developed/improved, it is mostly needed in...	FS	PL	DS	CON	U&M
	It is mostly needed in...	27 %	64 %	6 %	2 %	2 %
8.	Which project stage is generally in your opinion the least difficult to cost control?	FS	PL	DS	CON	U&M
	The easiest part is...	4 %	6 %	10 %	51 %	29 %
9.	In development of cost management I would concentrate first on (mark with 1) and then on (mark with 2)...	1,00	2,00			
	Theory	26 %	28 %			
	Techniques / methods	34 %	43 %			
	Databases / price books	17 %	22 %			
	Software	21 %	6 %			

Claims, part 2



TOP 10 CLAIMS: I AGREE (5 = I TOTALLY AGREE, 1 = I DISAGREE)

	CLAIM:	AVE	AVE2
1	Cost planning is needed in all kind of projects	4,3	4,6
2	The best opportunities to affect costs are in the early stages of the project	4,2	4,6
3	Information of projects carried out is useful in estimation	3,8	4,3
4	Better information flow between parties would make cost planning easier	3,6	4,2
5	Client has good cost knowledge	3,5	3,1
6	The cost control of infrastructure projects is handled well	3,5	3,1
7	Only the contractor knows the real cost of the project	3,5	2,9
8	The client's awareness of the project costs lessens over the course of time on that project	3,4	3,3
9	Splitting the project into smaller parts helps cost estimation	3,4	3,9
10	Decisions that affect costs are made by clients	3,4	3,7

AVE = Average of 6 countries (each 1 vote), AVE2 = Average of all 88 individuals

Claims, part 2



TOP 10 CLAIMS: I DISAGREE (5 = I TOTALLY AGREE, 1 = I DISAGREE)

	CLAIM:	AVE	AVE2
1	Client is not aware of actual costs during the project	2,3	2,7
2	There are enough skilled cost planners / budget estimators / cost controllers	2,5	2,2
3	Costs of a building project are more difficult to estimate in new construction projects than in modernisation and renovation	2,6	2,1
4	Cost information is easy to find	2,6	2,7
5	Available cost information is easy to use	2,6	3,0
6	Cost estimation is difficult	2,7	3,1
7	Cost estimates can be counted on	2,8	2,9
8	If the contract price is higher than the cost estimate, the estimate is wrong	2,9	2,4
9	Start-up information for estimation is usually too inaccurate	3,0	3,5
10	I know the standards that are developed for project management and cost control	3,0	3,1

AVE = Average of 6 countries (each 1 vote), AVE2 = Average of all 88 individuals

Price books and Softwares



NL

- Price books:
 - CROW (The national Information and Technology Platform for Transport, Infrastructure and Public space www.crow.nl)
 - PRC cost consultants, www.prc.nl, Product Form Factors and Cost Indicators
 - DACE (Dutch Association of Cost Engineers), www.dace.nl, Product: Prijsenboek
- Softwares and databases:
 - Brink Groep , www.brinkgroep.nl, Product: Ibis Calc
 - KPD, www.kpd.nl, Product: GWWcalc

FIN

- Price books
 - Liikennevirasto: Mitä maksaa? "What does it cost?" – pricebook for highway construction (inaccurate, for politics and media)
- Softwares and databases:
 - Rapal: www.fore.fi, Fore (Cost management system for infrastructure: highways, railroads, streets, municipality)
 - Liikennevirasto (The national organisation for Highways and Railroads), <http://alk.tiehallinto.fi/sillat/silava.htm>, Silava 2009 (for bridge cost calculation)
 - Dynaroad, www.dynaroad.fi, Dynaroad (for earth excavation and scheduling)

Price books and Softwares



CZE

- Pricebooks:
 - URS (private)
 - RTS (private)
 - ASPE (private)
 - ČSU (czech state institution)
- Softwares and databases:
 - KROSS URS (private)
 - ASPE (private)
 - Callida (private)

CH

- Pricebooks:
 - Baumeisterverband (= association of master builders)
- Softwares and databases:
 - Doesn't exist for infrastructure

UK

- Pricebooks:
 - ICE CESMM3 Carbon & Price Book, edited by Franklin & Andrews, www.thomastelford.com
 - Spon's Civil Engineering and Highways Price Book, 2012, edited by Davis Langdon, www.sponpress.com/pricebooks
- Softwares and databases:
 - BCIS Civil Engineering Online Rates Database. BCIS www.bcis.co.uk

Summary



1. The early stages of the project (FS and PL) are the most important stages for the final cost level
2. Designer has lots of responsibility in the early stage of the infrastructure project (but not the client)
3. Cost management is based on the professional's own experience or own databases (not public or common)
4. The cost planning techniques and databases need to be developed especially for the early stages of the projects
5. Successful cost management needs co-operation between project parts, fluent information flow and professional people

Thank You!



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**“Life is the art of drawing
sufficient conclusions from
insufficient premises.”**

- Samuel Butler (1612-1680)

