Table 3: Success factors of construction R&D

Success Factors	Academia	Industry Partners	Total		Asymp. Sig.
	Mean	Mean	Mean	Rank	
Initiation					
Establish the research problem clearly	4.74	4.85	4.79	1	N/A
Commitment of the principal investigator	4.59	4.52	4.56	2	0.06
Selecting a competent team	4.50	4.44	4.48	3	0.51
Leadership of the principal investigator	4.35	4.19	4.28	4	0.08
Consider industrial partners' requirements	4.03	4.56	4.27	5	0.99
Consider funding bodies' requirements	4.29	4.22	4.26	6	0.87
Understand the market and its dynamics	4.21	4.04	4.13	7	0.45
Consider researchers' requirements	*3.85*	*3.70*	*3.79*	*8*	
Conceptualising					
Check the feasibility of the project	4.68	4.85	4.75	1	N/A
Commitment of the principal investigator	4.62	4.52	4.57	2	0.07
Committed and cooperative team members	4.48	4.59	4.53	3	0.55
Establish clear and realistic goals/ deliverables/ milestones	4.41	4.63	4.51	4	0.99
Adequate resources/financial support	4.44	4.44	4.44	5	0.52
Allocation of responsibilities to team members inline with competencies	4.41	4.37	4.39	6	0.61
Establish a plan to disseminate research results	4.35	4.44	4.39	7	1.00

Leadership of the principal investigator	4.26	4.37	4.31	8	0.58
Having a skilled team	4.38	4.19	4.30	9	0.76
Establish clear method to measure success	4.18	4.44	4.30	10	1.00
Consider industrial partners' requirements	4.35	4.22	4.30	11	0.95
Consider funding bodies' requirement	4.35	4.19	4.28	12	0.97
Absence of lengthy bureaucracy	*3.91*	*4.11*	*4.00*	*13*	*0.03*
Early involvement of industrial partners	*3.76*	*4.30*	*4.00*	*14*	
Comprehensive briefing process	*3.88*	*4.11*	*3.98*	*15*	
Recognition for team members	*3.88*	*3.96*	*3.92*	*16*	
Consider researchers' requirements	*3.91*	*3.74*	*3.84*	*17*	
Fast decision making process	*3.59*	*3.88*	*3.72*	*18*	
Development					
Committed and cooperative team members	4.62	4.56	4.59	1	N/A
Commitment of the principal investigator	4.56	4.59	4.57	2	0.83
Adequate resources/financial support	4.53	4.59	4.56	3	0.91
Having a skilled team	4.53	4.48	4.51	4	0.55
Meet funding bodies' requirements	4.53	4.48	4.51	5	0.99
Share a common understanding about the work	4.38	4.44	4.41	6	0.29
Having a well establish operational procedure	4.50	4.26	4.39	7	0.91
Meet industrial partners' requirements	4.24	4.59	4.39	8	0.98
Secure momentum/ motivation of the team	4.41	4.33	4.38	9	0.91
Flexibility and responsiveness to change	4.38	4.37	4.38	10	1.00

Leadership of the principal investigator	4.38	4.37	4.38	11	0.94
Absence of lengthy bureaucracy	*4.03*	*4.22*	*4.11*	*12*	*0.02*
Meet researchers' requirements	*4.09*	*4.07*	*4.08*	*13*	
Recognition for team members	*4.00*	*4.04*	*4.02*	*14*	
Fast decision making process	*3.82*	*4.11*	*3.95*	*15*	
Having a risk mitigation strategy	*3.85*	*4.08*	*3.95*	*16*	
Testing the market	*3.79*	*4.07*	*3.92*	*17*	
Launch					
Effective dissemination of the results	4.56	4.48	4.52	1	N/A
Meet funding bodies' requirements	4.65	4.30	4.49	2	0.73
Having a well established dissemination/ marketing plan	4.47	4.48	4.48	3	0.88
Meet industrial partners' requirements	4.21	4.63	4.40	4	0.46
Launch the output within the planned time frame	4.35	4.37	4.36	5	0.93
Comprehensive project review and feedback	*3.91*	*4.22*	*4.05*	*6*	*0.03*
Meet researchers' requirements	*3.74*	*4.07*	*3.89*	*7*	
Refinement of the output after launch	*3.94*	*3.70*	*3.84*	*8*	
Project Management					
Effective communication	4.68	4.74	4.70	1	N/A
Effective collaboration	4.62	4.63	4.62	2	0.28
Effective planning, controlling, and organising of activities	4.41	4.67	4.52	3	0.29
Continuous reviews	4.35	4.63	4.48	4	0.53

Effective resource management	4.26	4.44	4.34	5	0.19
Effective management of the people	4.38	4.26	4.33	6	0.85
Having an external person to do reviews	*3.97*	*4.00*	*3.98*	*7*	
Evaluating post delivery success	*3.82*	*4.11*	*3.95*	*8*	
Having a separate project administrator	*3.41*	*3.44*	*3.43*	*9*	