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**MBA IN CONSTRUCTION – POSTGRADUATE EUROPEAN
COMMON STUDIES IN CONSTRUCTION PROJECT
MANAGEMENT**

QUESTIONNAIRE REPORT

PROJECT NUMBER: 2013-1-PL1-LEO05-37822

This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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1. INTRODUCTION

The main task of the project is to deepen Directive's 89/48/EEG ideas, which will lead to creation of proper European system of comparison, certification and mutual recognition of managerial qualifications in construction. Project based on the successfully finished CLOEMC I, II and III projects (PL/06/B/F/PP/174014, 2009-1-PL1-LEO05-05016 and 2011-1-PL1-LEO05-19888) set of 19 already created manuals for Construction Managers' Library. CLOEMC manuals are published on Polish market, in respond to demand from construction engineers. As a result of the proposed project new postgraduate studies for construction managers will be created forming common platform of managerial knowledge. This base of knowledge will extend the foundations of recognition and certification of managerial qualifications in construction, in EU. This Project is based on European Directive nr 89/48/EEG on regulated professions in respect to scope of recognition, maintain of high standard in professional disciplines, promotion and certification of qualifications by international associations and organizations – from construction sector.

A very important factor influencing the selection of the content of study was a questionnaire of individuals. The individuals are strongly related to the civil engineering industry. The questionnaire is presented on the next pages. Over 240 responds were gathered and summarized in this report.

2. QUESTIONNAIRE



MBA w budownictwie – podyplomowe europejskie studia za zakresu zarządzania projektami budowlanymi¹

MBA in Construction-Postgraduate European Common Studies in Construction Project Management¹

NUMER PROJEKTU / PROJECT NUMBER - 2013-1-PL1-LEO05-37822

ANKIETA / QUESTIONNAIRE

Szkic opracowywanego programu studiów / Draft of the study programmes



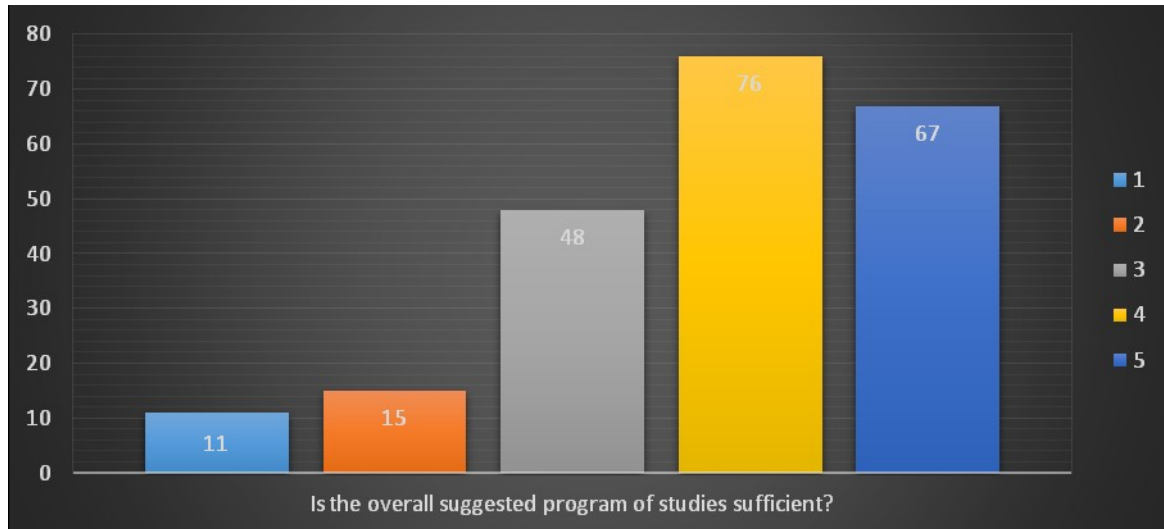
Lp.	Pytanie / Question (zakreśl właściwą odpowiedź / Mark relevant answer)	1- NIE / NO 5 - TAK/ YES				
		1	2	3	4	5
1	Czy całkowity zakres programowy studiów jest odpowiedni? / Is the overall suggested program of studies sufficient?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Możliwe przedmioty techniczne (moduły studiów) / Possible technical subjects (modules of studies):						
2	Wspomaganie komputerowe w projektach budowlanych (np. BIM poziom 4/5, oprogramowanie do zarządzania w budownictwie) / IT support for construction projects (i.e. BIM at 4/5 levels, software for management in construction)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Zarządzanie kosztami i czasem w budownictwie (finanse budowy, techniki harmonogramowania, równoważenie wykorzystania czasu i przestrzeni) / Cost and time management in construction (site finances, scheduling techniques, time space balance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Zarządzanie terenem budowy (z elementami lean construction) / Site Management (incl. elements of lean construction)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Zarządzanie ryzykiem i wartością / Risk and Value Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Systemy wspomagania decyzji dla menedżerów budowlanych (narzędzia matematyczne dla rozwiązywania różnych problemów) / Decision Support Systems for Construction Managers (mathematical tools for various problems)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Zarządzanie projektowaniem (z elementami RAMS – Niezawodność, Dostępność, Łatwość Utrzymania i Bezpieczeństwo) / Design Management (incl. RAMS - Reliability, Availability, Maintainability and Safety)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Zarządzanie Programami / Programme Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Możliwe przedmioty z zakresu zarządzania w budownictwie / Possible subjects related to management in construction (modules of studies):						
9	Zarządzanie zasobami ludzkimi (łącznie z psychologią pracy, etyką i motywacją, zarządzaniem zespołami i komunikacją, aspektami kulturalnymi) / Human Resource Management (incl. Psychology, Ethics and Motivation, Team Management, Communication Management, Cultural Aspects)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Zarządzanie bezpieczeństwem i ochroną zdrowia, środowiskiem oraz jakością / H&S, Environmental and Quality Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Procedury przetargowe oraz marketing / Procurement and Marketing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Zagadnienia prawne w budownictwie (roszczenia, spory zarządzanie zmianą) / Legal Aspects in Construction (Claims Management, Disputes, Change/Variations Management)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Czy dodałoby Państwo jakieś inne zagadnienia do programu studiów? Wish You add new subjects / areas of knowledge to the study program?						
.....						
.....						
14. Jeśli chcieliby Państwo otrzymywać bieżące informacje o projekcie, prosimy o podanie danych poniżej / If You wish to receive further information about the project, please give us contact details below:						
- imię i nazwisko / name and surname:						
- adresu e-mail lub telefonu kontaktowego / e-mail or phone number:						

¹ Ten projekt został zrealizowany przy wsparciu finansowym Komisji Europejskiej. Projekt lub publikacja odzwierciedlają jedynie stanowisko ich autora i Komisja Europejska nie ponosi odpowiedzialności za umieszczoną w nich zawartość merytoryczną. / This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

3. Results

3.1. Is the overall suggested program of studies sufficient?

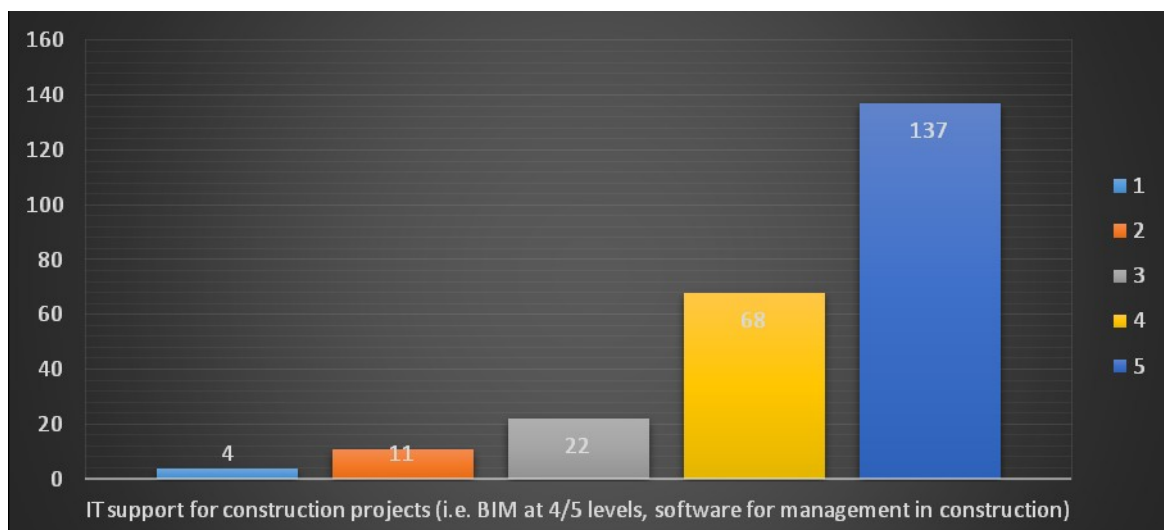
1	2	3	4	5	Number of observations	Average
11	15	48	76	67	217	4,02



3.2. Possible technical subjects (modules of studies)

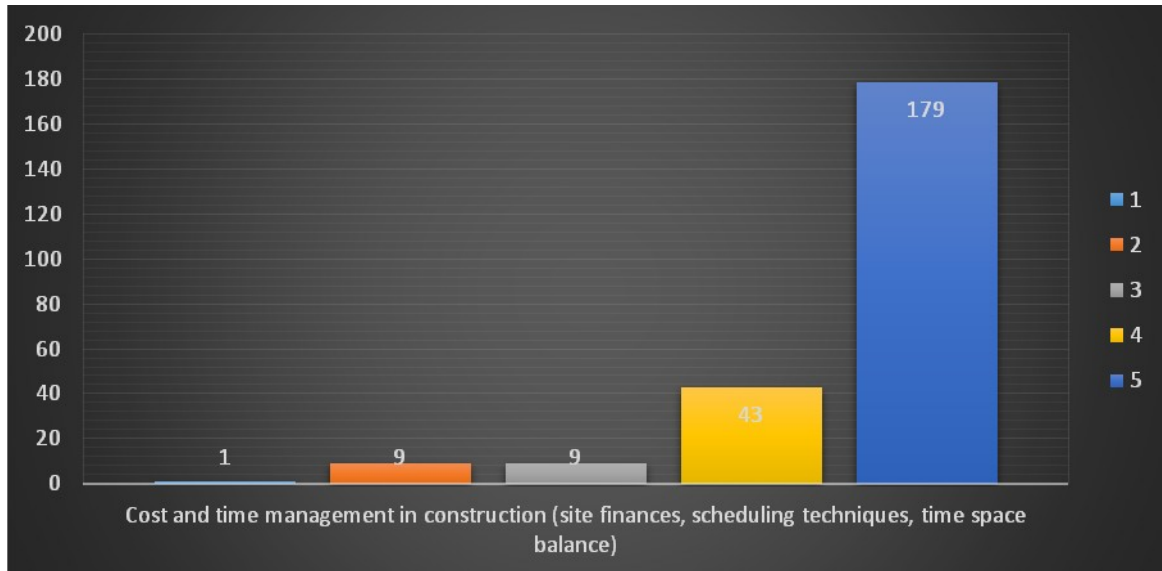
3.2.1. IT support for construction projects (i.e. BIM at 4/5 levels, software for management in construction)

1	2	3	4	5	Number of observations	Average
4	11	22	68	137	242	4,33



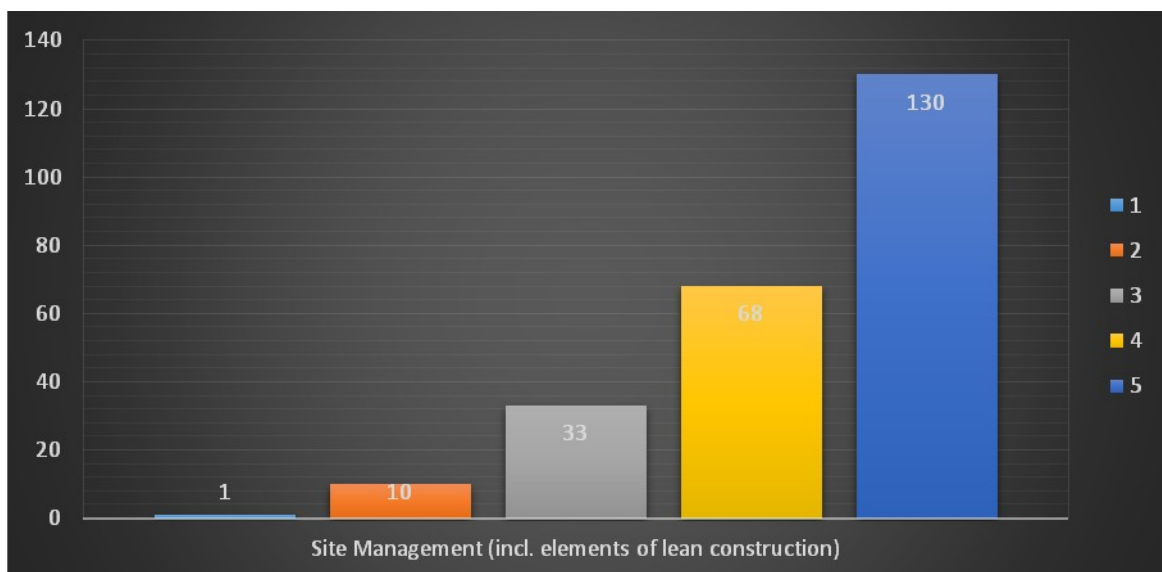
3.2.2. Cost and time management in construction (site finances, scheduling techniques, time space balance)

1	2	3	4	5	Number of observations	Average
1	9	9	43	179	241	4,62



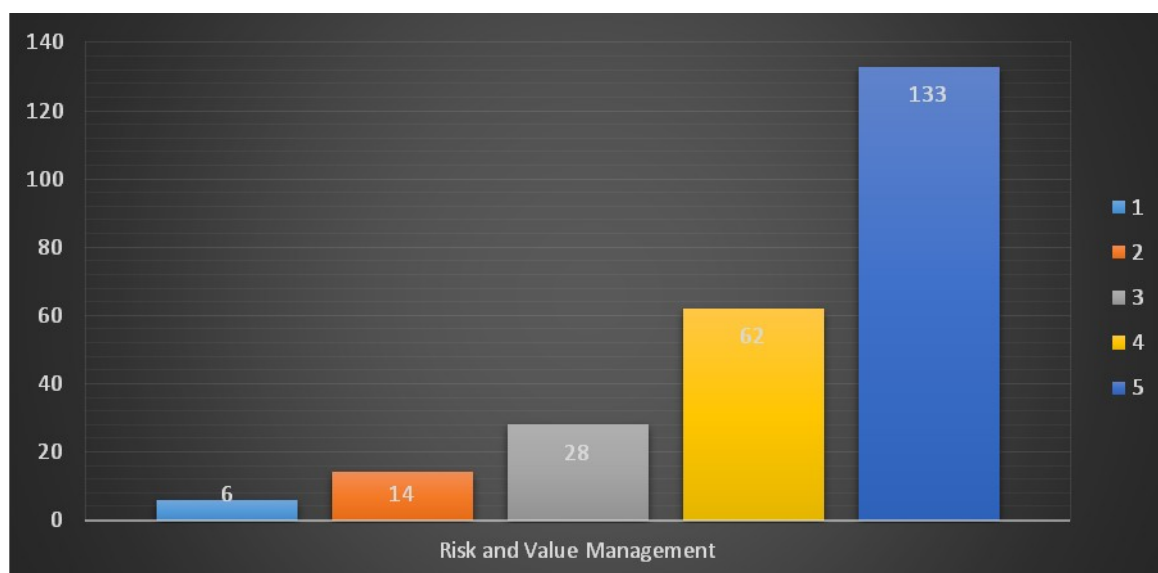
3.2.3. Site Management (incl. elements of lean construction)

1	2	3	4	5	Number of observations	Average
1	10	33	68	130	242	4,31



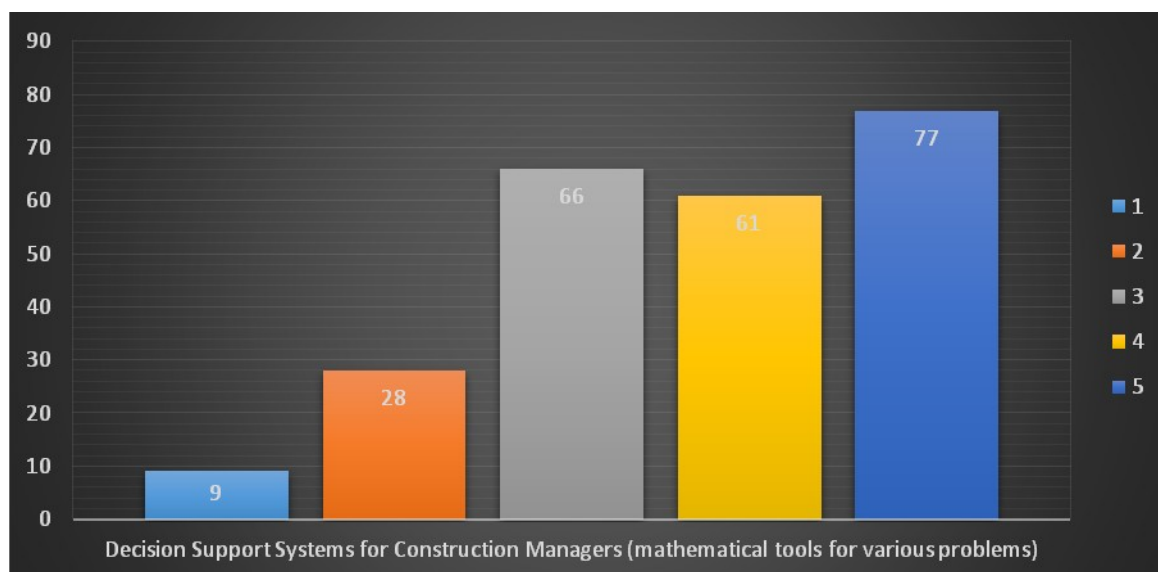
3.2.4. Risk and Value Management

1	2	3	4	5	Number of observations	Average
6	14	28	62	133	243	4,24



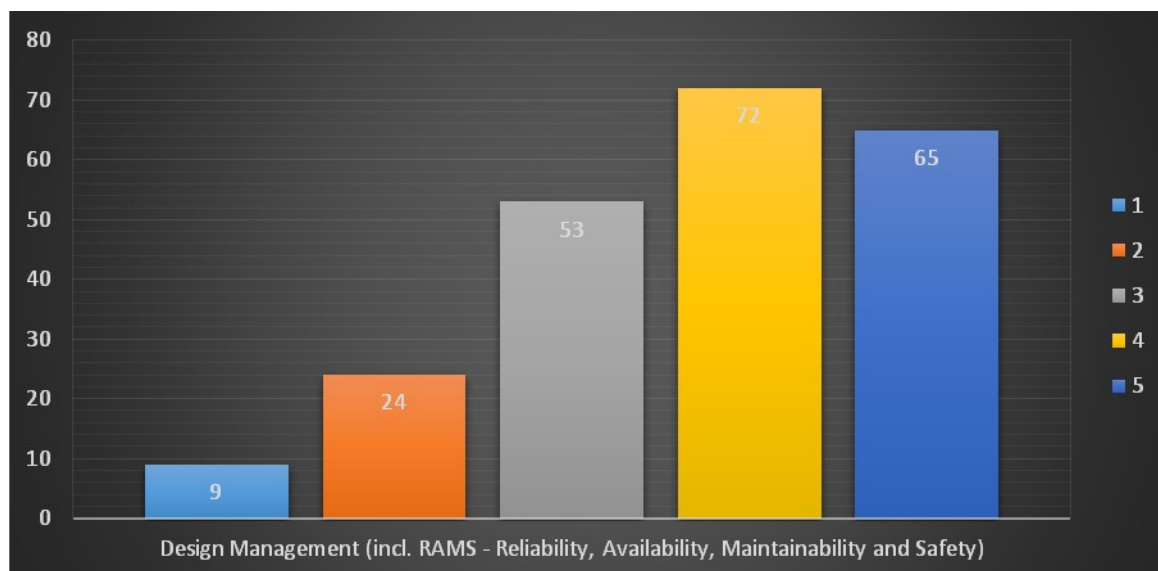
3.2.5. Decision Support Systems for Construction Managers (mathematical tools for various problems)

1	2	3	4	5	Number of observations	Average
9	28	66	61	77	241	3,70



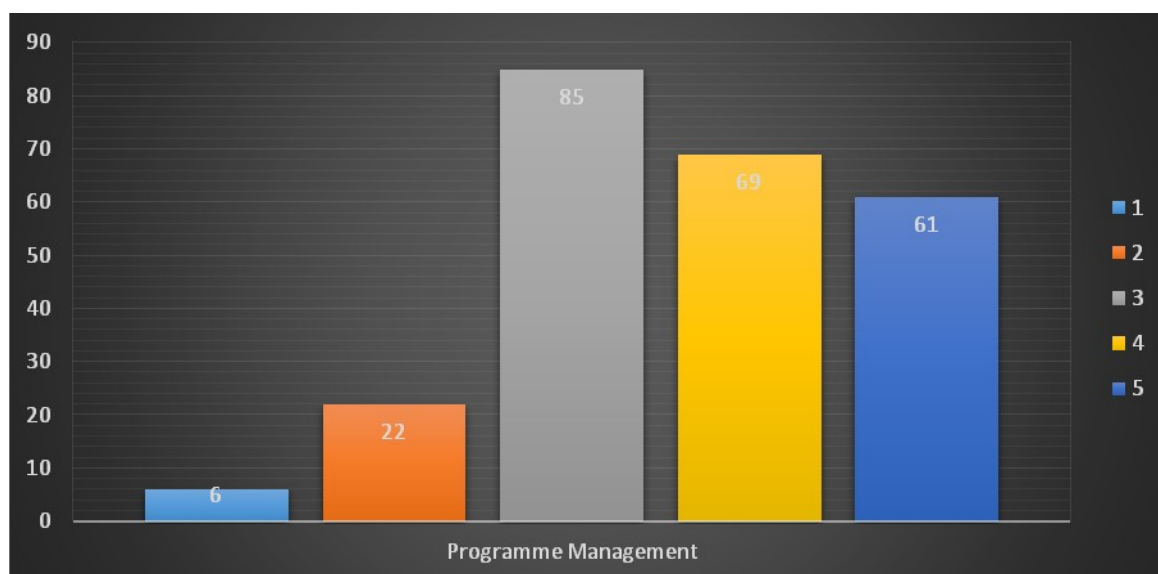
3.2.6. Design Management (incl. RAMS - Reliability, Availability, Maintainability and Safety)

1	2	3	4	5	Number of observations	Average
9	24	53	72	65	223	3,72



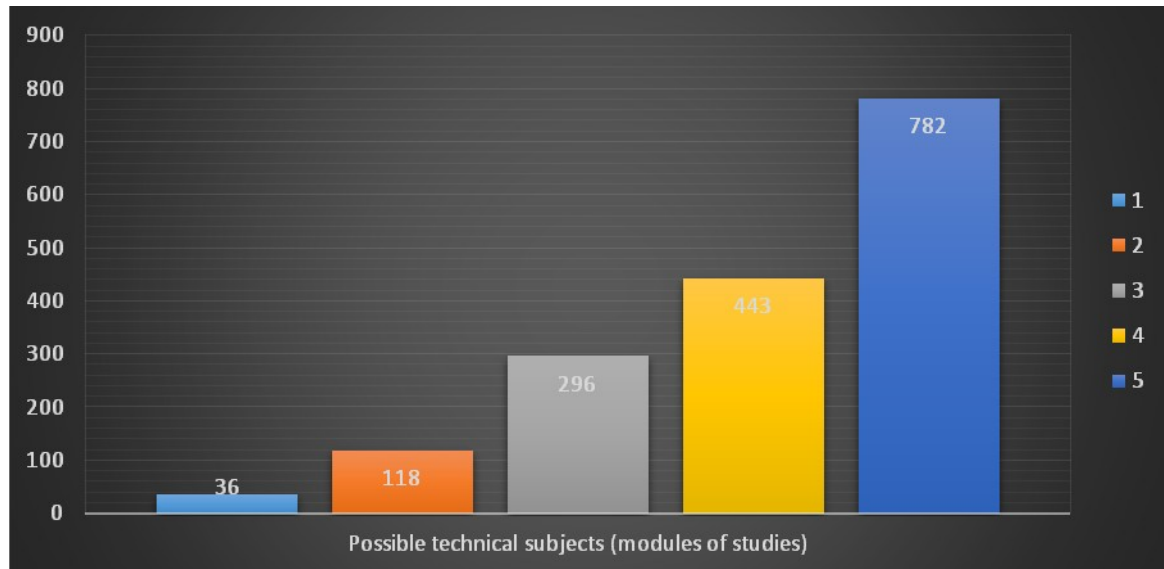
3.2.7. Programme Management

1	2	3	4	5	Number of observations	Average
6	22	85	69	61	243	3,65



3.2.8. Possible technical subjects (modules of studies) – summation

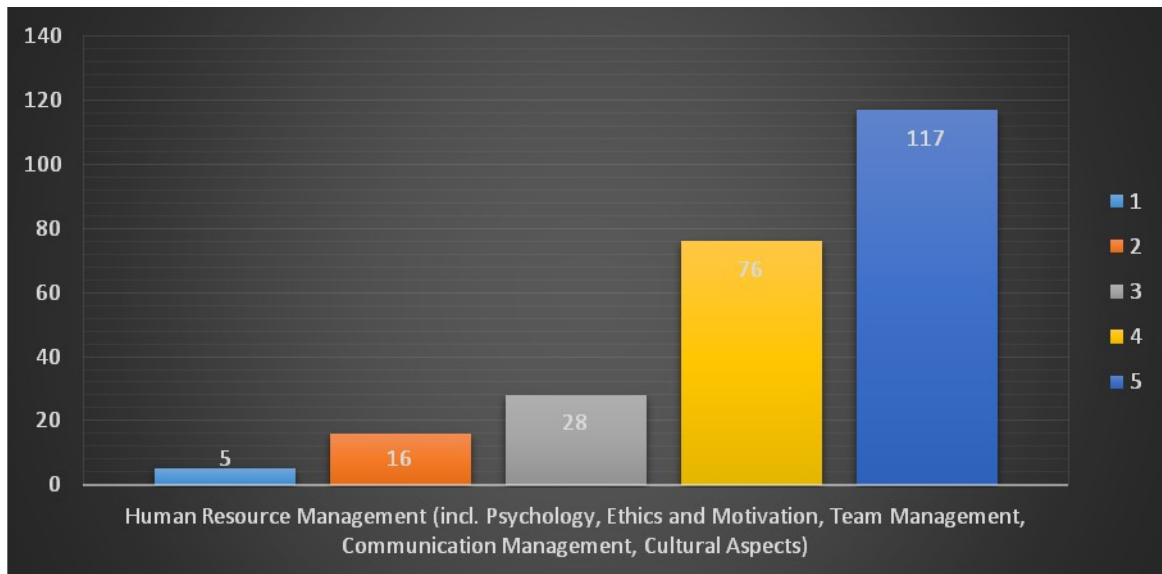
1	2	3	4	5	Number of observations	Average
36	118	296	443	782	1675	4,08



3.3. Possible subjects related to management in construction (modules of studies)

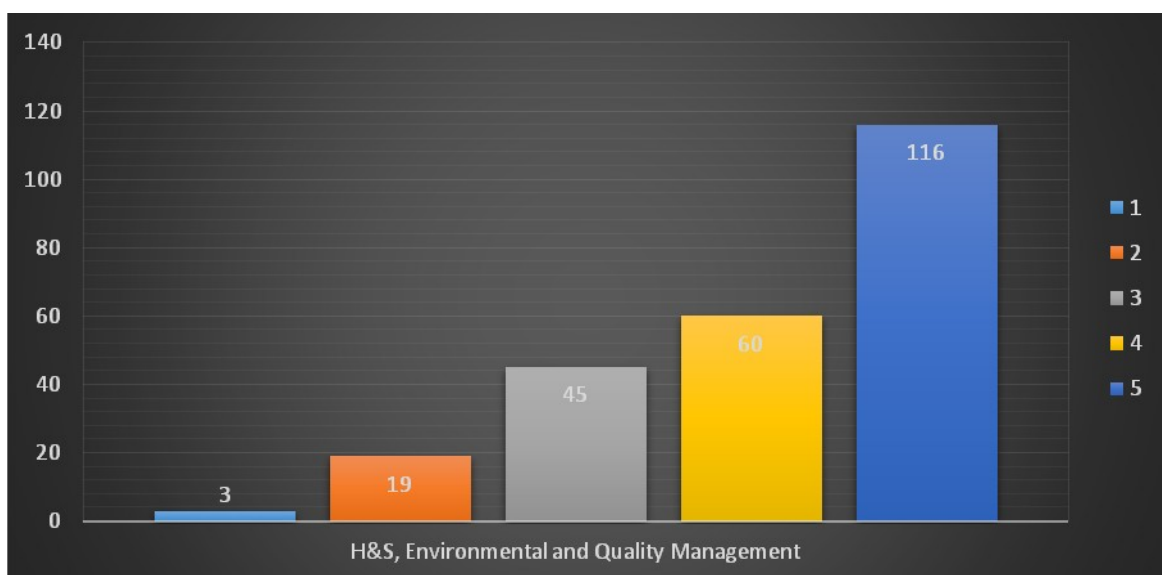
3.3.1. Human Resource Management (incl. Psychology, Ethics and Motivation, Team Management, Communication Management, Cultural Aspects)

1	2	3	4	5	Number of observations	Average
5	16	28	76	117	242	4,17



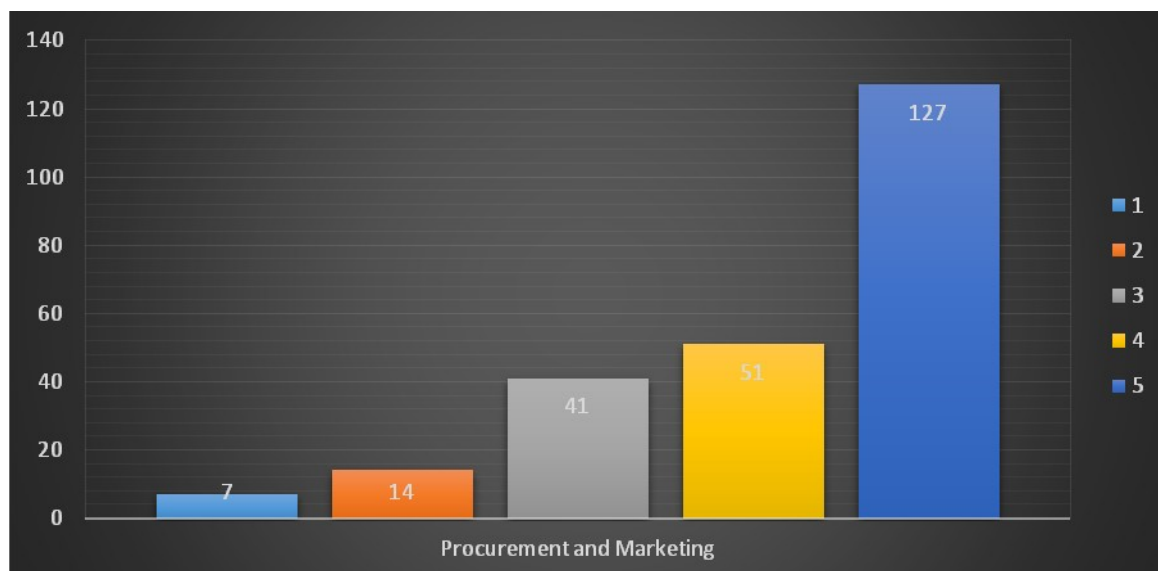
3.3.2. H&S, Environmental and Quality Management

1	2	3	4	5	Number of observations	Average
3	19	45	60	116	243	4,10



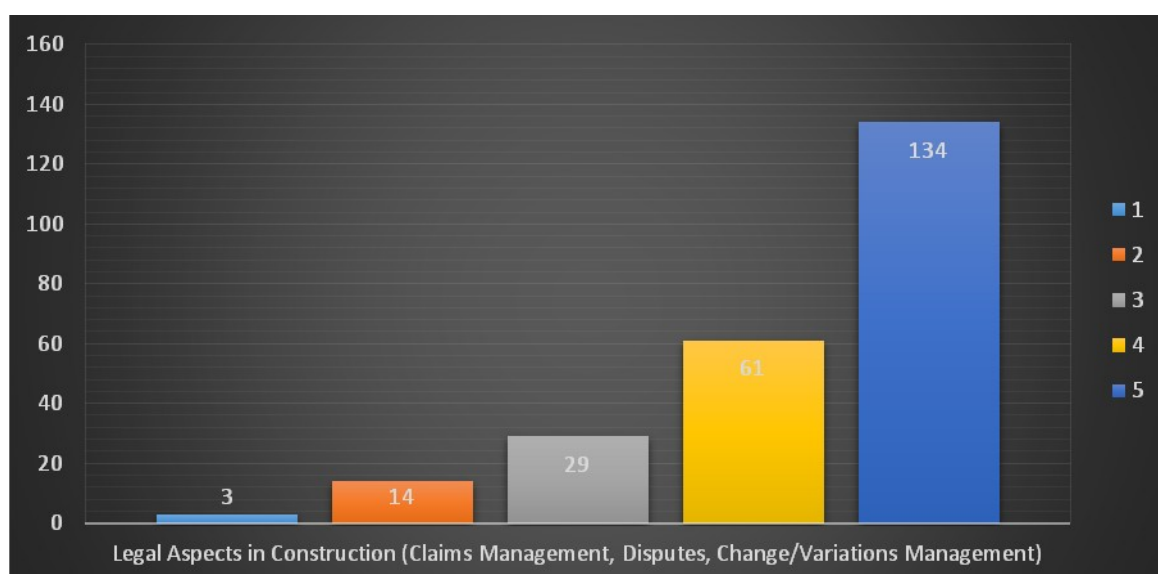
3.3.3. Procurement and Marketing

1	2	3	4	5	Number of observations	Average
7	14	41	51	127	240	4,15



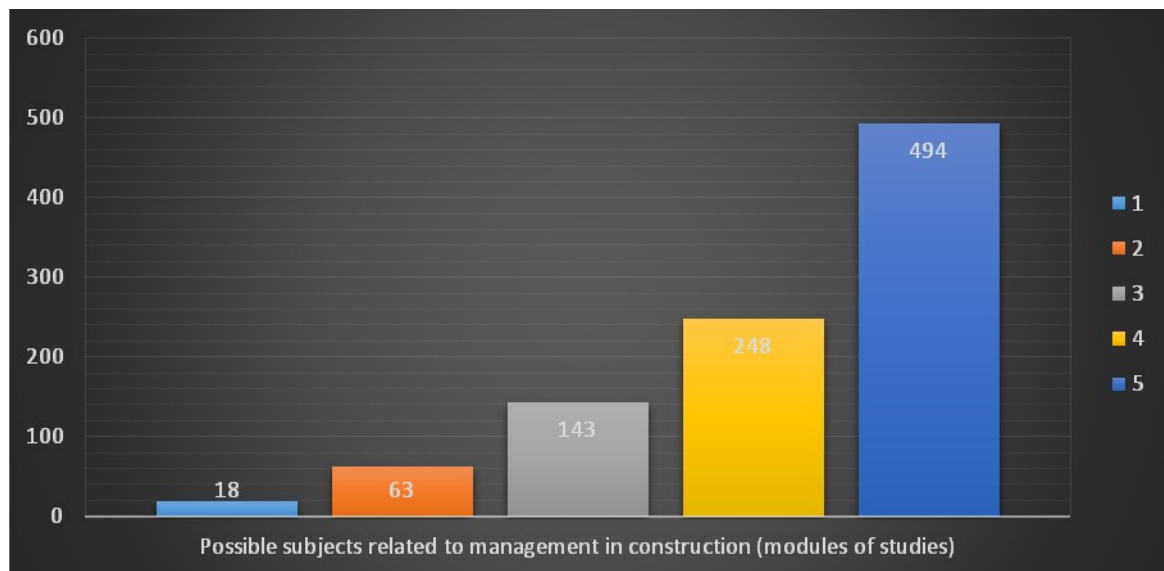
3.3.4. Legal Aspects in Construction (Claims Management, Disputes, Change/Variations Management)

1	2	3	4	5	Number of observations	Average
3	14	29	61	134	241	4,28



3.3.5. Possible subjects related to management in construction (modules of studies) – summary

1	2	3	4	5	Number of observations	Average
18	63	143	248	494	966	4,18



3.4. Answers to question 13 - Wish You add new subjects / areas of knowledge to the study program?

3.4.1. Answers from PUV

- Project Finance (number of suggestions: 6)
- Leadership (number of suggestions: 5)
- Scheduling (using specific software) (number of suggestions: 4)
- Innovation Management (number of suggestions: 4)
- Negotiation Skills (number of suggestions: 3)
- Internationalization (number of suggestions: 2)
- Entrepreneurship (number of suggestions: 2)
- Marketing (number of suggestions: 2)
- Supply Chain Management (number of suggestions: 2)
- Maintenance Management (number of suggestions: 2)

3.4.2. Answers from PUT

- Foreign languages, at least 2
- Practice
- Studies including market analysis
- Computer programmes useful in engineering practice

3.4.3. Answers from CIOB

- You might also consider including ‘soft landings’ and other post hand-over initiatives. These will become more important as projects become more complex –and are contracted to deliver more to the occupants in the longer term. Of course modern European contracts, like the new CIOB complex projects, are important.
- Consider to detail further the course: Governance, Logistics, Project&Programme Management, Commercial Management, Procurement, Change Management, Systems Engineering, Organisational Design, Corporate Finance, Strategy, Economics, Planning and Scheduling.

Also to add to:

Subject 3 “Project Finance”

Subject 12 “under contract and Legislation”

- I would comment that H&S, environmental and quality are not really separate subjects and so should be included in the topics noted in questions 2-8 above!

3.4.4. Answers from VGTU

- Communication in Project
- Crisis Management
- The management of conflicts
- Staff training and performance re-evaluation
- Quality control. Methods, tools and equipment.
- Pre-construction and construction activities and preparation of technology projects.
- Construction process management, irrespective of the talk only about design management. Students better understand project management when they realize the difference of construction management and design management.
- There is no question about the practical skills and familiarity with foreign managerial systems
- Operations Management
- Construction work organization and technology of construction work
- The most appropriate technology applications in project, continuous application of methods for construction process analysis
- The importance of the project plan and principles
- Planning - key issue of the project success
- Contracting - a separate discipline
- FIDIC
- Knowledge about the latest technology (construction , reconstruction, modernization)
- Leadership (could be included in ninth question)
- Material resources (equipment , tools, etc.) , if it is not hidden by the funds or budget (could be included in third question)
- When it comes to supply, maybe it is worth talking about and logistics (for large projects).
- Public procurement
- Lack of construction pricing, lack of logistics (could be attributed to the supply) , some listed things require a lot of experience, and a lack of understanding of the mathematical methods that can apply only highly experienced project managers with great knowledge. Marketing is a narrow segment, it is important to understand the needs of customers. Marketing needed for project managers if they are associated with the sales.

3.4.5. Answers from UMINHO

- Integrated design management
- Integrated project delivery
- Construction logistics
- Supply chain and subcontractor management

3.4.6. Answers from WUT

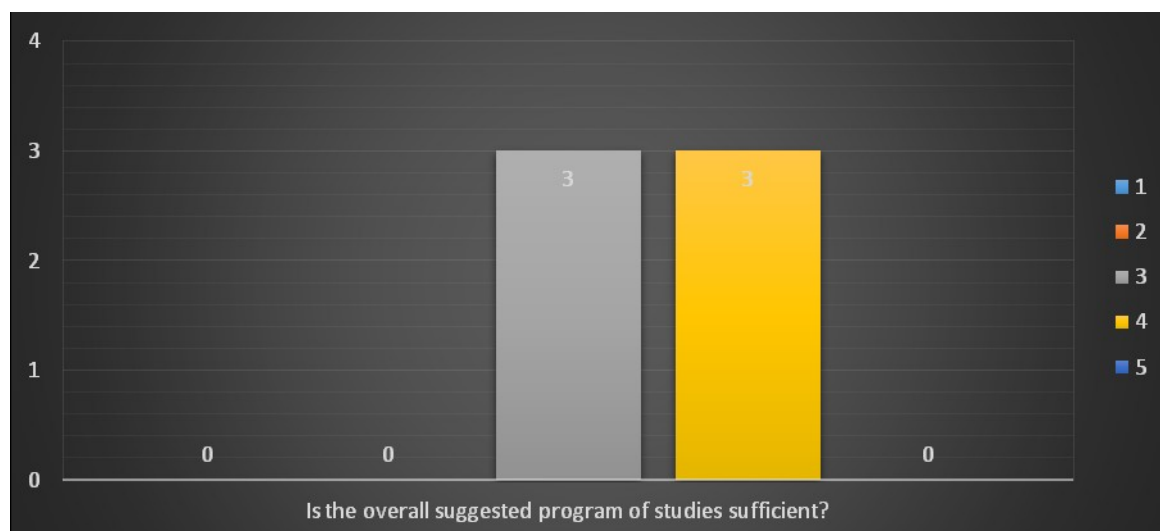
- Perhaps, these points are already contain - emphasis on software scheduling - schedule Directive, a detailed schedule. In general, the points would be more understandable if they were more widely to describe!
- Logistics management of construction projects
- To 12 The law on public procurement and contracting works (contract)
- Agile management, negotiations
- Technical, "collisions" legal organization; 1 The economics of design; 2 Organizational systems of the investment process, meetings with interesting people, such as engineers of the Contract, investors, implementers, not only "design + build!"; Visits (trips) for interesting investments
- System Management
- On the margins only technical note (for item 8) by meth. PMI name issue is: Program Management
- Subjects related to following aspects - estimation, cost control, quantity surveying
- Construction law in Poland and management solutions construction, the powers - is there point in it?
- Project Management related to cost efficient
- The programme seems very interesting, and covers a lot interesting subjects and areas
- Negotiation and conflict solutions
- Negotiations - body language manager - conflict solutions

APPENDIX 1

Detailed results from CIOB

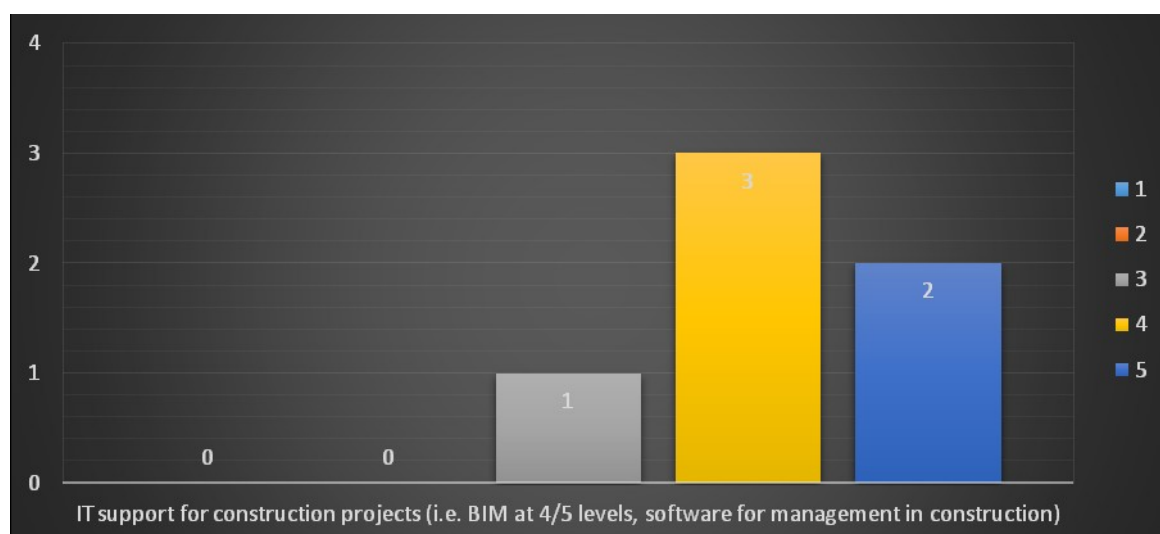
A1.1. Is the overall suggested program of studies sufficient?

1	2	3	4	5	Number of observations	Average
0	0	3	3	0	6	3,50

**A1.2. Possible technical subjects (modules of studies)**

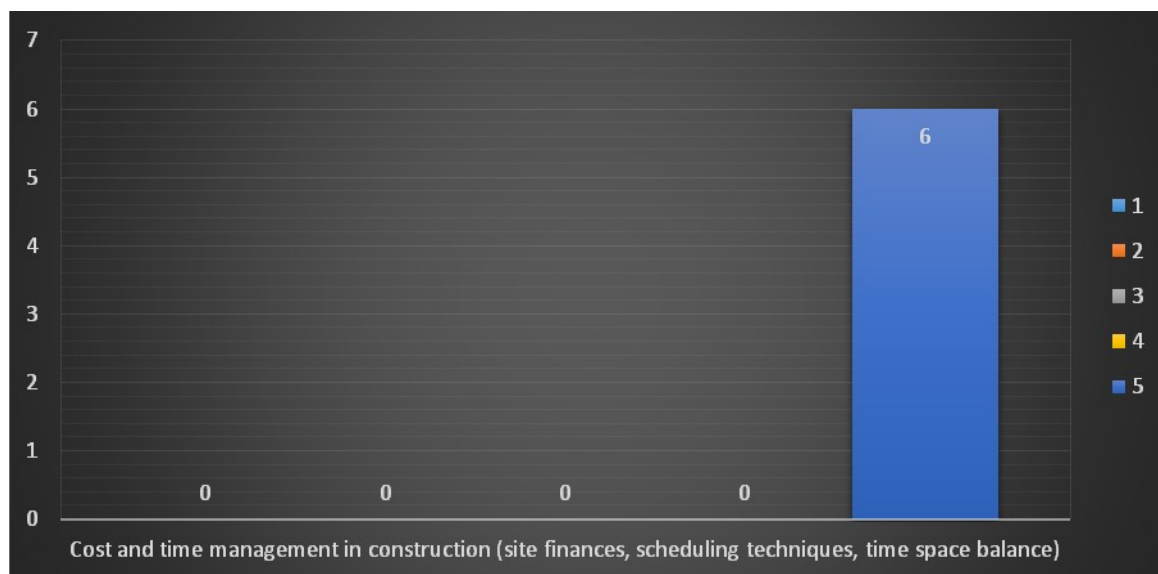
A1.2.1. IT support for construction projects (i.e. BIM at 4/5 levels, software for management in construction)

1	2	3	4	5	Number of observations	Average
0	0	1	3	2	6	4,17



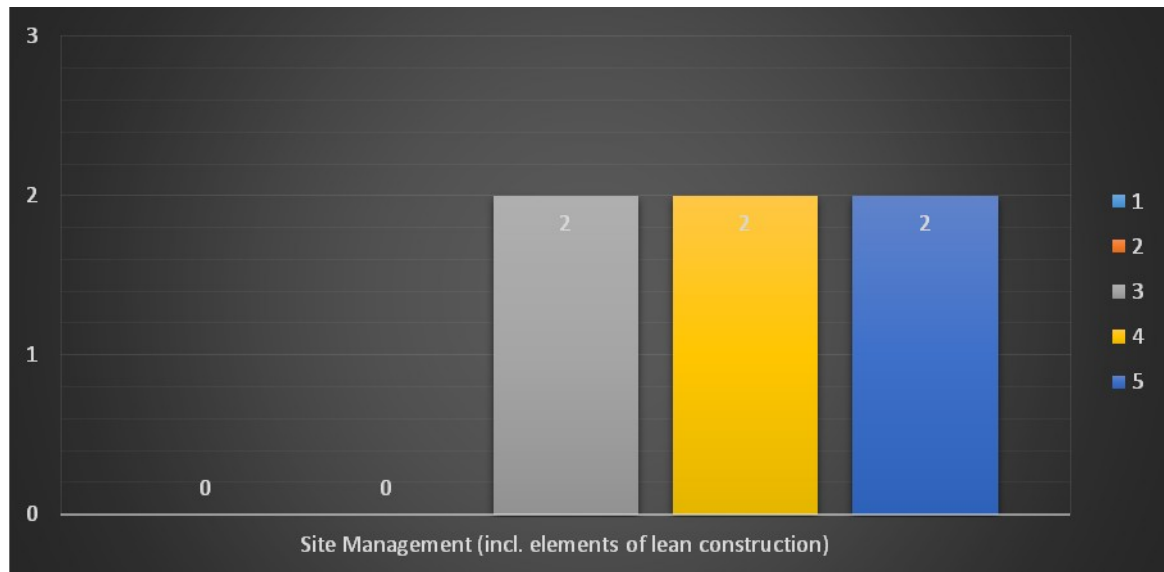
A1.2.2. Cost and time management in construction (site finances, scheduling techniques, time space balance)

1	2	3	4	5	Number of observations	Average
0	0	0	0	6	6	5,00



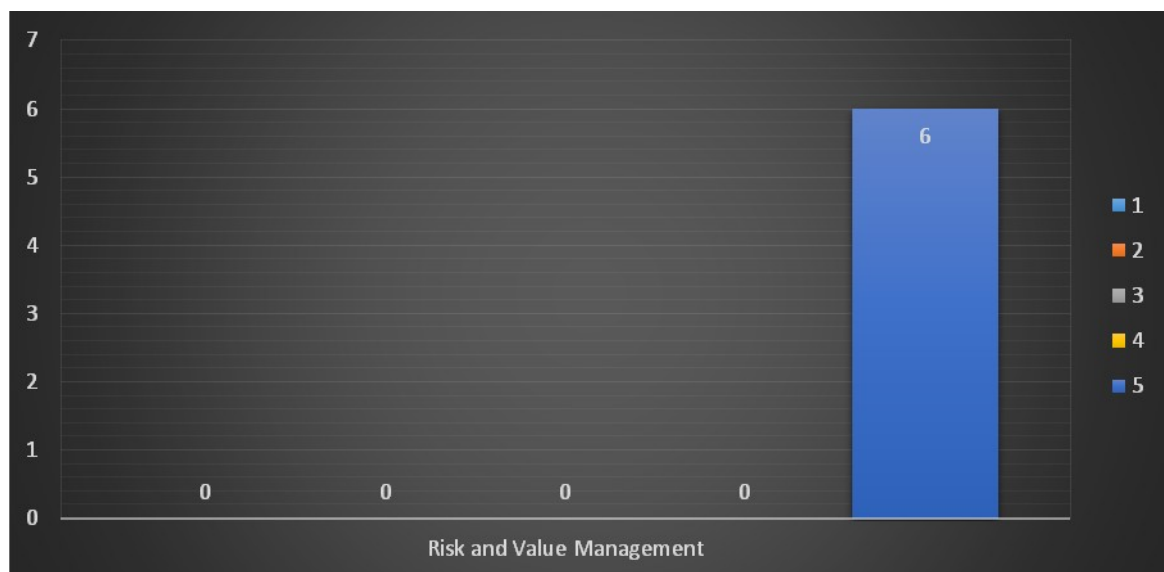
A1.2.3. Site Management (incl. elements of lean construction)

1	2	3	4	5	Number of observations	Average
0	0	2	2	2	6	4,00



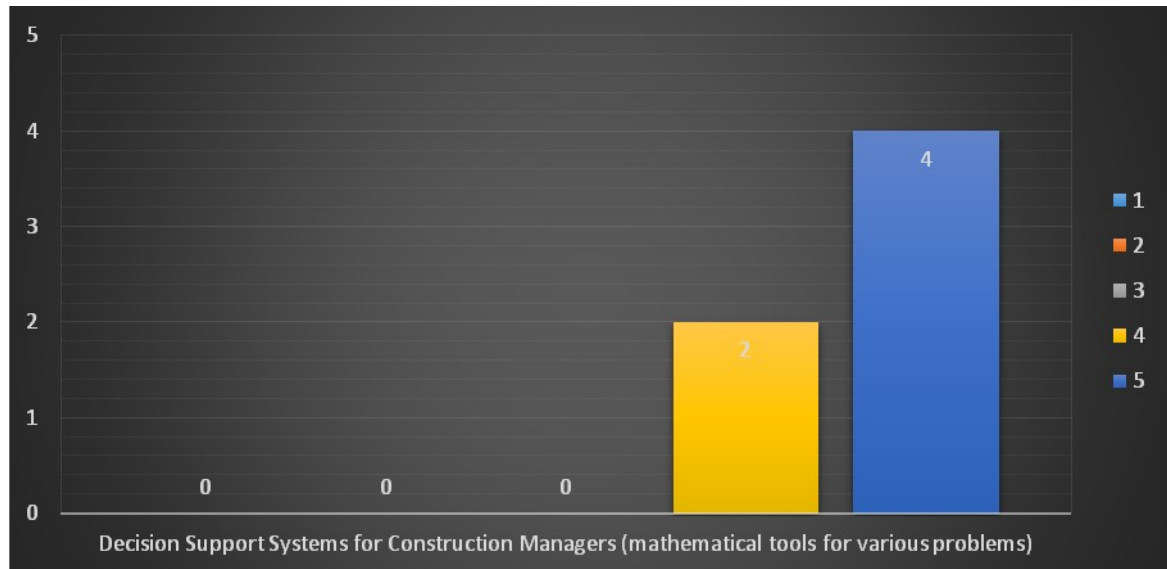
A1.2.4. Risk and Value Management

1	2	3	4	5	Number of observations	Average
0	0	0	0	6	6	5,00



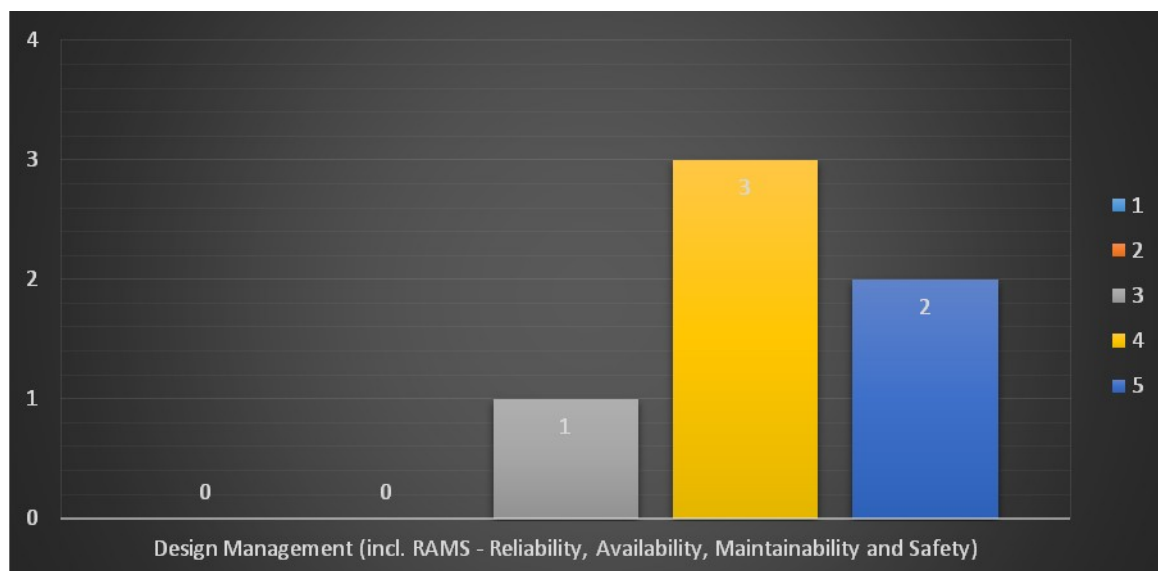
A1.2.5. Decision Support Systems for Construction Managers (mathematical tools for various problems)

1	2	3	4	5	Number of observations	Average
0	0	0	2	4	6	4,67



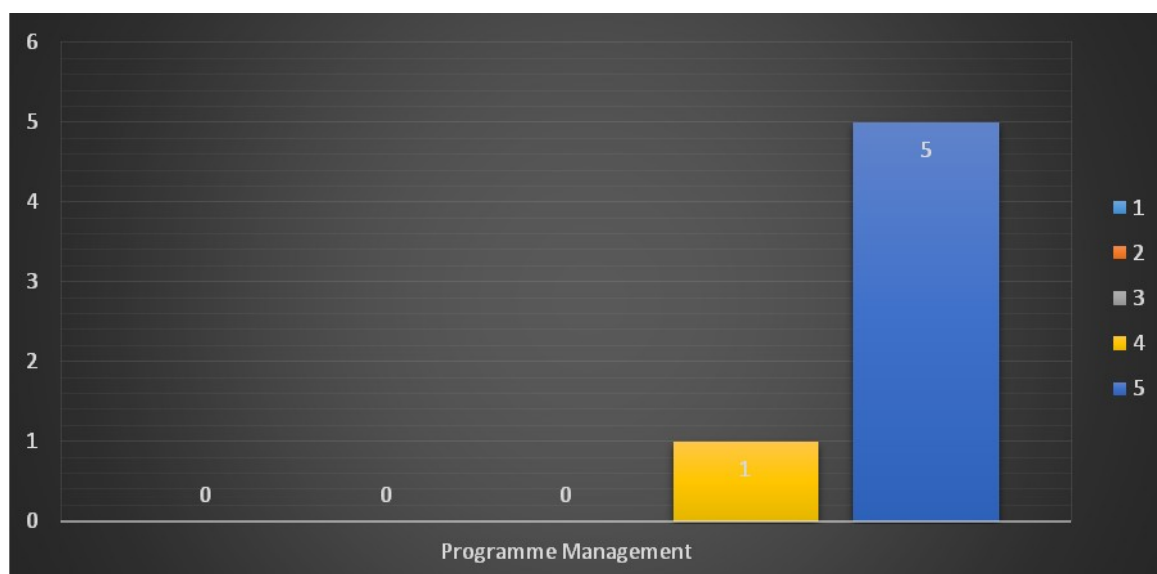
A1.2.6. Design Management (incl. RAMS - Reliability, Availability, Maintainability and Safety)

1	2	3	4	5	Number of observations	Average
0	0	1	3	2	6	4,17



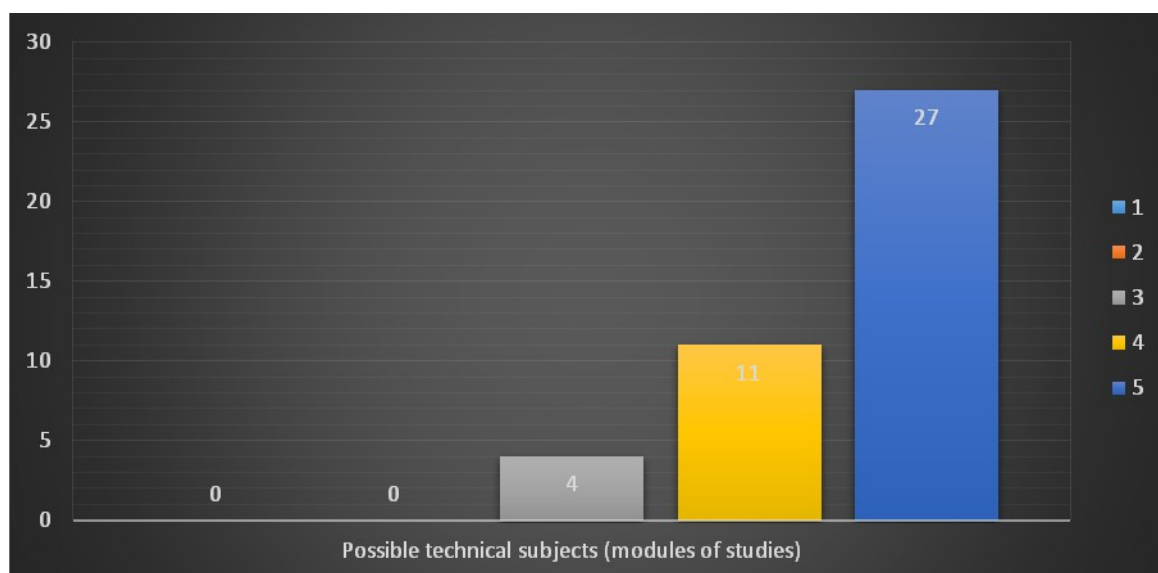
A1.2.7. Programme Management

1	2	3	4	5	Number of observations	Average
0	0	0	1	5	6	4,83



A1.2.8. Possible technical subjects (modules of studies) – summation

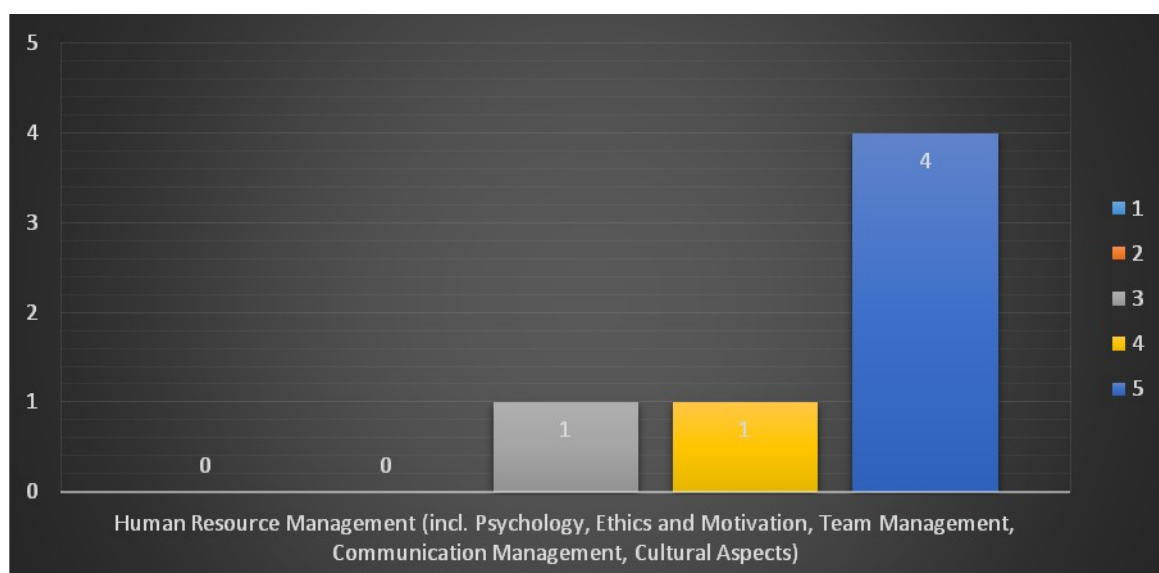
1	2	3	4	5	Number of observations	Average
0	0	4	11	27	42	4,55



A1.3. Possible subjects related to management in construction (modules of studies)

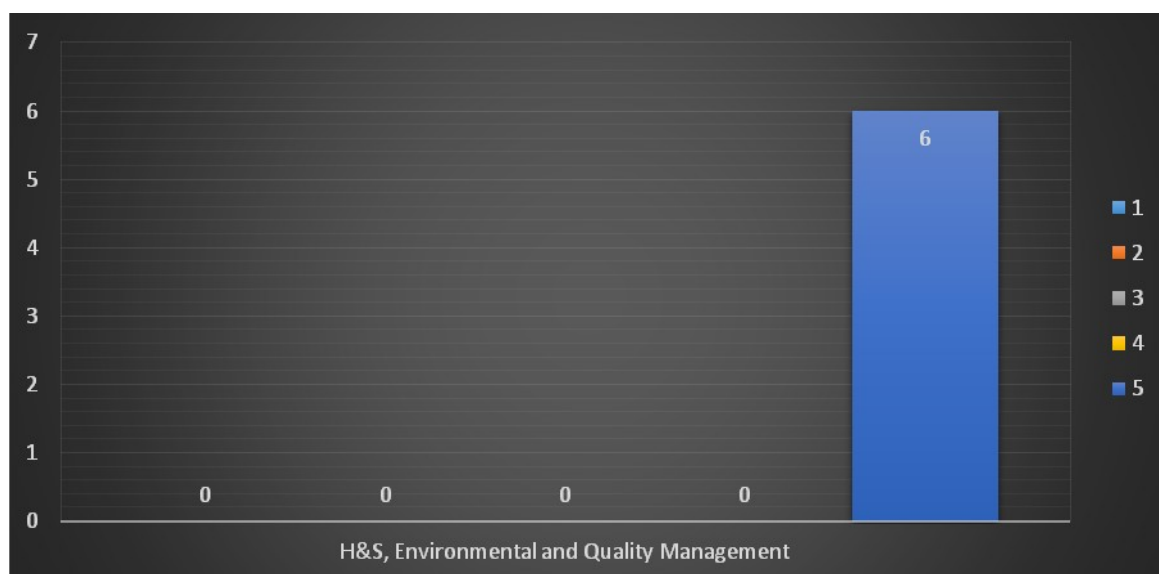
A1.3.1. Human Resource Management (incl. Psychology, Ethics and Motivation, Team Management, Communication Management, Cultural Aspects)

1	2	3	4	5	Number of observations	Average
0	0	1	1	4	6	4,50



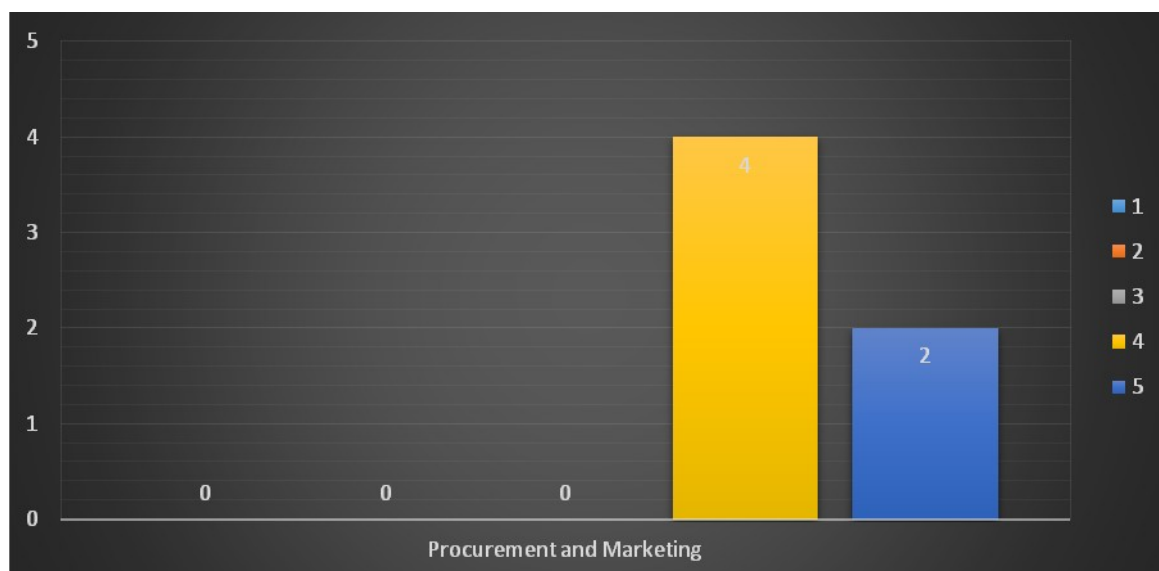
A1.3.2. H&S, Environmental and Quality Management

1	2	3	4	5	Number of observations	Average
0	0	0	0	6	6	5,00



A1.3.3. Procurement and Marketing

1	2	3	4	5	Number of observations	Average
0	0	0	4	2	6	4,33



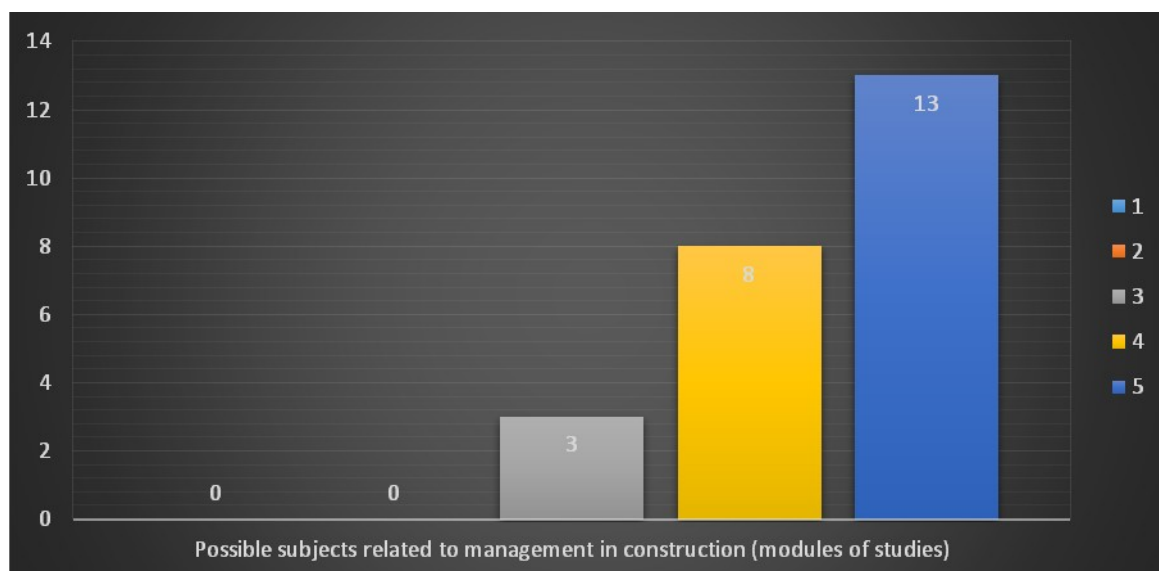
A1.3.4. Legal Aspects in Construction (Claims Management, Disputes, Change/Variations Management)

1	2	3	4	5	Number of observations	Average
0	0	2	3	1	6	3,83



A1.3.5. Possible subjects related to management in construction (modules of studies) – summary

1	2	3	4	5	Number of observations	Average
0	0	3	8	13	24	4,42



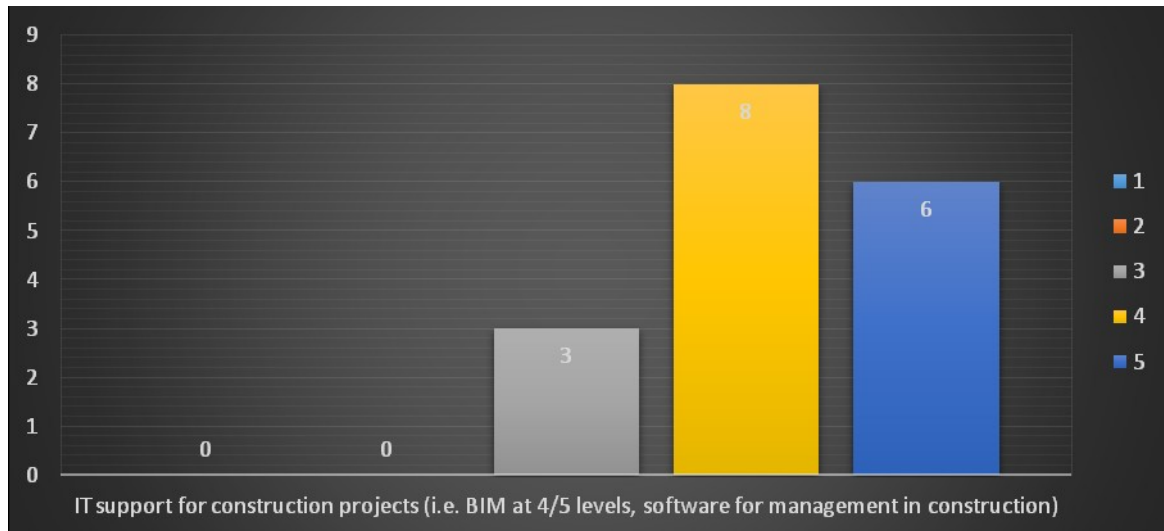
APPENDIX 2

Detailed results from PSMB

A2.1. Possible technical subjects (modules of studies)

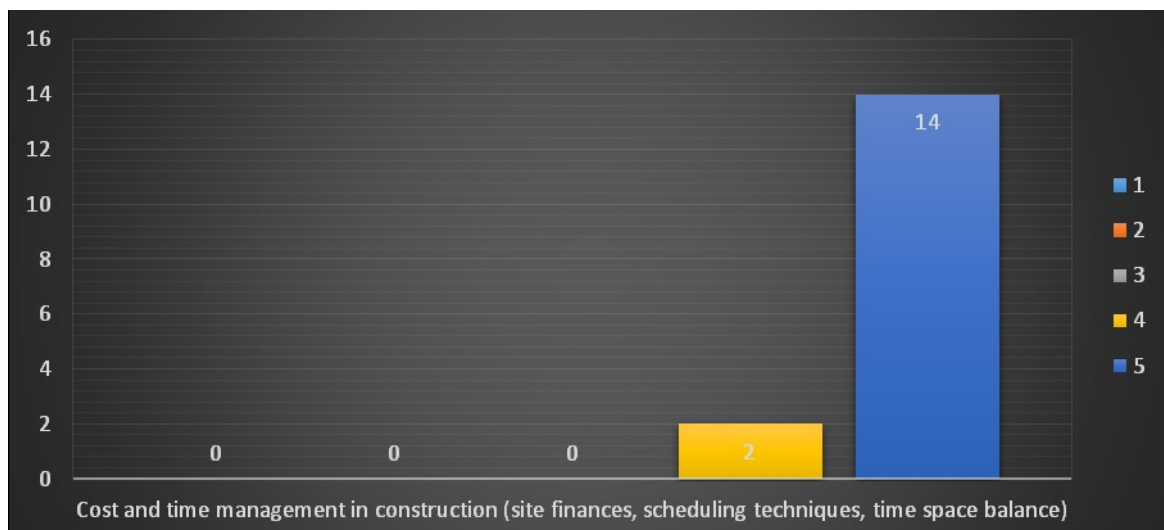
A2.1.1. IT support for construction projects (i.e. BIM at 4/5 levels, software for management in construction)

1	2	3	4	5	Number of observations	Average
0	0	3	8	6	17	4,18



A2.1.2. Cost and time management in construction (site finances, scheduling techniques, time space balance)

1	2	3	4	5	Number of observations	Average
0	0	0	2	14	16	4,88



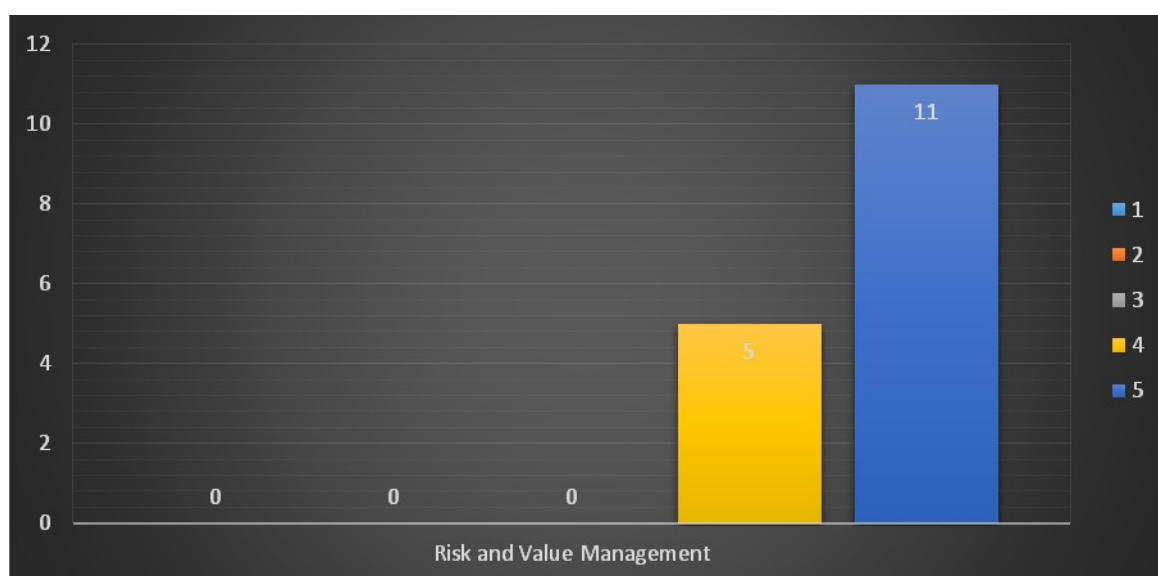
A2.1.3. Site Management (incl. elements of lean construction)

1	2	3	4	5	Number of observations	Average
0	0	0	5	11	16	4,69



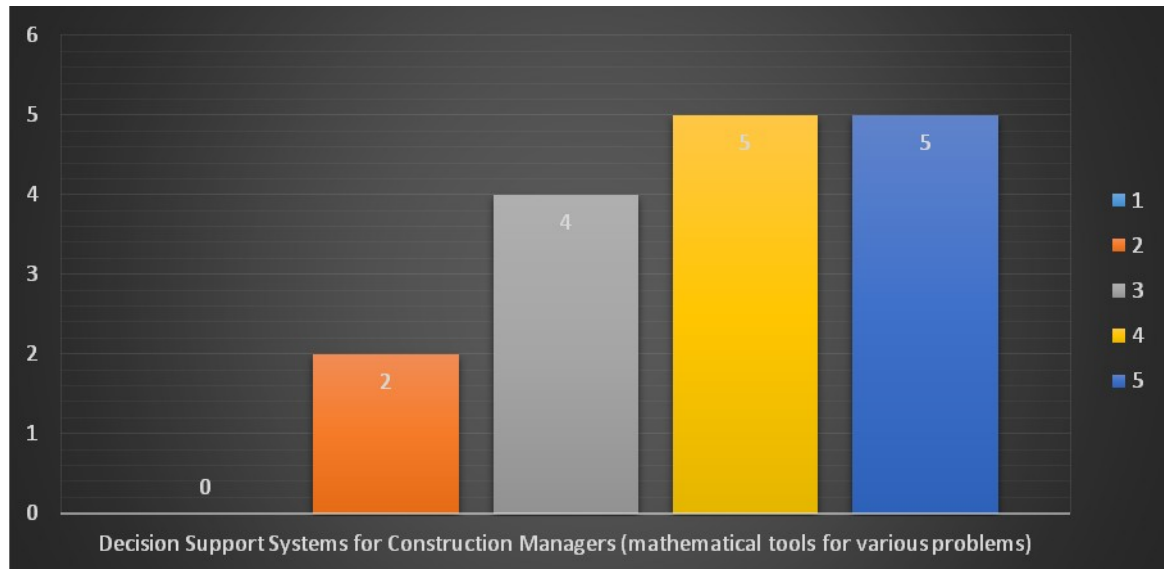
A2.1.4. Risk and Value Management

1	2	3	4	5	Number of observations	Average
0	0	0	5	11	16	4,69



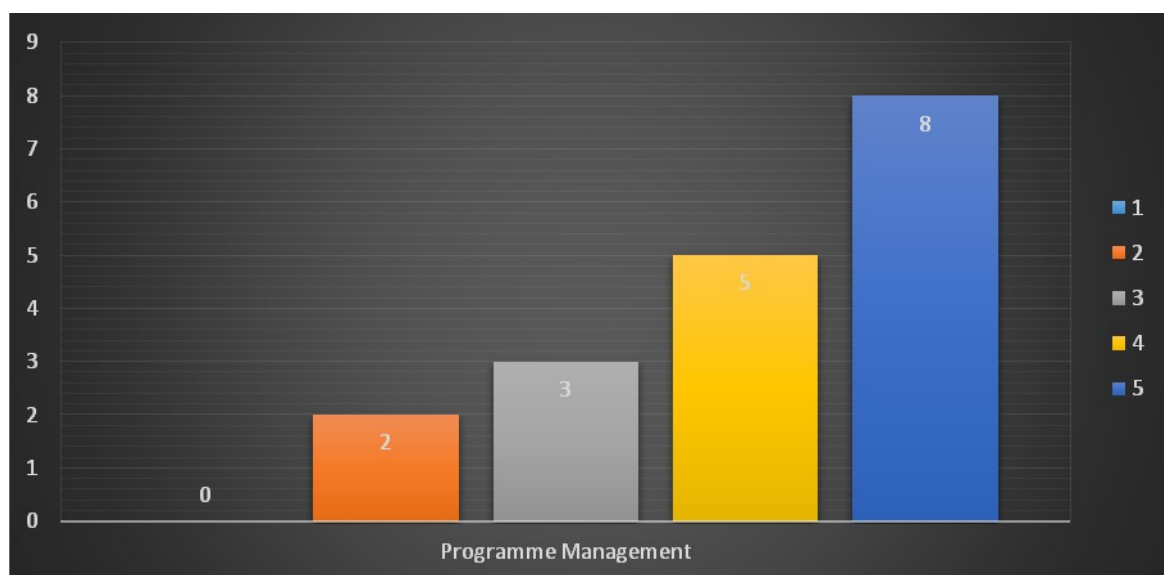
A2.1.5. Decision Support Systems for Construction Managers (mathematical tools for various problems)

1	2	3	4	5	Number of observations	Average
0	2	4	5	5	16	3,81



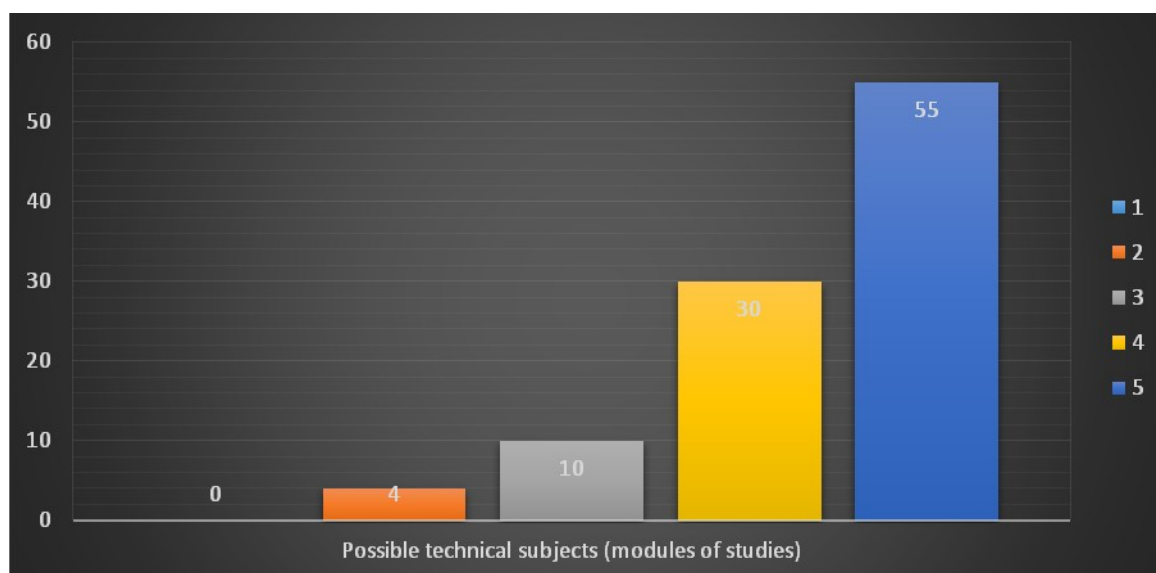
A2.1.6. Programme Management

1	2	3	4	5	Number of observations	Average
0	2	3	5	8	18	4,06



A2.1.7. Possible technical subjects (modules of studies) – summation

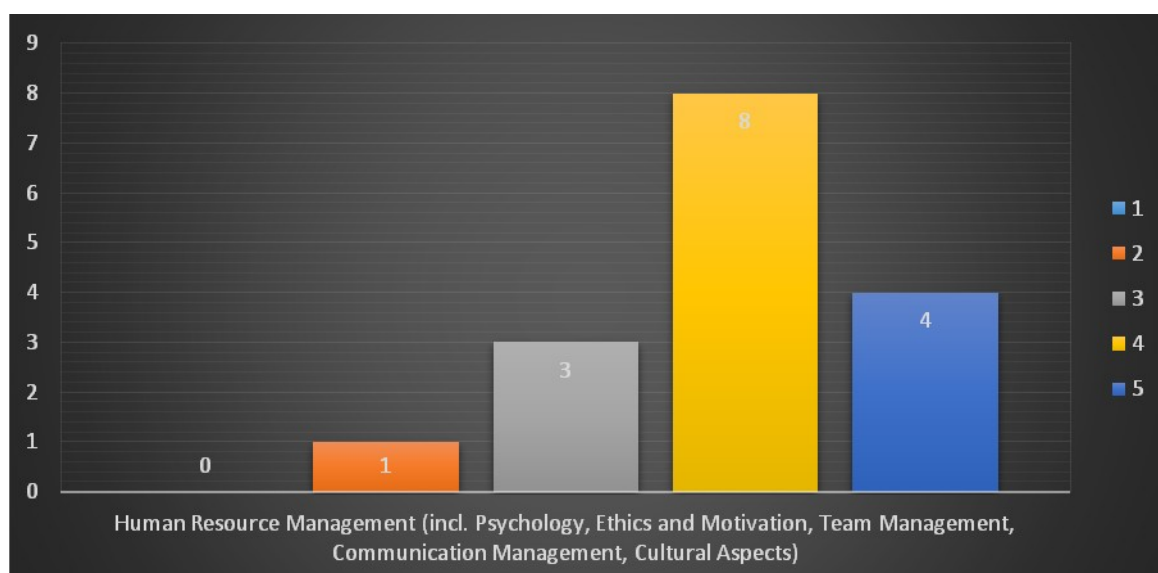
1	2	3	4	5	Number of observations	Average
0	4	10	30	55	99	4,37



A2.2. Possible subjects related to management in construction (modules of studies)

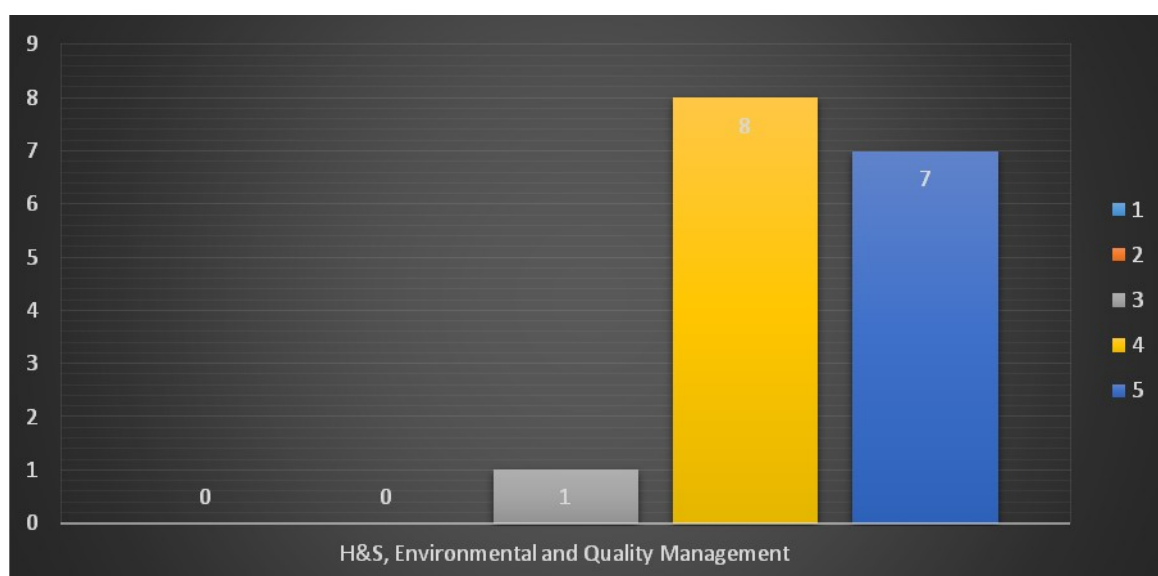
A2.2.1. Human Resource Management (incl. Psychology, Ethics and Motivation, Team Management, Communication Management, Cultural Aspects)

1	2	3	4	5	Number of observations	Average
0	1	3	8	4	16	3,94



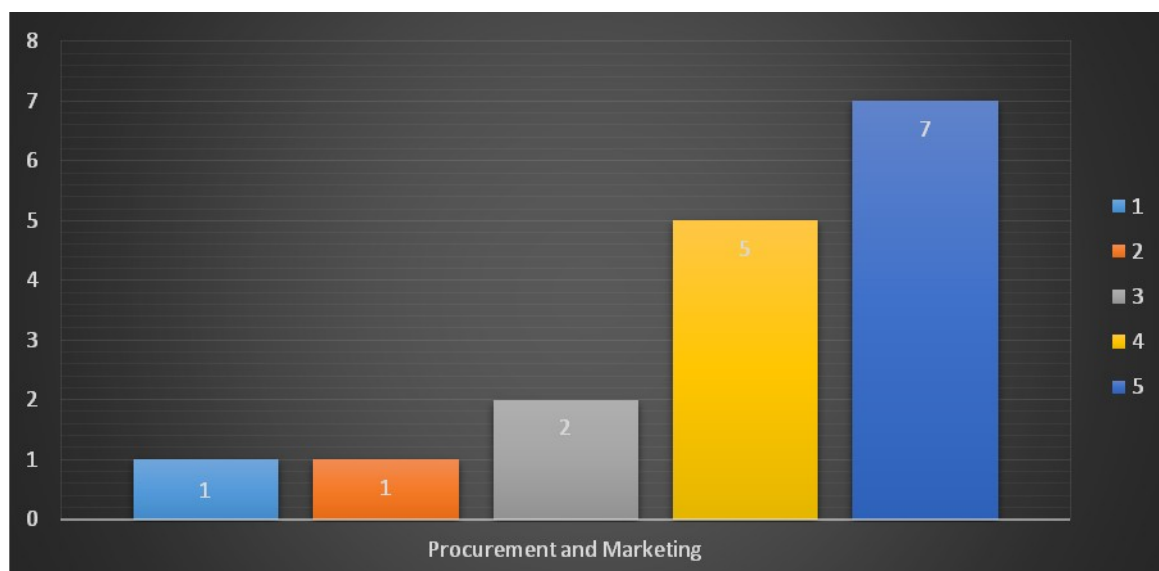
A2.2.2. H&S, Environmental and Quality Management

1	2	3	4	5	Number of observations	Average
0	0	1	8	7	16	4,38



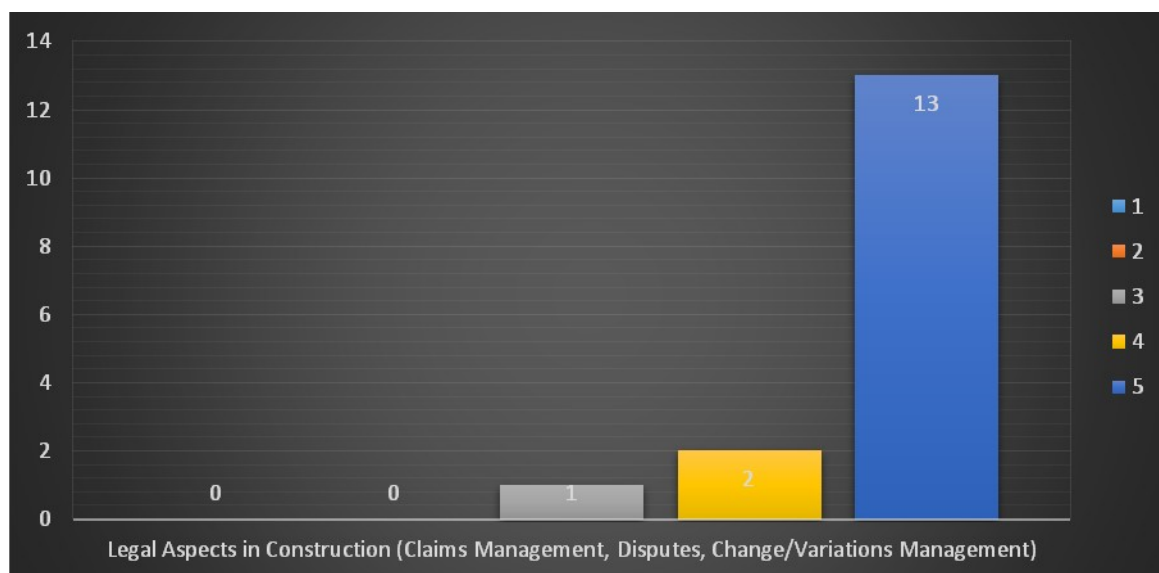
A2.2.3. Procurement and Marketing

1	2	3	4	5	Number of observations	Average
1	1	2	5	7	16	4,00



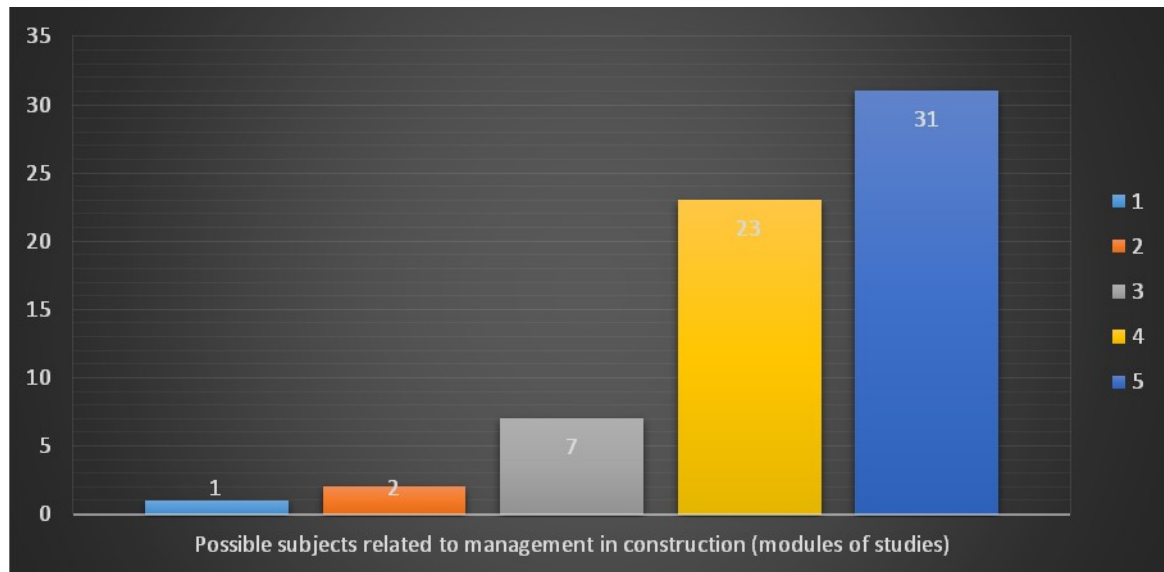
A2.2.4. Legal Aspects in Construction (Claims Management, Disputes, Change/Variations Management)

1	2	3	4	5	Number of observations	Average
0	0	1	2	13	16	4,75



A2.2.5. Possible subjects related to management in construction (modules of studies) – summary

1	2	3	4	5	Number of observations	Average
1	2	7	23	31	64	4,27

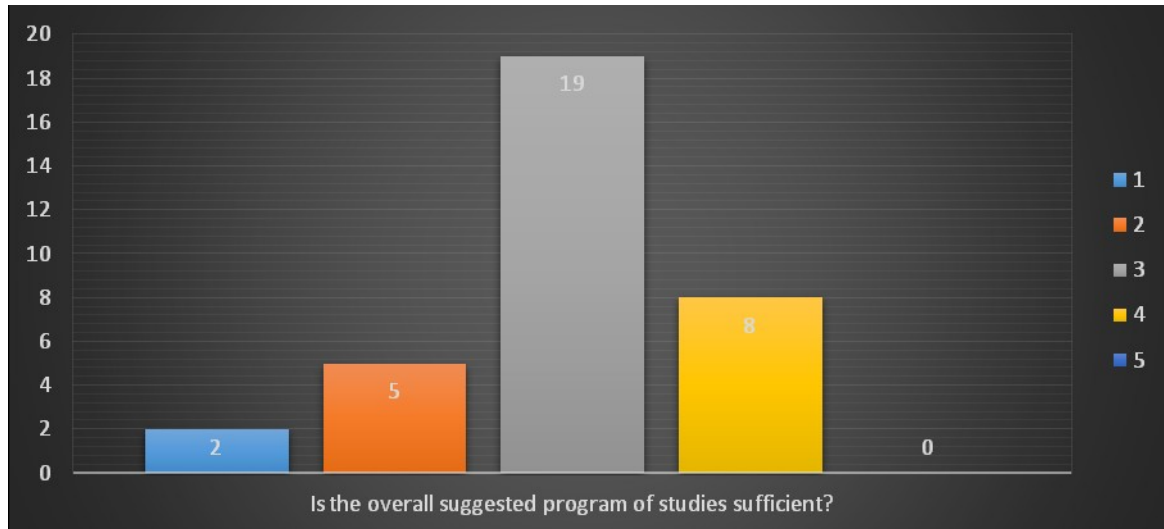


APPENDIX 3

Detailed results from PUT

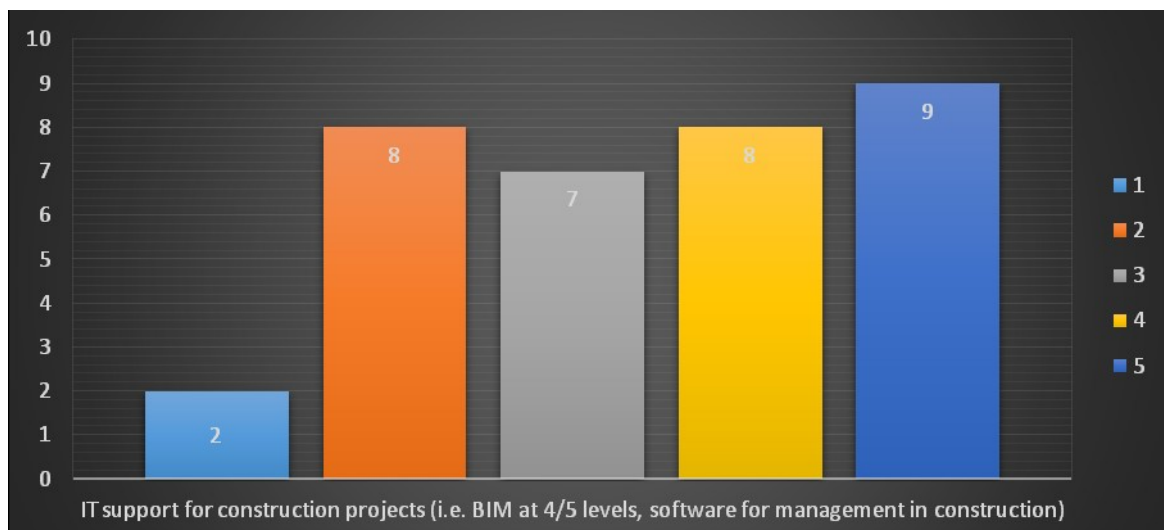
A3.1. Is the overall suggested program of studies sufficient?

1	2	3	4	5	Number of observations	Average
2	5	19	8	0	34	2,97

**A3.2. Possible technical subjects (modules of studies)**

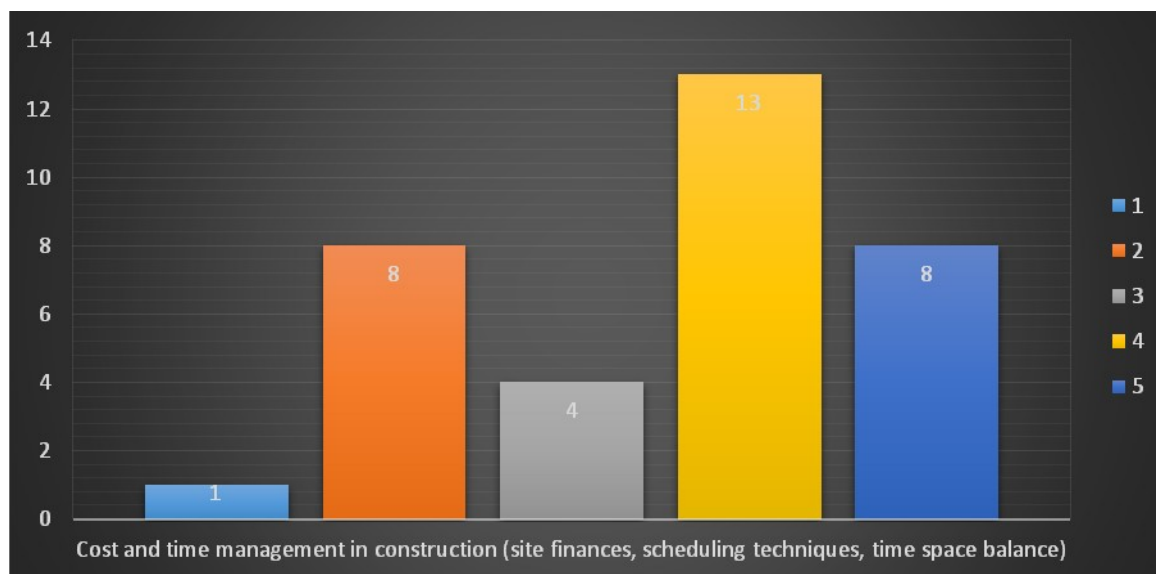
A3.2.1. IT support for construction projects (i.e. BIM at 4/5 levels, software for management in construction)

1	2	3	4	5	Number of observations	Average
2	8	7	8	9	34	3,41



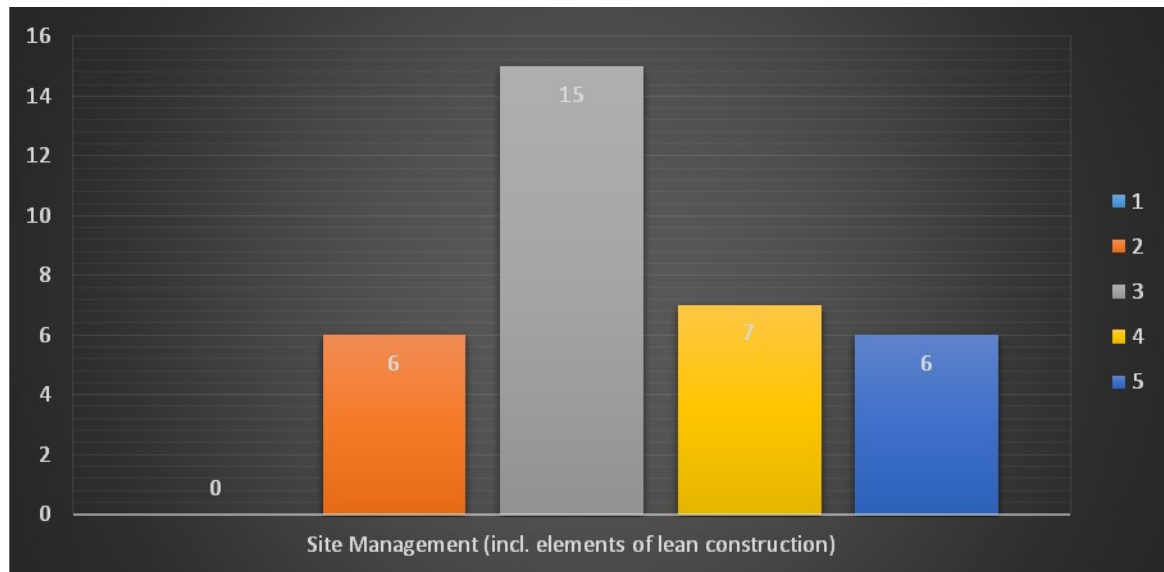
A3.2.2. Cost and time management in construction (site finances, scheduling techniques, time space balance)

1	2	3	4	5	Number of observations	Average
1	8	4	13	8	34	3,56



A3.2.3. Site Management (incl. elements of lean construction)

1	2	3	4	5	Number of observations	Average
0	6	15	7	6	34	3,38



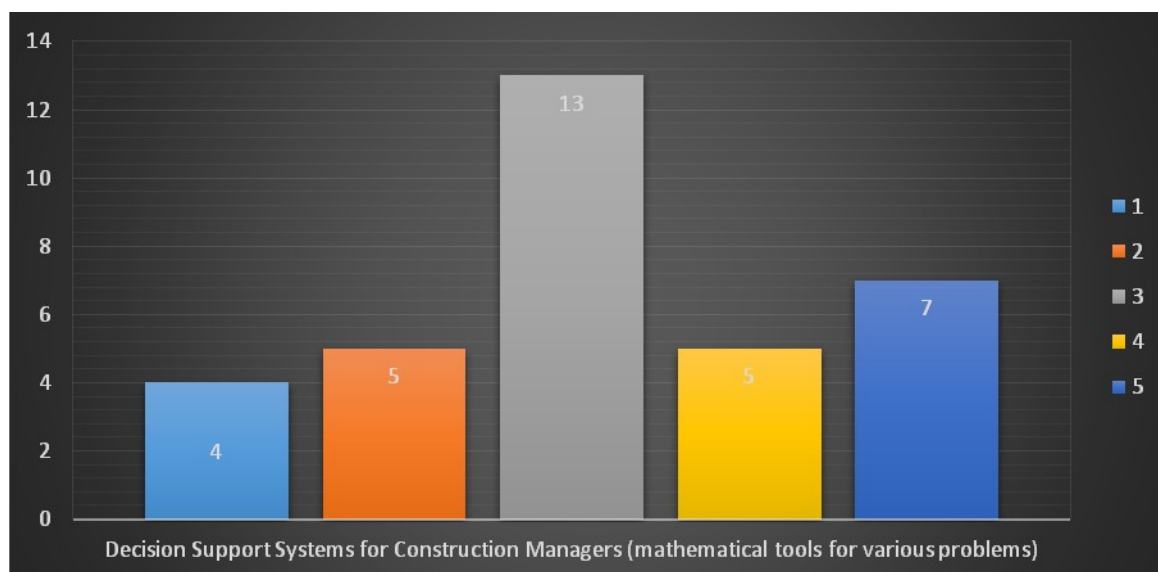
A3.2.4. Risk and Value Management

1	2	3	4	5	Number of observations	Average
5	7	10	6	6	34	3,03



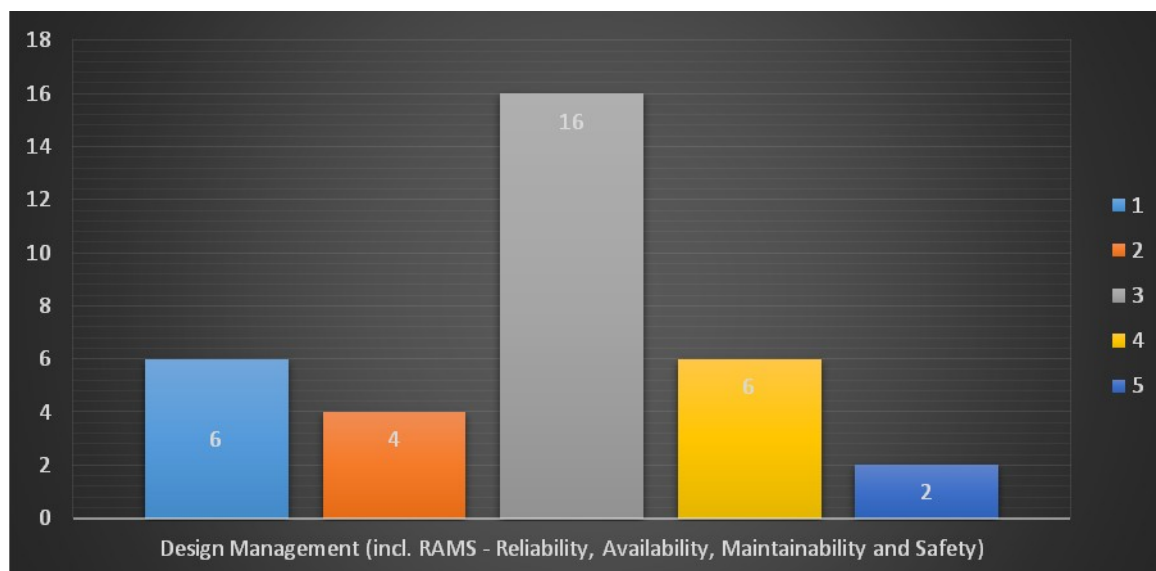
A3.2.5. Decision Support Systems for Construction Managers (mathematical tools for various problems)

1	2	3	4	5	Number of observations	Average
4	5	13	5	7	34	3,18



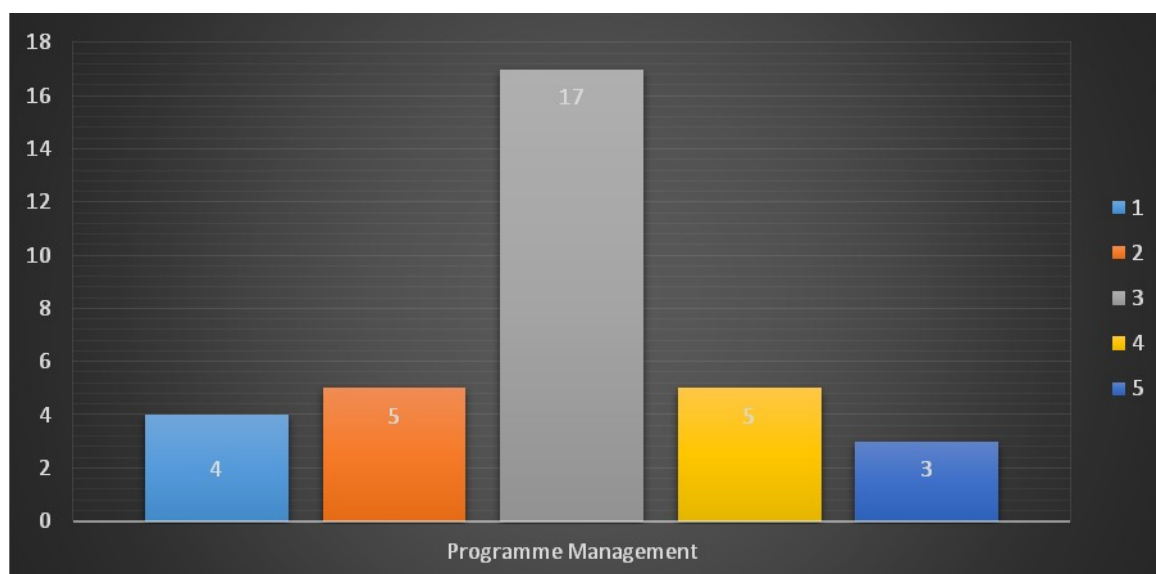
A3.2.6. Design Management (incl. RAMS - Reliability, Availability, Maintainability and Safety)

1	2	3	4	5	Number of observations	Average
6	4	16	6	2	34	2,82



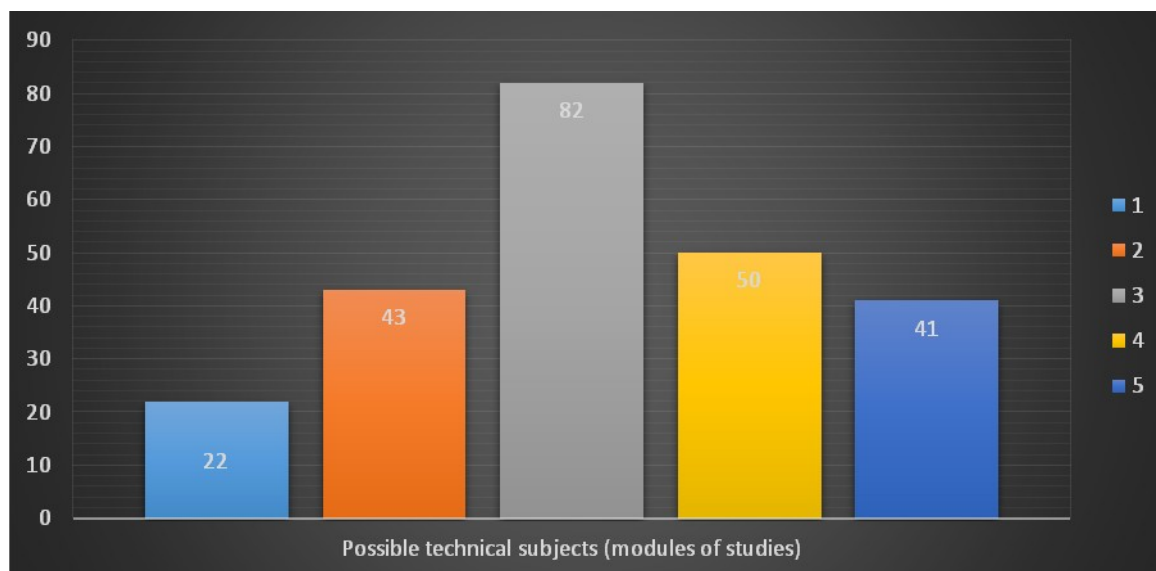
A3.2.7. Programme Management

1	2	3	4	5	Number of observations	Average
4	5	17	5	3	34	2,94



A3.2.8. Possible technical subjects (modules of studies) – summation

1	2	3	4	5	Number of observations	Average
22	43	82	50	41	238	3,19



A3.3. Possible subjects related to management in construction (modules of studies)

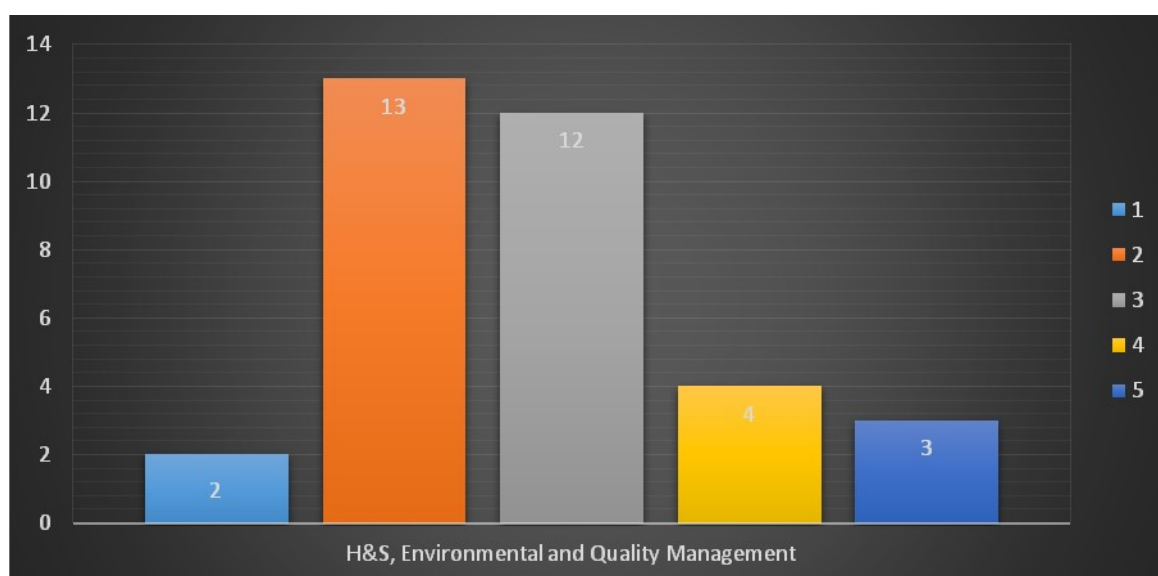
A3.3.1. Human Resource Management (incl. Psychology, Ethics and Motivation, Team Management, Communication Management, Cultural Aspects)

1	2	3	4	5	Number of observations	Average
5	11	5	9	4	34	2,88



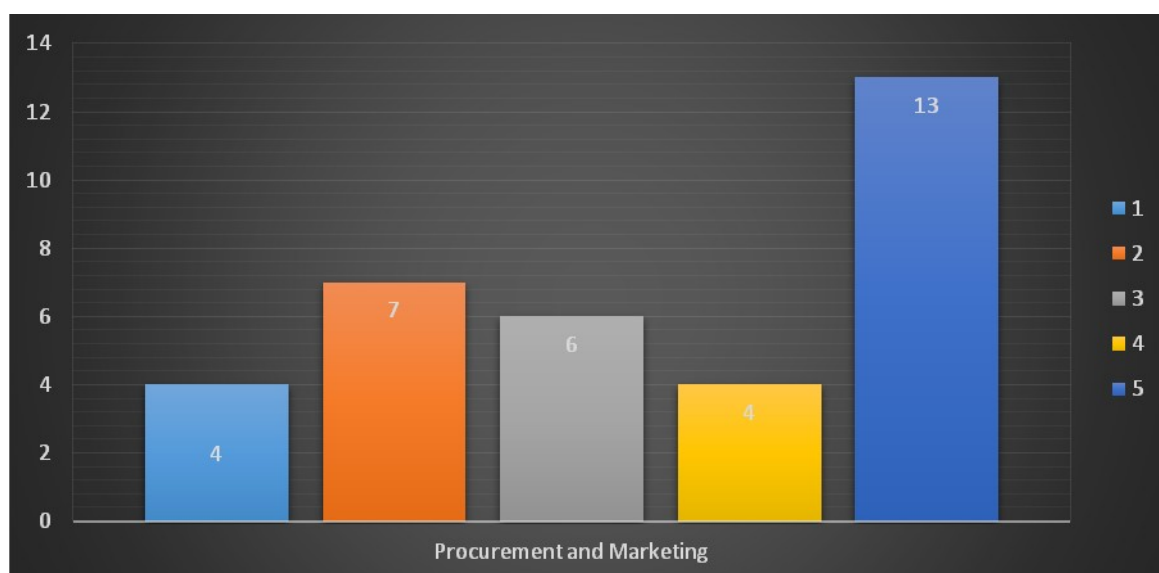
A3.3.2. H&S, Environmental and Quality Management

1	2	3	4	5	Number of observations	Average
2	13	12	4	3	34	2,79



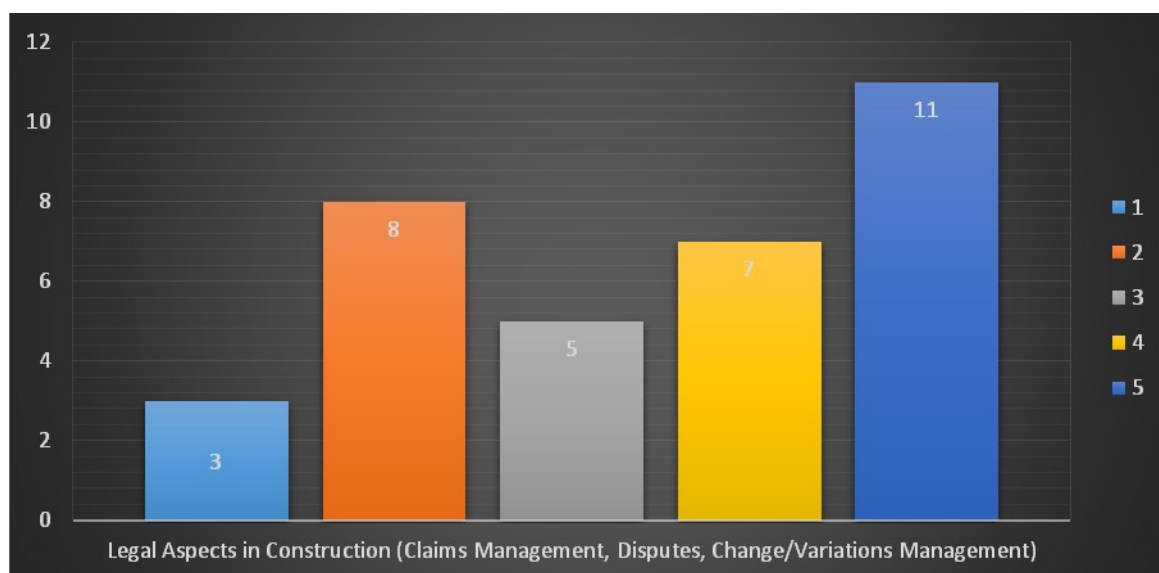
A3.3.3. Procurement and Marketing

1	2	3	4	5	Number of observations	Average
4	7	6	4	13	34	3,44



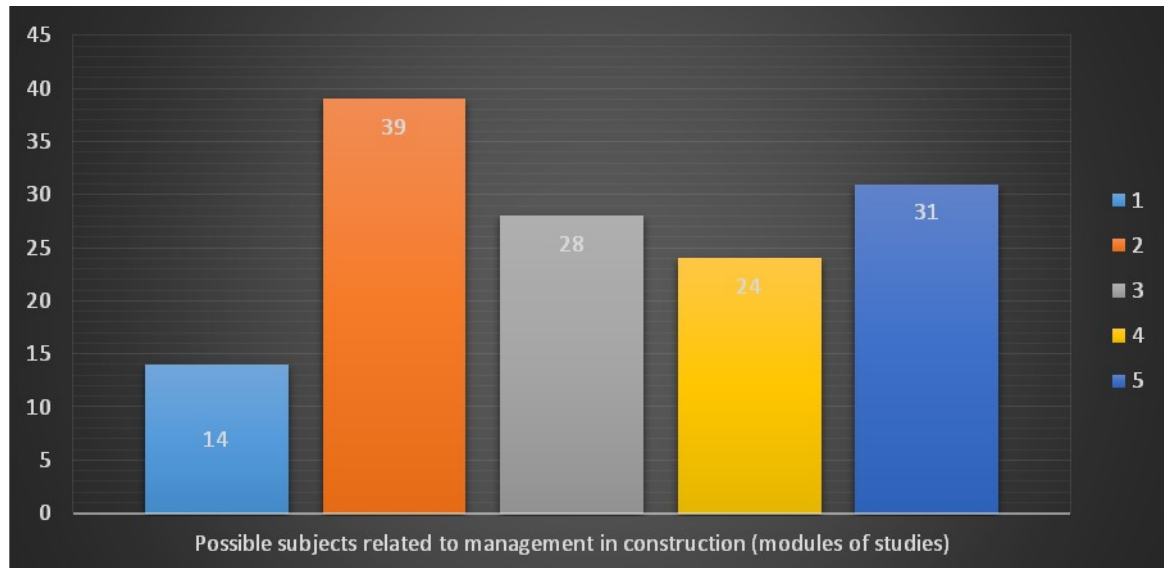
A3.3.4. Legal Aspects in Construction (Claims Management, Disputes, Change/Variations Management)

1	2	3	4	5	Number of observations	Average
3	8	5	7	11	34	3,44



A3.3.5. Possible subjects related to management in construction (modules of studies) – summary

1	2	3	4	5	Number of observations	Average
14	39	28	24	31	136	3,14

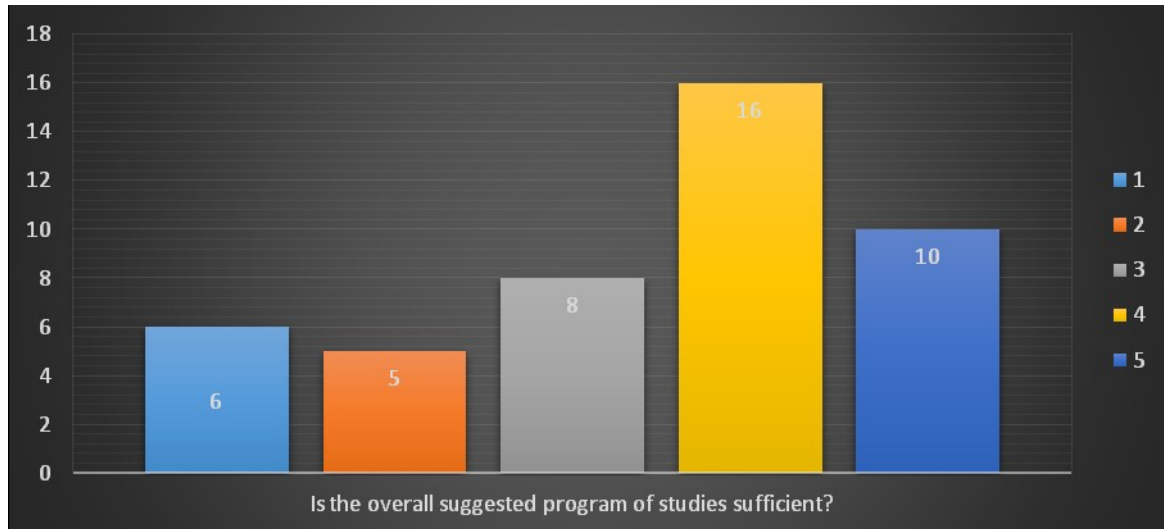


APPENDIX 4

Detailed results from PUV

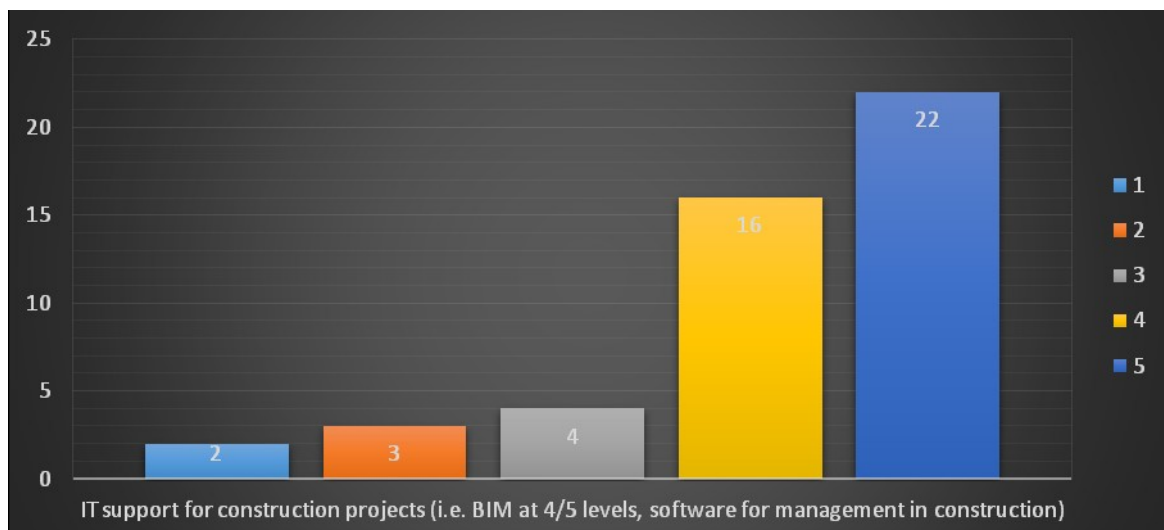
A4.1. Is the overall suggested program of studies sufficient?

1	2	3	4	5	Number of observations	Average
6	5	8	16	10	45	3,42

**A4.2. Possible technical subjects (modules of studies)**

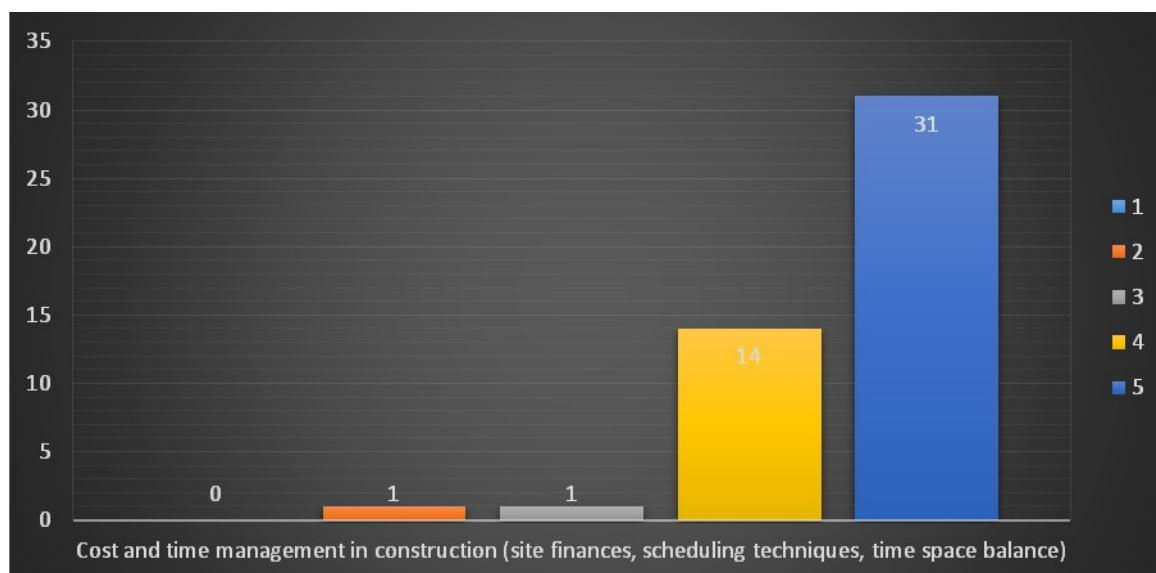
A4.2.1. IT support for construction projects (i.e. BIM at 4/5 levels, software for management in construction)

1	2	3	4	5	Number of observations	Average
2	3	4	16	22	47	4,13



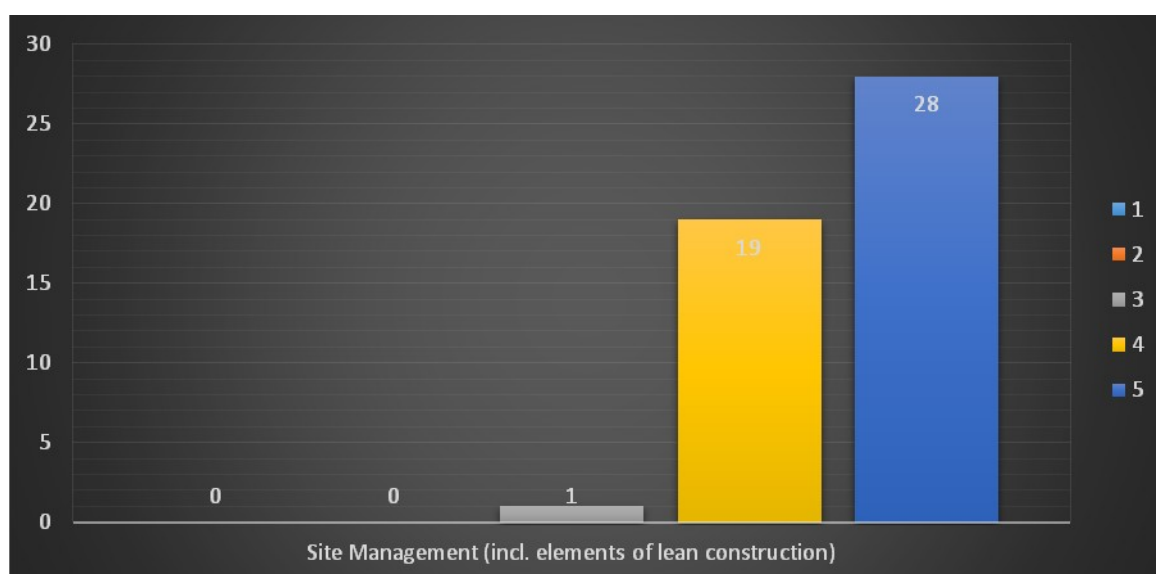
A4.2.2. Cost and time management in construction (site finances, scheduling techniques, time space balance)

1	2	3	4	5	Number of observations	Average
0	1	1	14	31	47	4,60



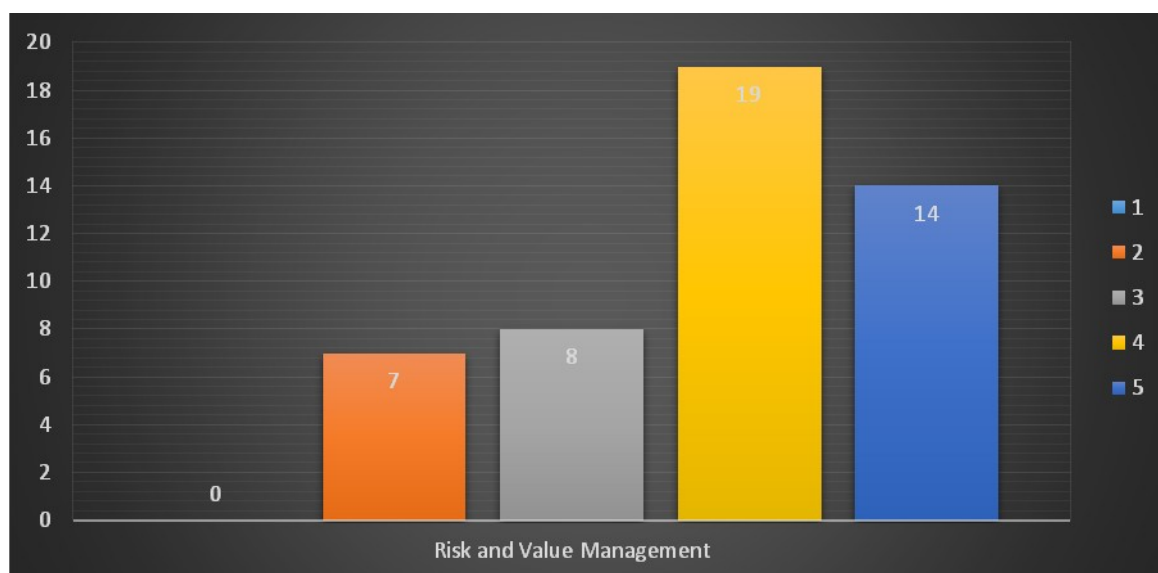
A4.2.3. Site Management (incl. elements of lean construction)

1	2	3	4	5	Number of observations	Average
0	0	1	19	28	48	4,56



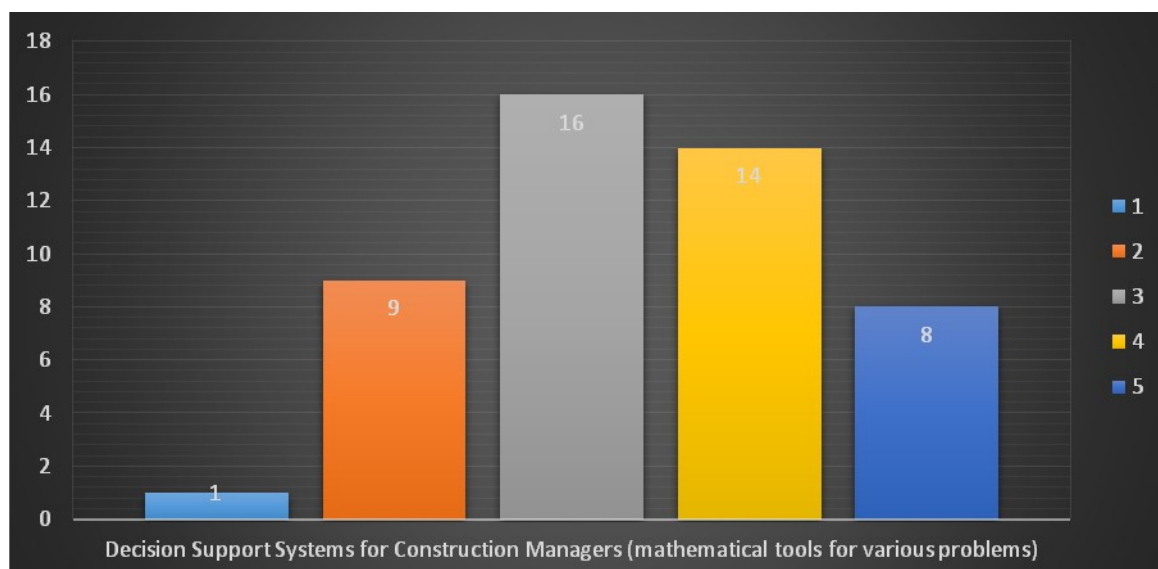
A4.2.4. Risk and Value Management

1	2	3	4	5	Number of observations	Average
0	7	8	19	14	48	3,83



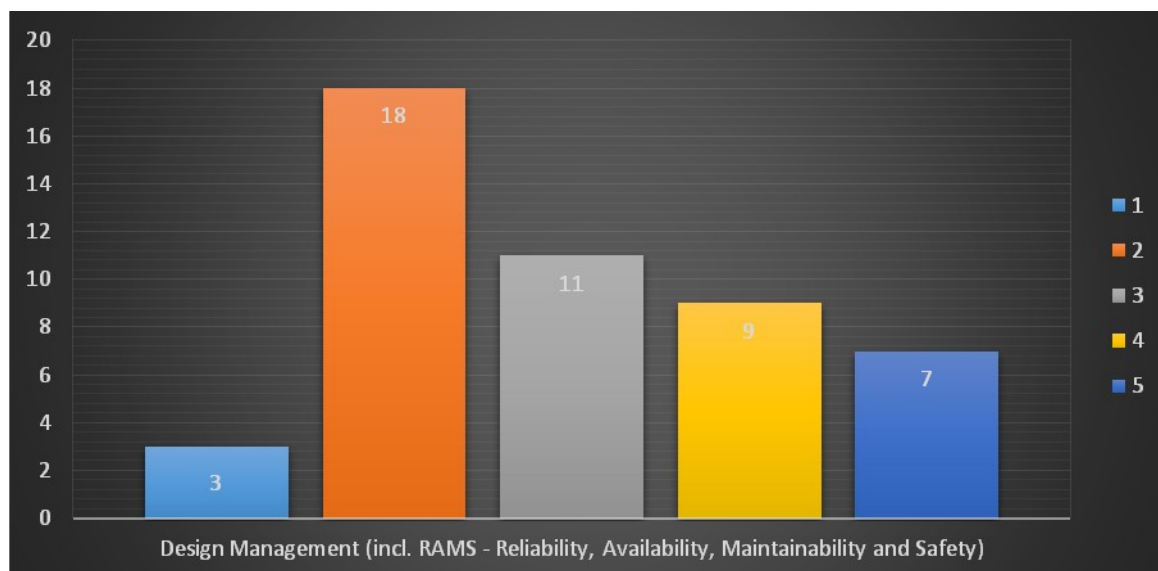
A4.2.5. Decision Support Systems for Construction Managers (mathematical tools for various problems)

1	2	3	4	5	Number of observations	Average
1	9	16	14	8	48	3,40



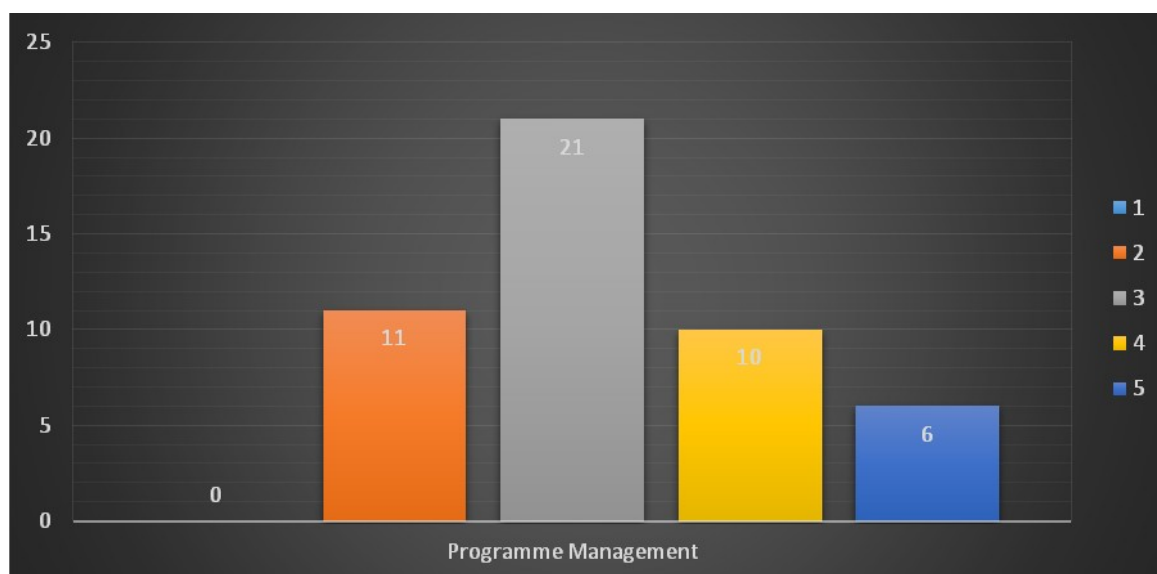
A4.2.6. Design Management (incl. RAMS - Reliability, Availability, Maintainability and Safety)

1	2	3	4	5	Number of observations	Average
3	18	11	9	7	48	2,98



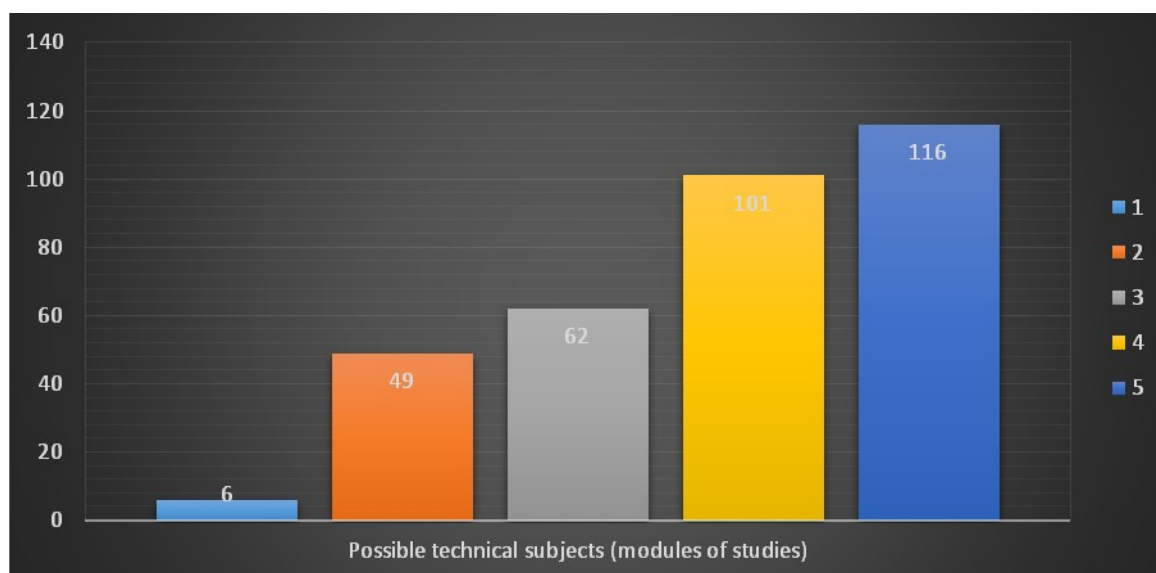
A4.2.7. Programme Management

1	2	3	4	5	Number of observations	Average
0	11	21	10	6	48	3,23



A4.2.8. Possible technical subjects (modules of studies) – summation

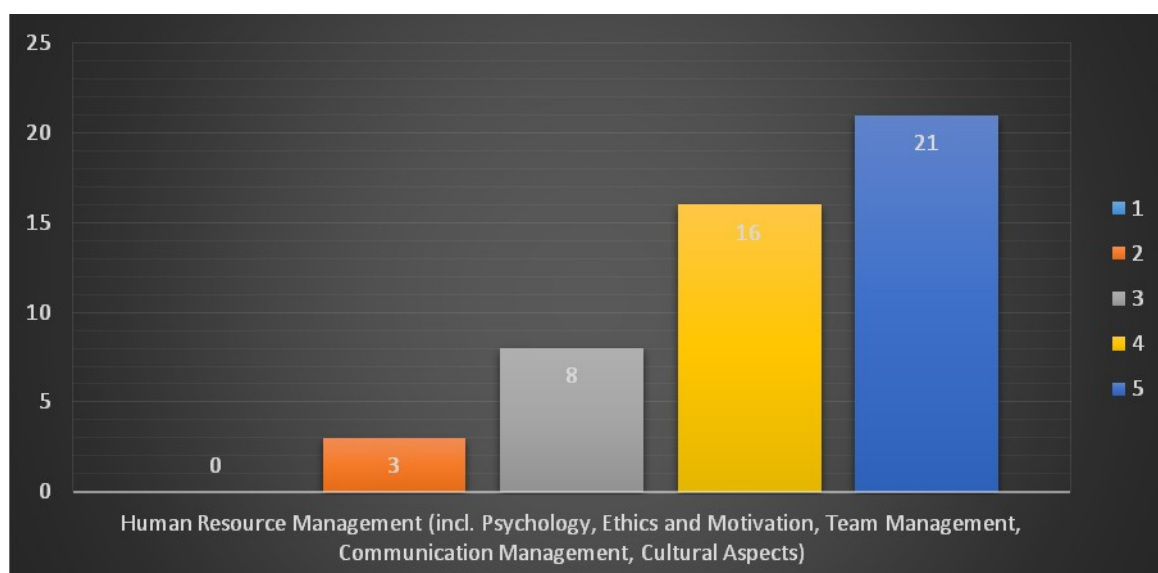
1	2	3	4	5	Number of observations	Average
6	49	62	101	116	334	3,81



A4.3. Possible subjects related to management in construction (modules of studies)

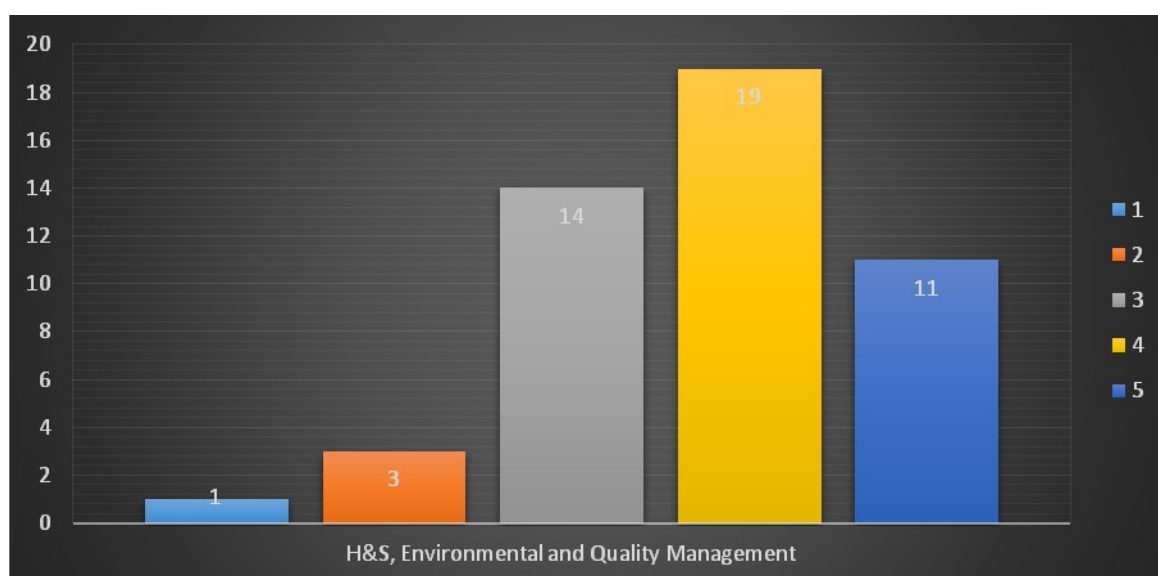
A4.3.1. Human Resource Management (incl. Psychology, Ethics and Motivation, Team Management, Communication Management, Cultural Aspects)

1	2	3	4	5	Number of observations	Average
0	3	8	16	21	48	4,15



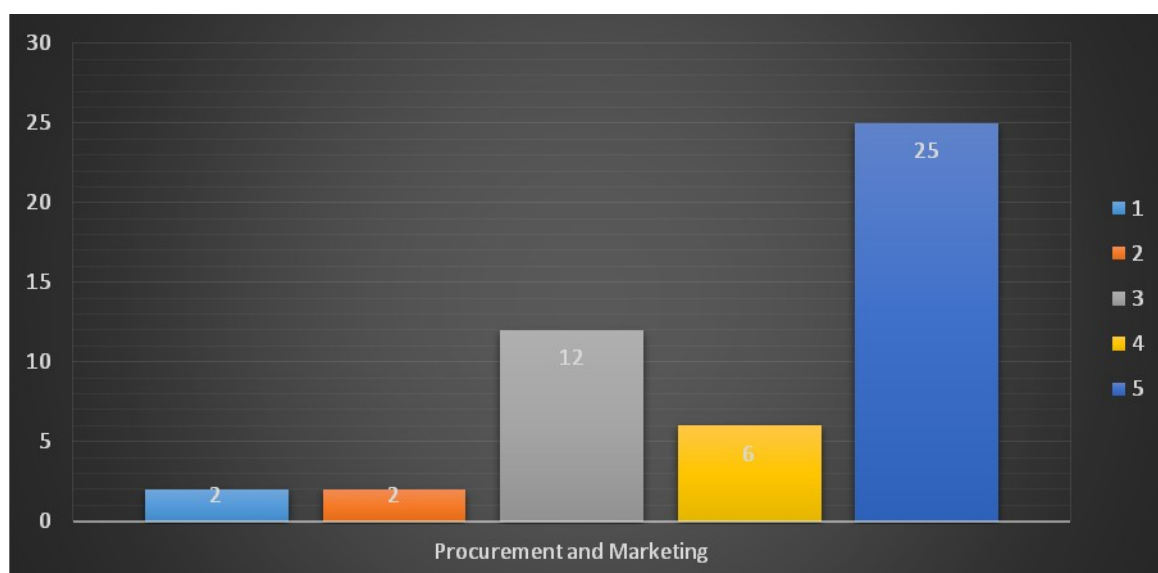
A4.3.2. H&S, Environmental and Quality Management

1	2	3	4	5	Number of observations	Average
1	3	14	19	11	48	3,75



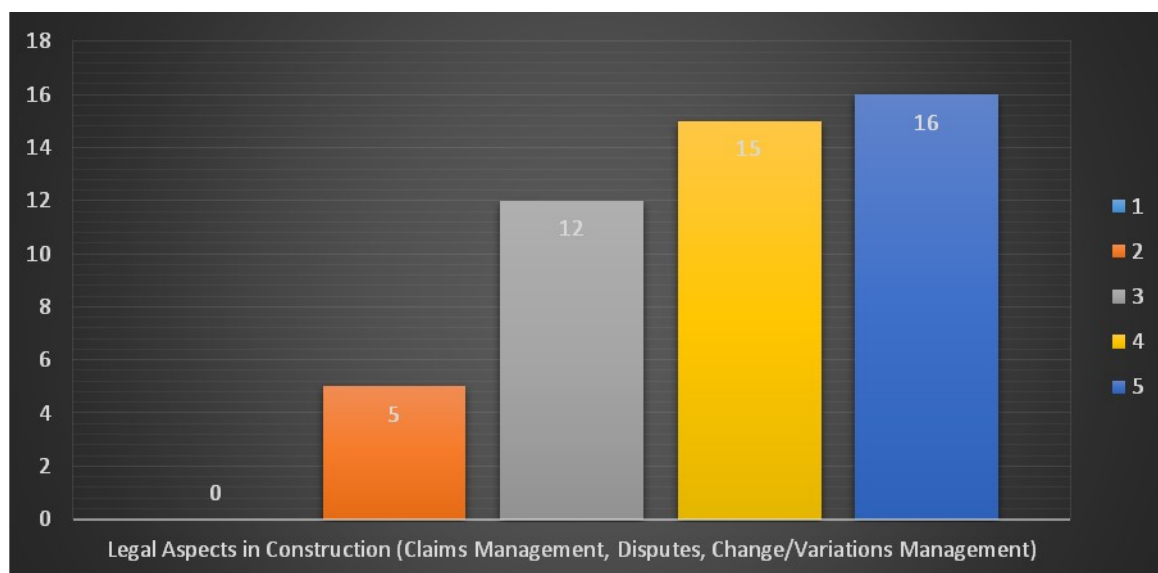
A4.3.3. Procurement and Marketing

1	2	3	4	5	Number of observations	Average
2	2	12	6	25	47	4,06



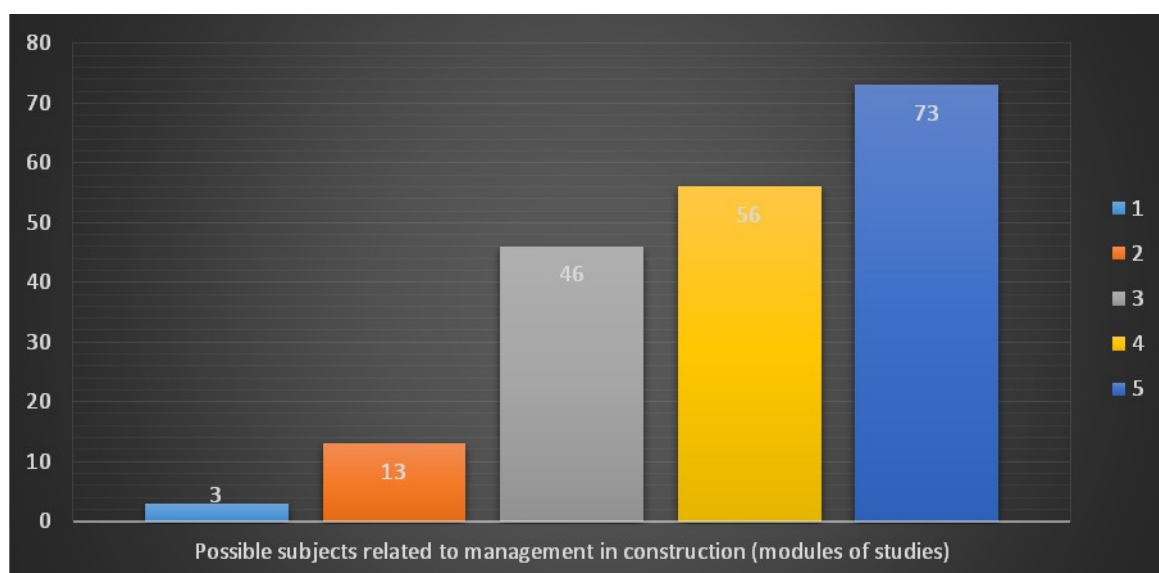
A4.3.4. Legal Aspects in Construction (Claims Management, Disputes, Change/Variations Management)

1	2	3	4	5	Number of observations	Average
0	5	12	15	16	48	3,88



A4.3.5. Possible subjects related to management in construction (modules of studies) – summary

1	2	3	4	5	Number of observations	Average
3	13	46	56	73	191	3,96

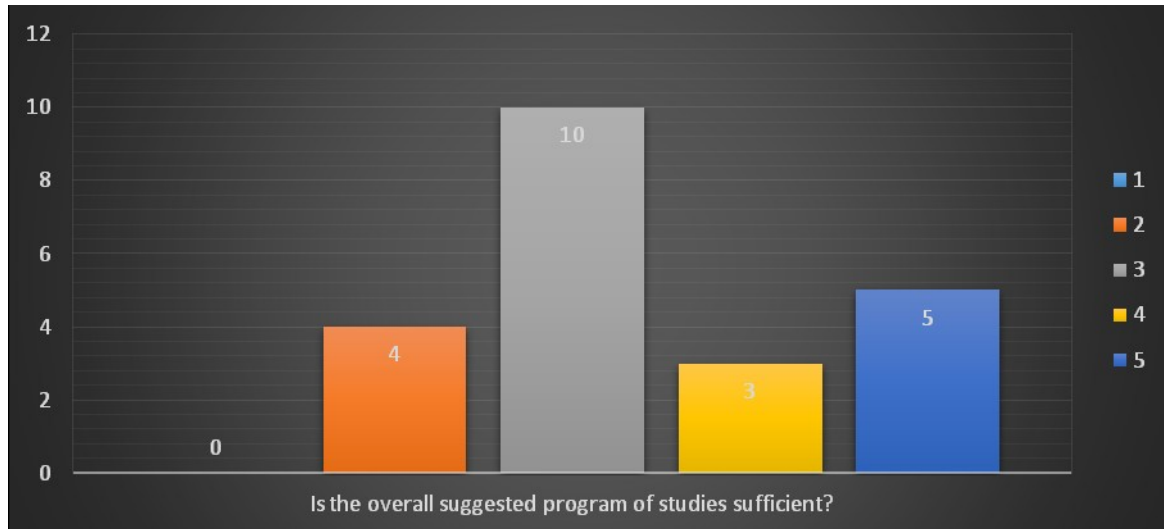


APPENDIX 5

Detailed results from UMINHO

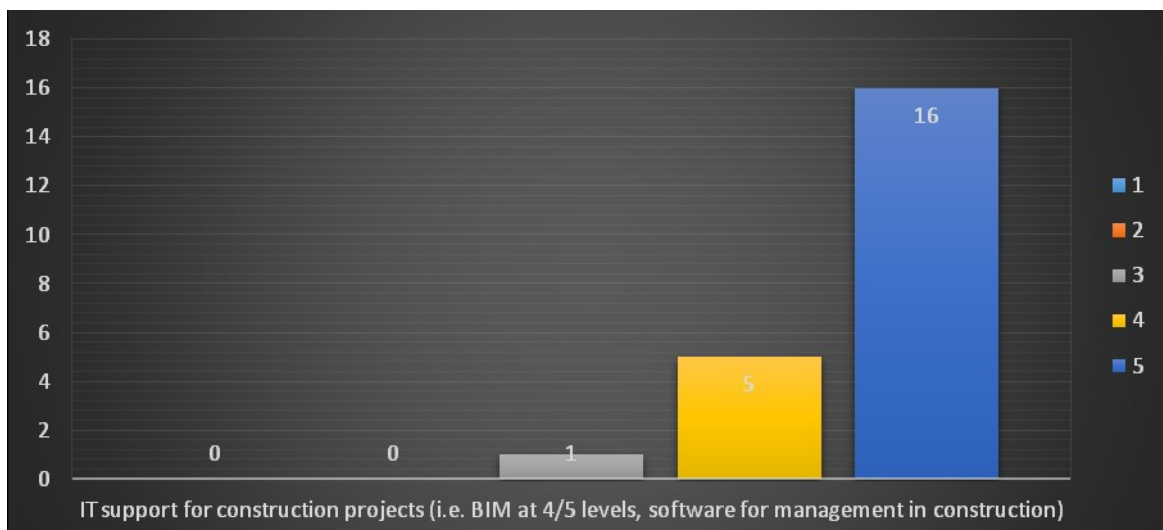
A5.1. Is the overall suggested program of studies sufficient?

1	2	3	4	5	Number of observations	Average
0	4	10	3	5	22	3,41

**A5.2. Possible technical subjects (modules of studies)**

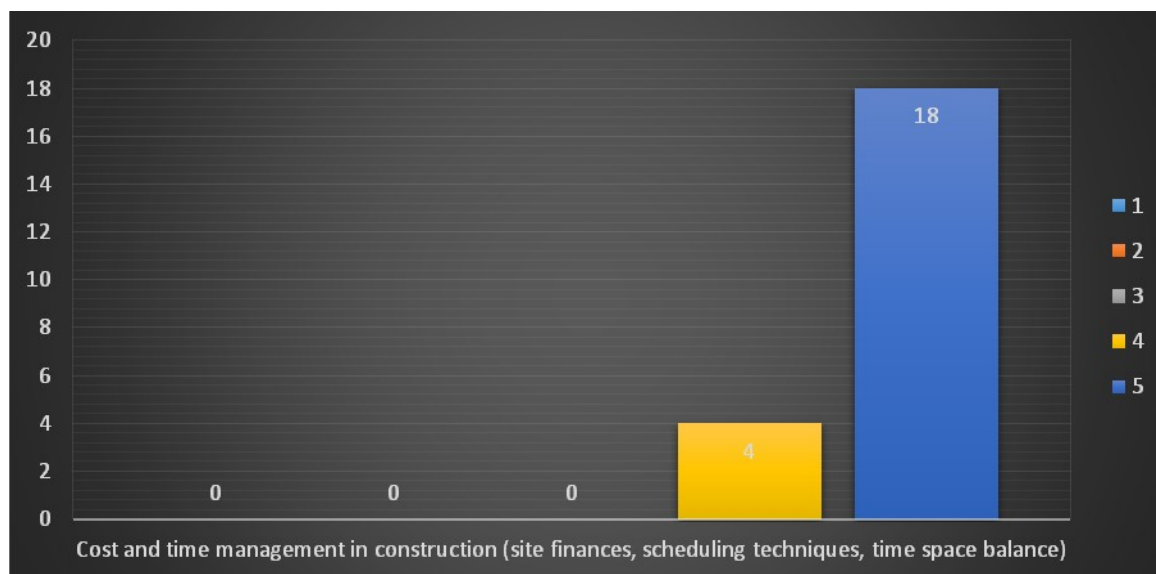
A5.2.1. IT support for construction projects (i.e. BIM at 4/5 levels, software for management in construction)

1	2	3	4	5	Number of observations	Average
0	0	1	5	16	22	4,68



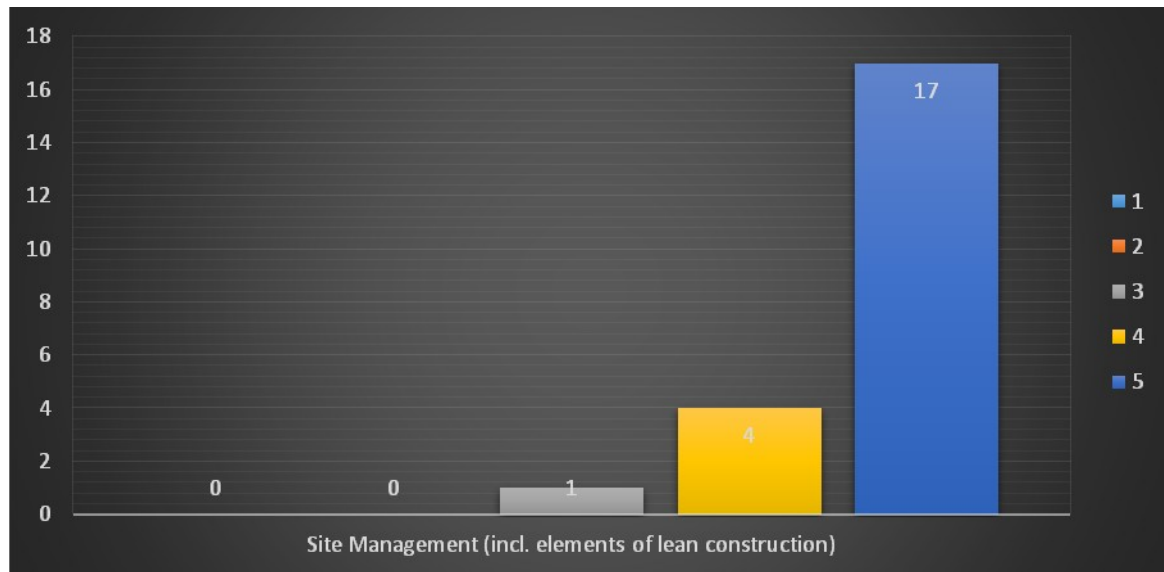
A5.2.2. Cost and time management in construction (site finances, scheduling techniques, time space balance)

1	2	3	4	5	Number of observations	Average
0	0	0	4	18	22	4,82



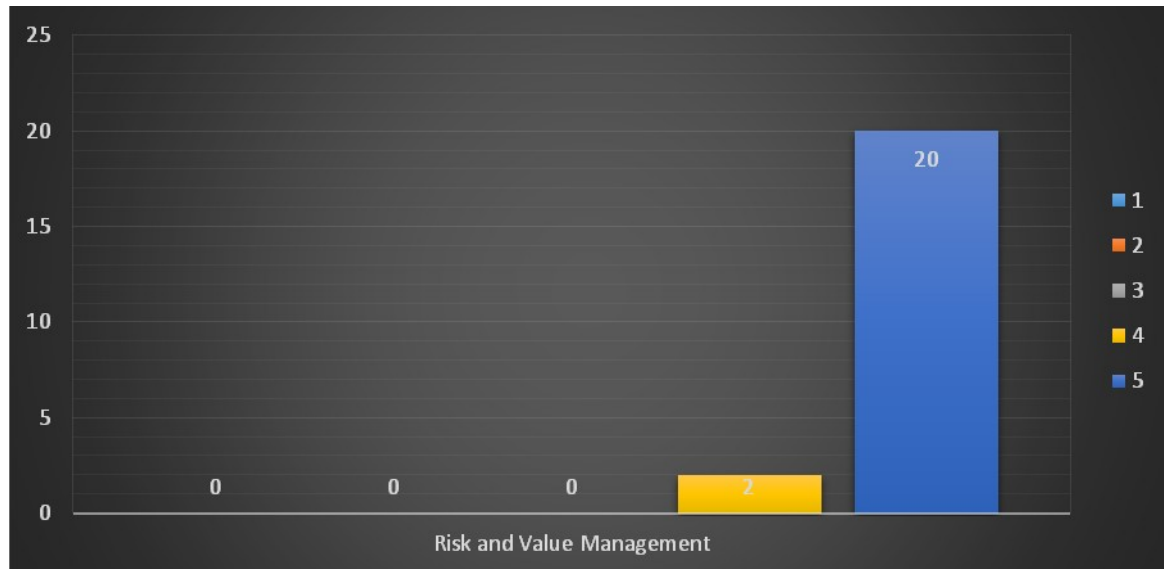
A5.2.3. Site Management (incl. elements of lean construction)

1	2	3	4	5	Number of observations	Average
0	0	1	4	17	22	4,73



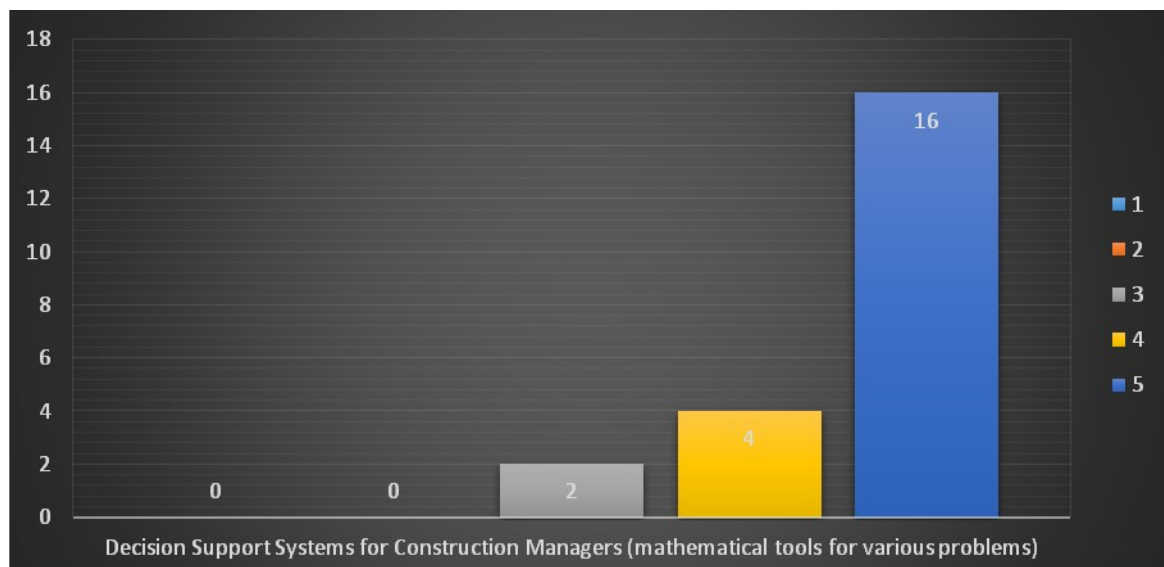
A5.2.4. Risk and Value Management

1	2	3	4	5	Number of observations	Average
0	0	0	2	20	22	4,91



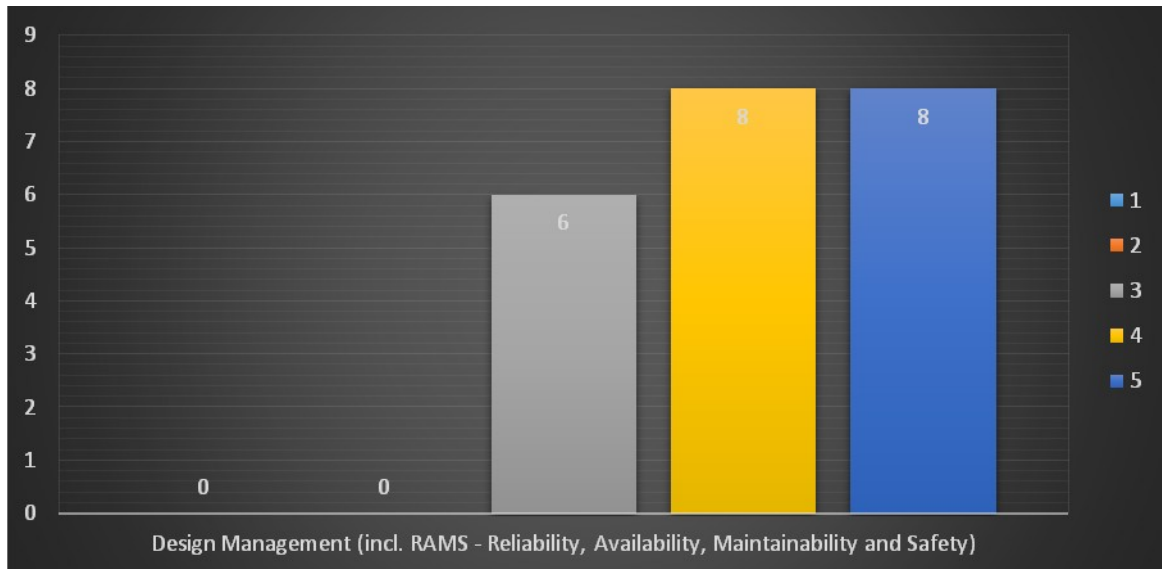
A5.2.5. Decision Support Systems for Construction Managers (mathematical tools for various problems)

1	2	3	4	5	Number of observations	Average
0	0	2	4	16	22	4,64



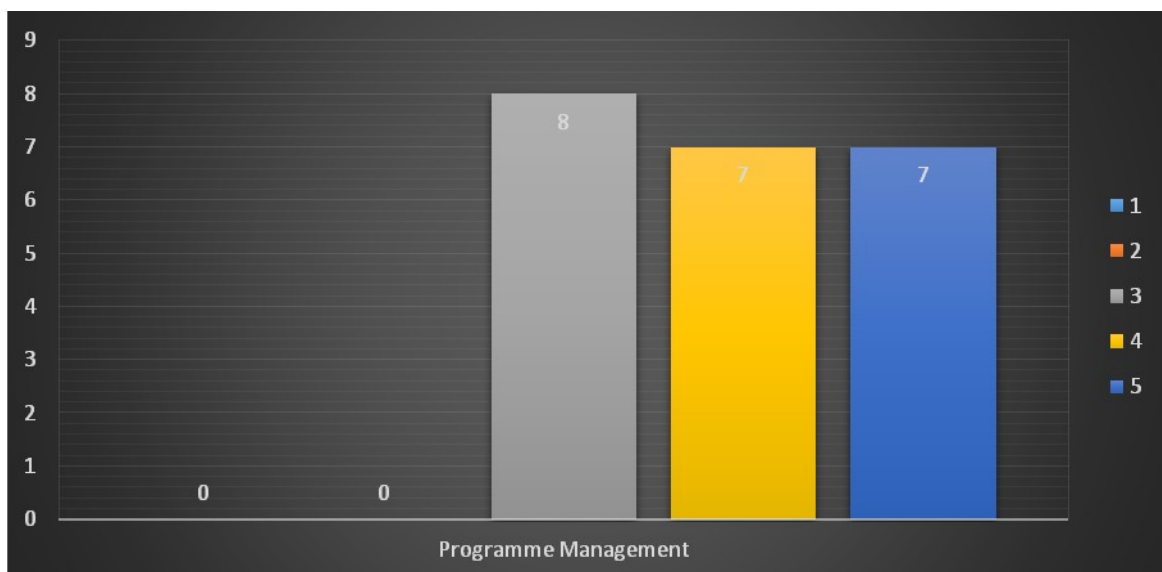
A5.2.6. Design Management (incl. RAMS - Reliability, Availability, Maintainability and Safety)

1	2	3	4	5	Number of observations	Average
0	0	6	8	8	22	4,09



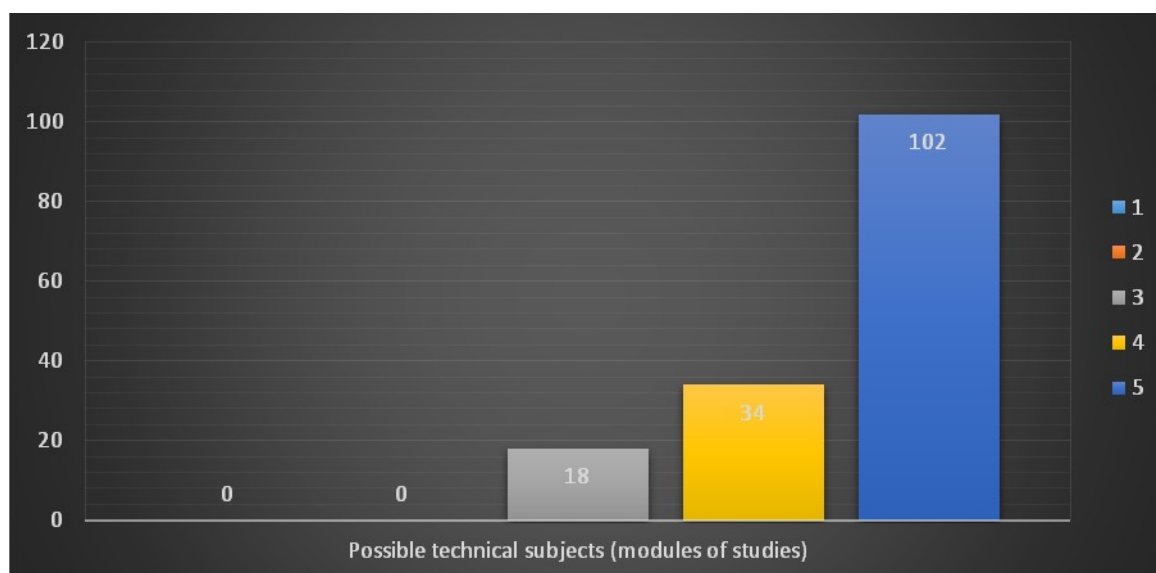
A5.2.7. Programme Management

1	2	3	4	5	Number of observations	Average
0	0	8	7	7	22	3,95



A5.2.8. Possible technical subjects (modules of studies) – summation

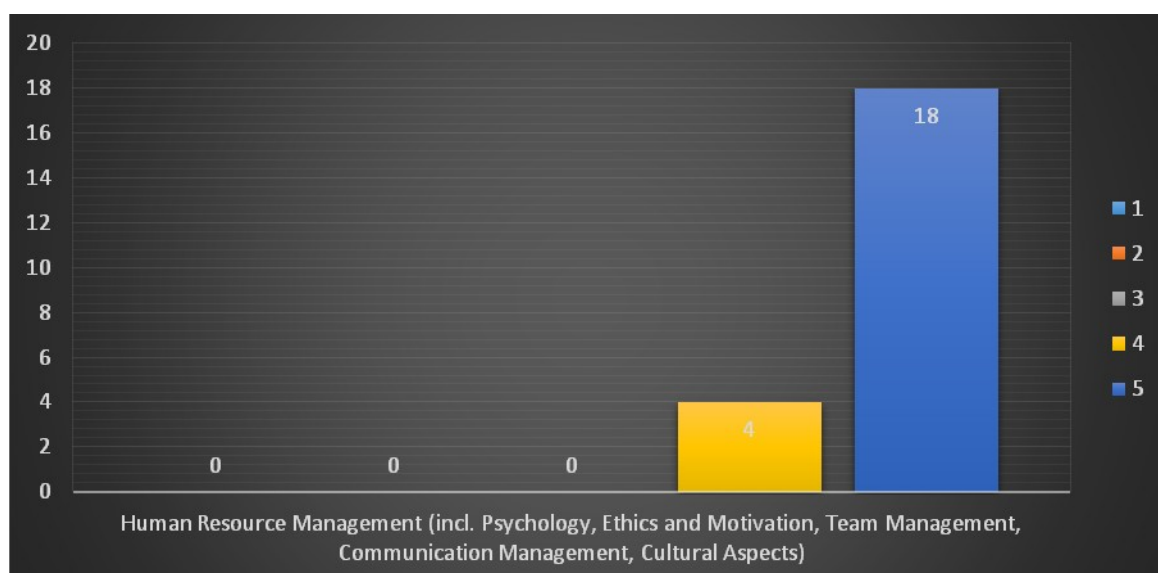
1	2	3	4	5	Number of observations	Average
0	0	18	34	102	154	4,55



A5.3. Possible subjects related to management in construction (modules of studies)

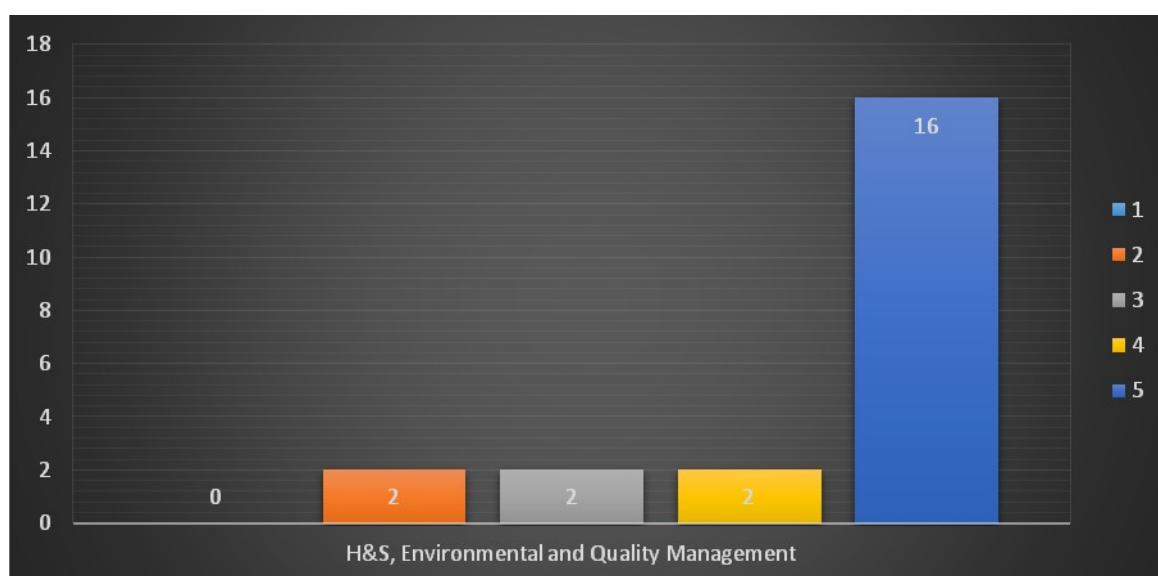
A5.3.1. Human Resource Management (incl. Psychology, Ethics and Motivation, Team Management, Communication Management, Cultural Aspects)

1	2	3	4	5	Number of observations	Average
0	0	0	4	18	22	4,82



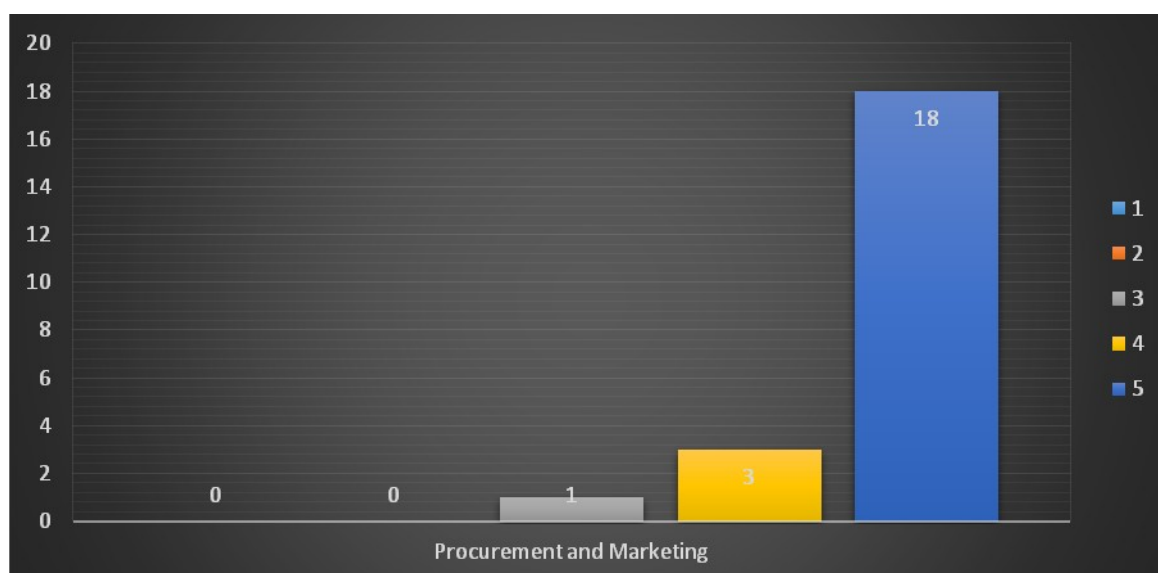
A5.3.2. H&S, Environmental and Quality Management

1	2	3	4	5	Number of observations	Average
0	2	2	2	16	22	4,45



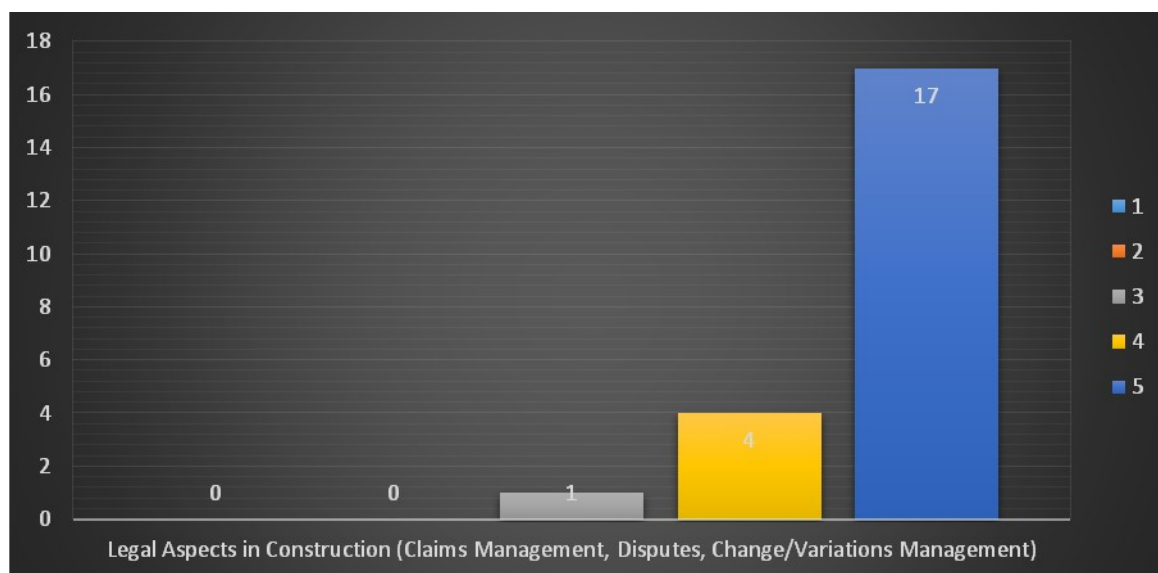
A5.3.3. Procurement and Marketing

1	2	3	4	5	Number of observations	Average
0	0	1	3	18	22	4,77



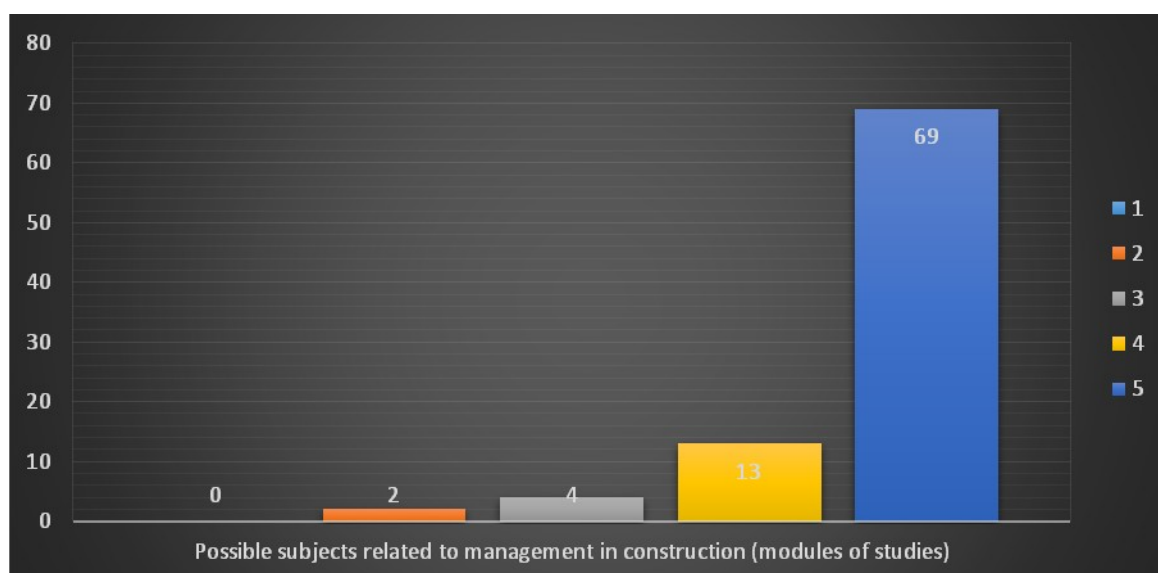
A5.3.4. Legal Aspects in Construction (Claims Management, Disputes, Change/Variations Management)

1	2	3	4	5	Number of observations	Average
0	0	1	4	17	22	4,73



A5.3.5. Possible subjects related to management in construction (modules of studies) – summary

1	2	3	4	5	Number of observations	Average
0	2	4	13	69	88	4,69

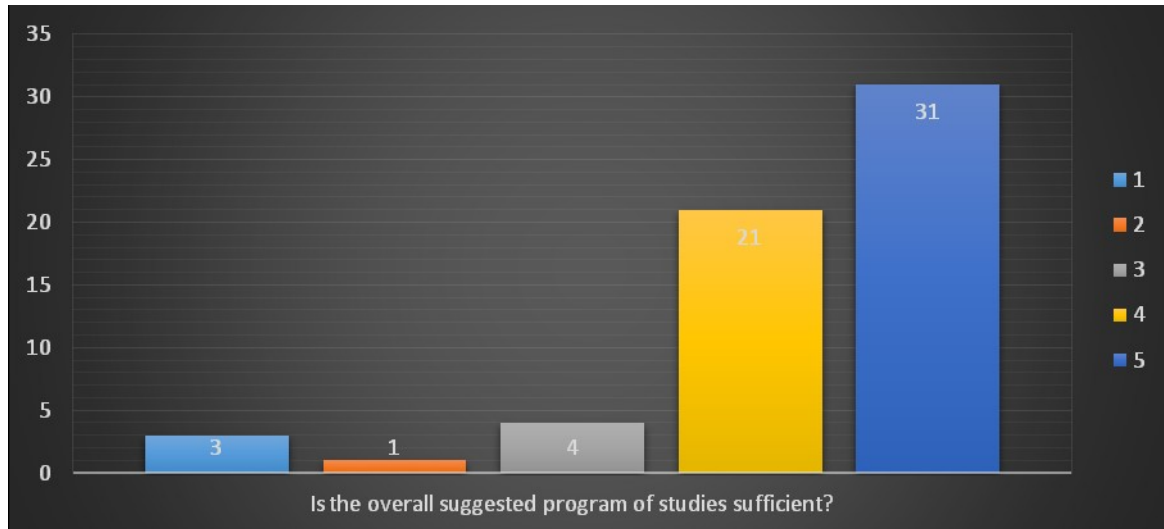


APPENDIX 6

Detailed results from VGTU

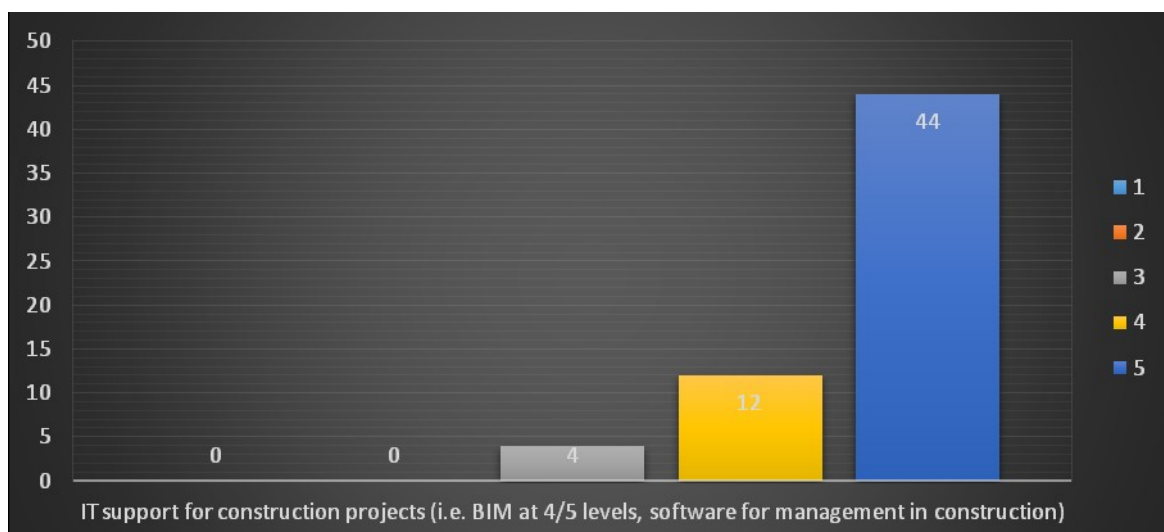
A6.1. Is the overall suggested program of studies sufficient?

1	2	3	4	5	Number of observations	Average
3	1	4	21	31	60	4,27

**A6.2. Possible technical subjects (modules of studies)**

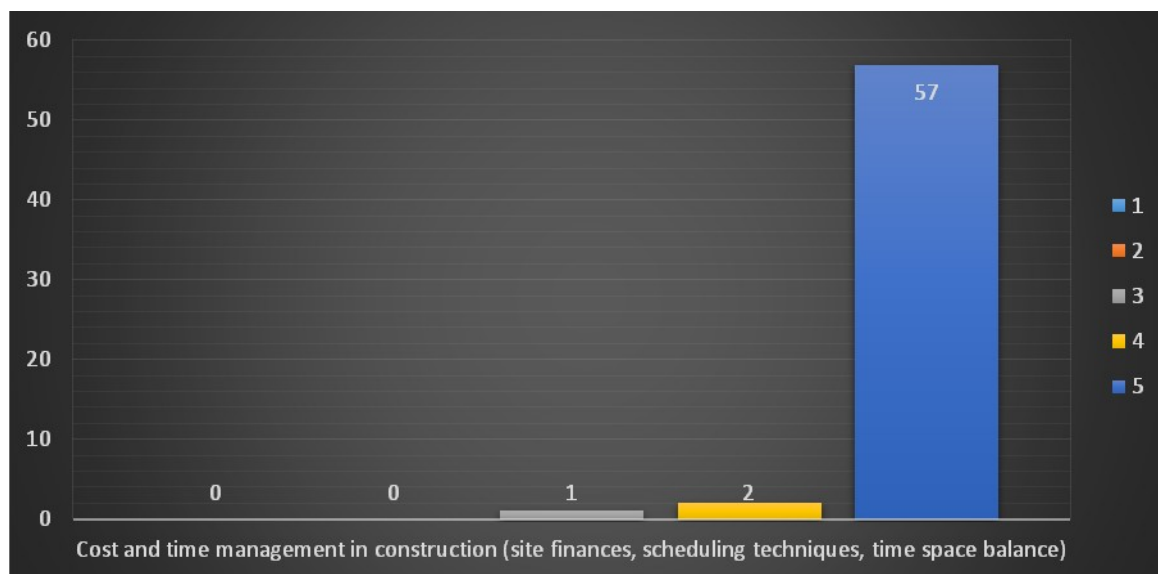
A6.2.1. IT support for construction projects (i.e. BIM at 4/5 levels, software for management in construction)

1	2	3	4	5	Number of observations	Average
0	0	4	12	44	60	4,67



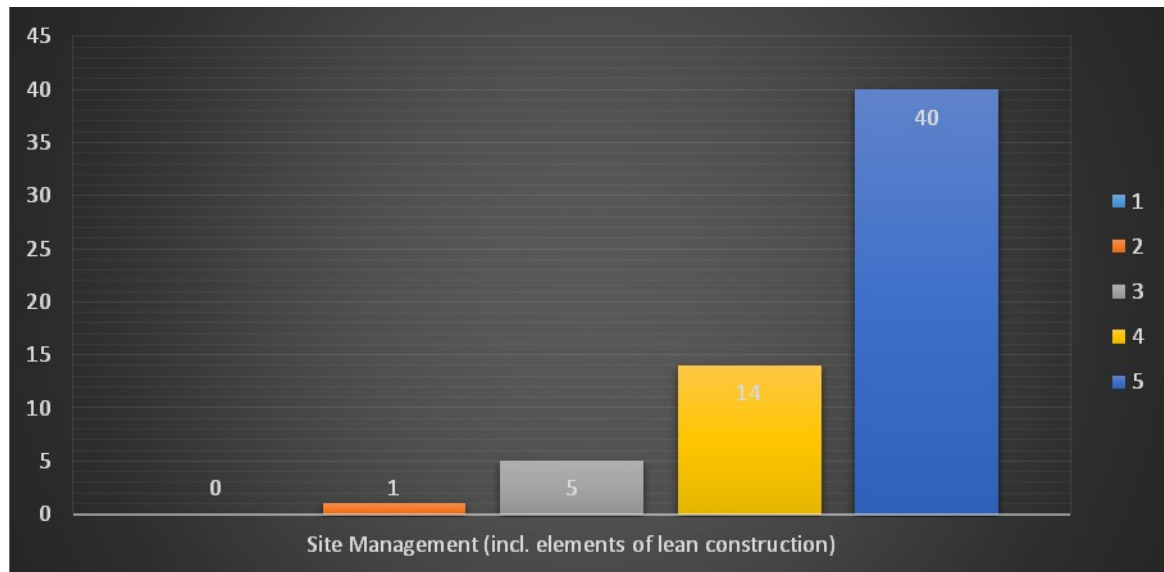
A6.2.2. Cost and time management in construction (site finances, scheduling techniques, time space balance)

1	2	3	4	5	Number of observations	Average
0	0	1	2	57	60	4,93



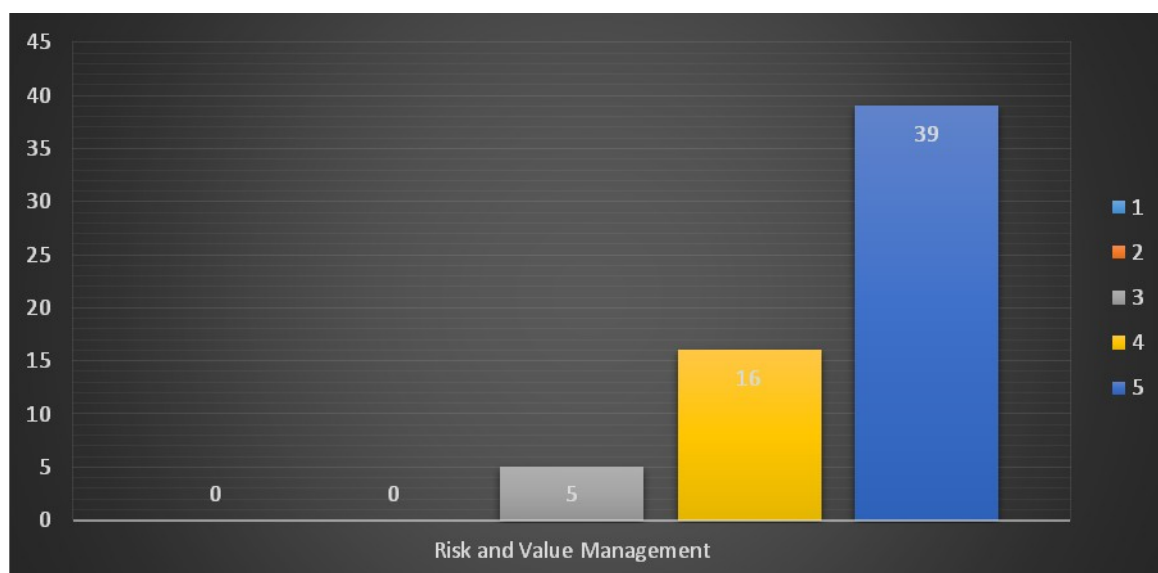
A6.2.3. Site Management (incl. elements of lean construction)

1	2	3	4	5	Number of observations	Average
0	1	5	14	40	60	4,55



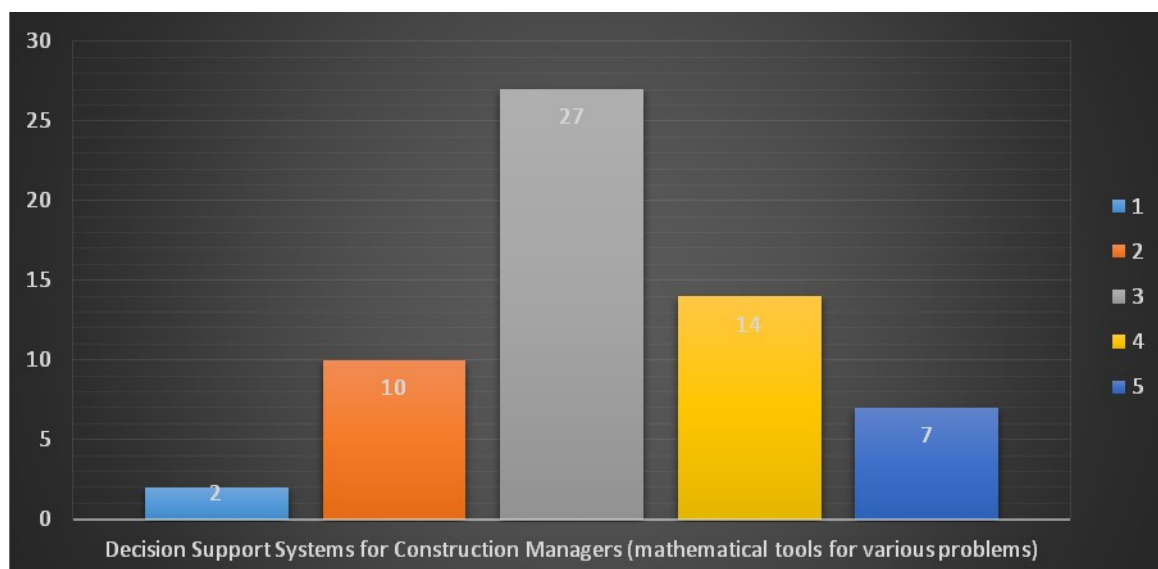
A6.2.4. Risk and Value Management

1	2	3	4	5	Number of observations	Average
0	0	5	16	39	60	4,57



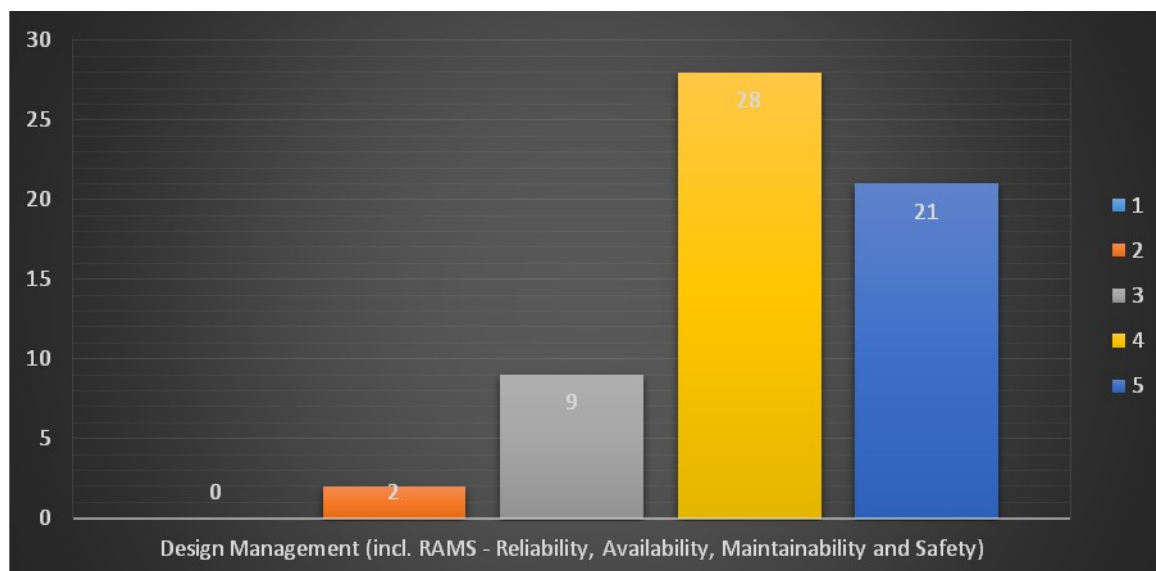
A6.2.5. Decision Support Systems for Construction Managers (mathematical tools for various problems)

1	2	3	4	5	Number of observations	Average
2	10	27	14	7	60	3,23



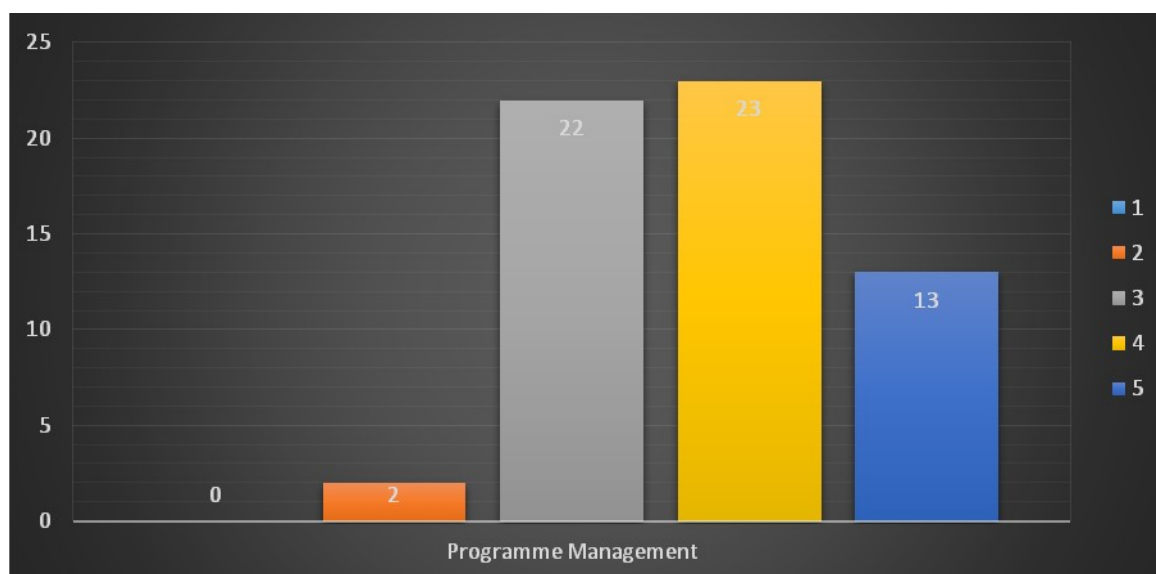
A6.2.6. Design Management (incl. RAMS - Reliability, Availability, Maintainability and Safety)

1	2	3	4	5	Number of observations	Average
0	2	9	28	21	60	4,13



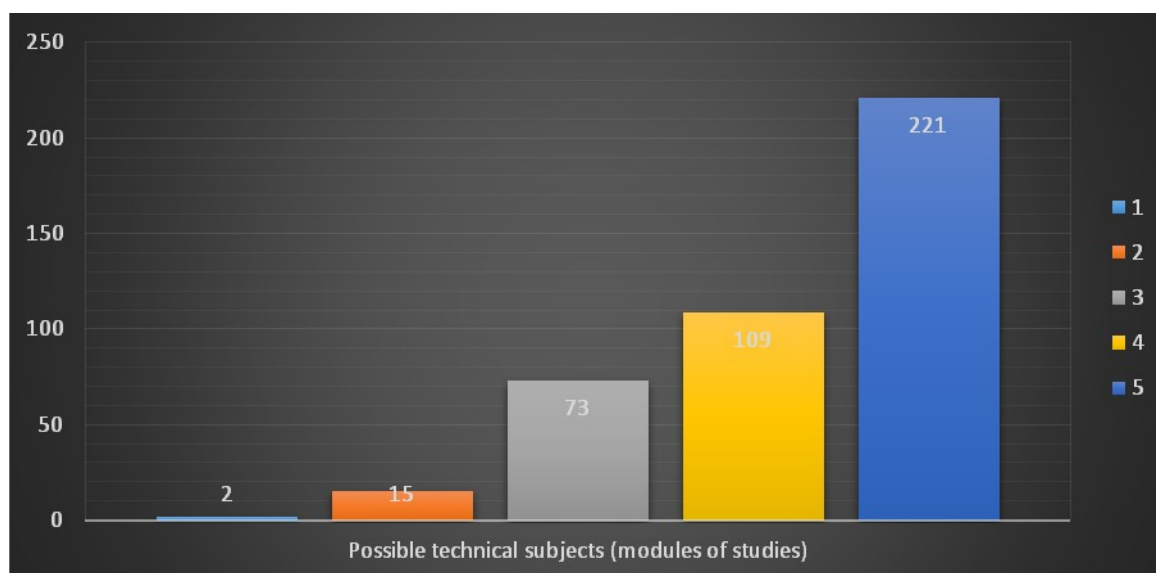
A6.2.7. Programme Management

1	2	3	4	5	Number of observations	Average
0	2	22	23	13	60	3,78



A6.2.8. Possible technical subjects (modules of studies) – summation

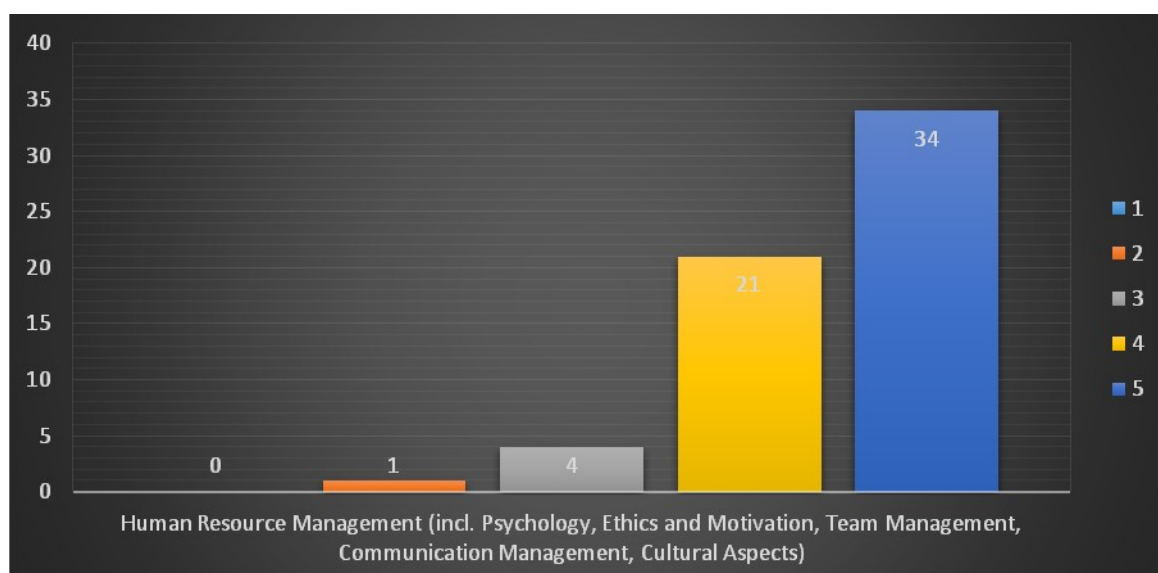
1	2	3	4	5	Number of observations	Average
2	15	73	109	221	420	4,27



A6.3. Possible subjects related to management in construction (modules of studies)

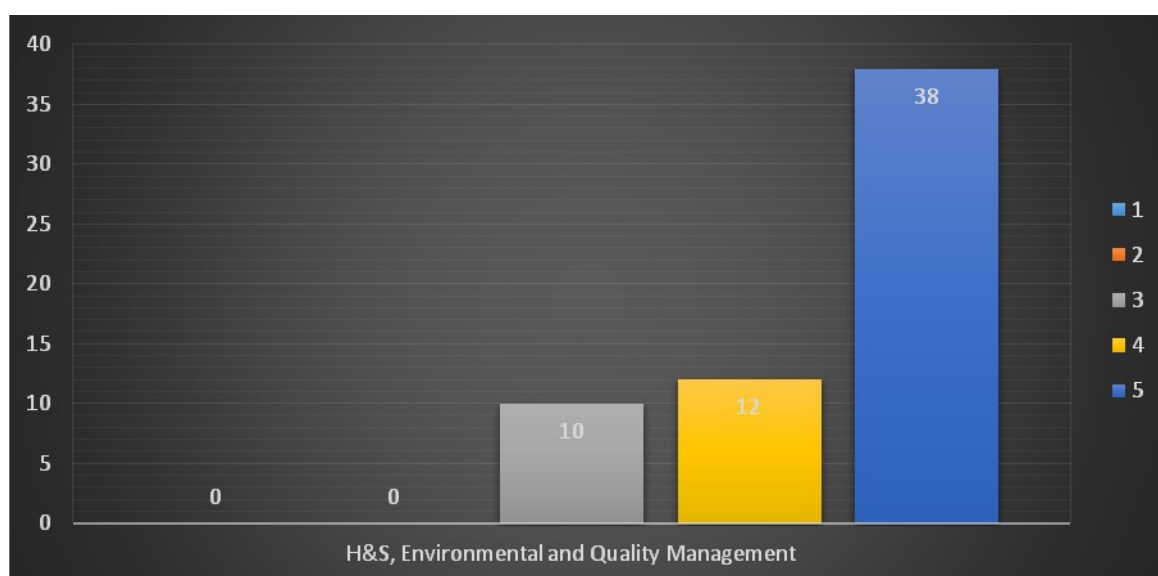
A6.3.1. Human Resource Management (incl. Psychology, Ethics and Motivation, Team Management, Communication Management, Cultural Aspects)

1	2	3	4	5	Number of observations	Average
0	1	4	21	34	60	4,47



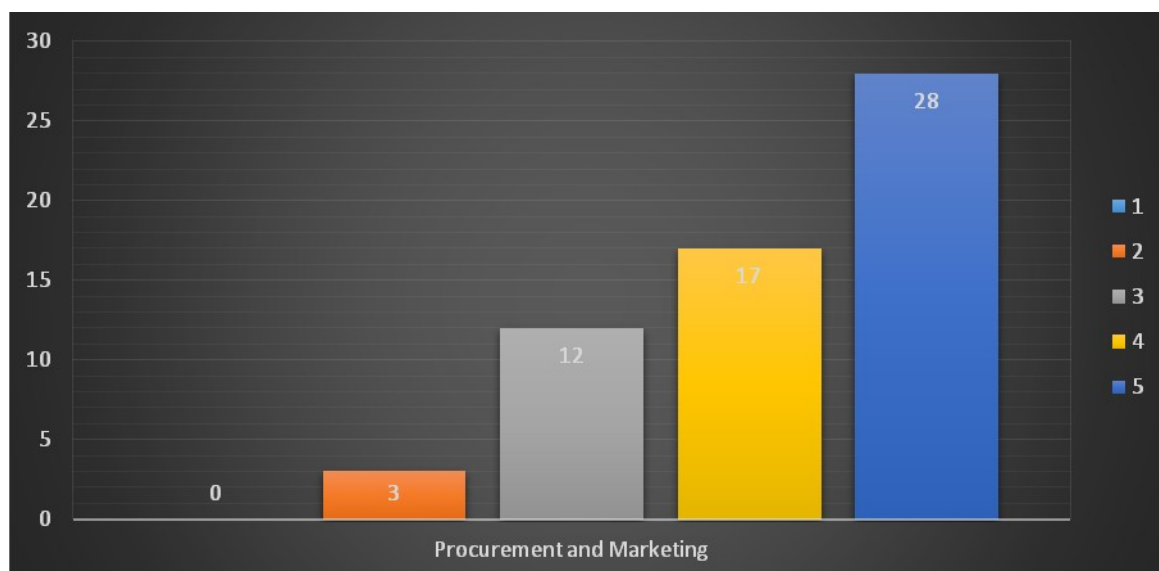
A6.3.2. H&S, Environmental and Quality Management

1	2	3	4	5	Number of observations	Average
0	0	10	12	38	60	4,47



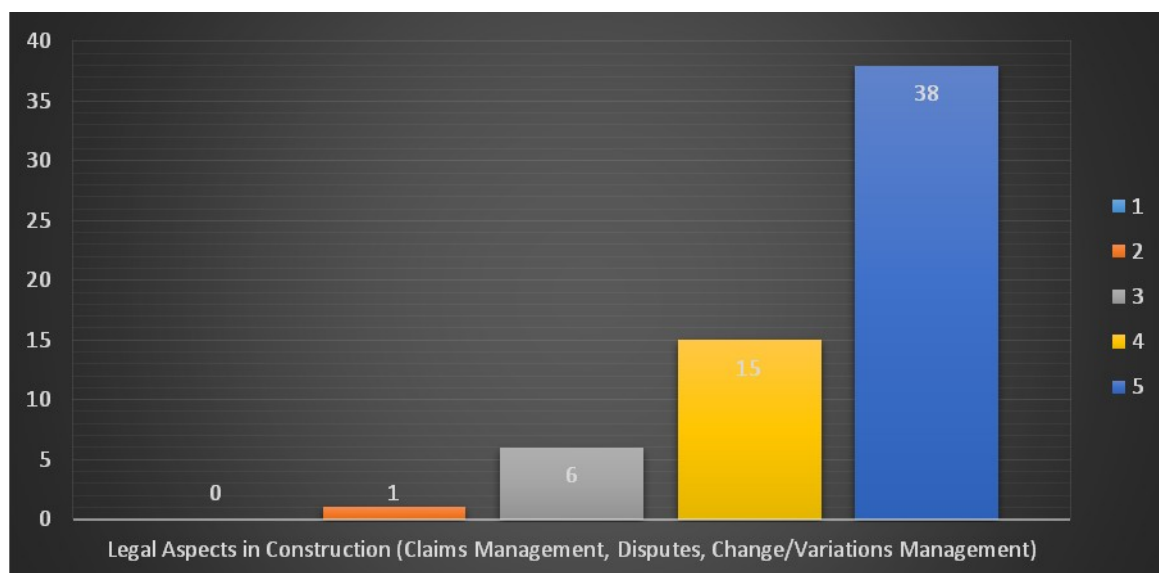
A6.3.3. Procurement and Marketing

1	2	3	4	5	Number of observations	Average
0	3	12	17	28	60	4,17



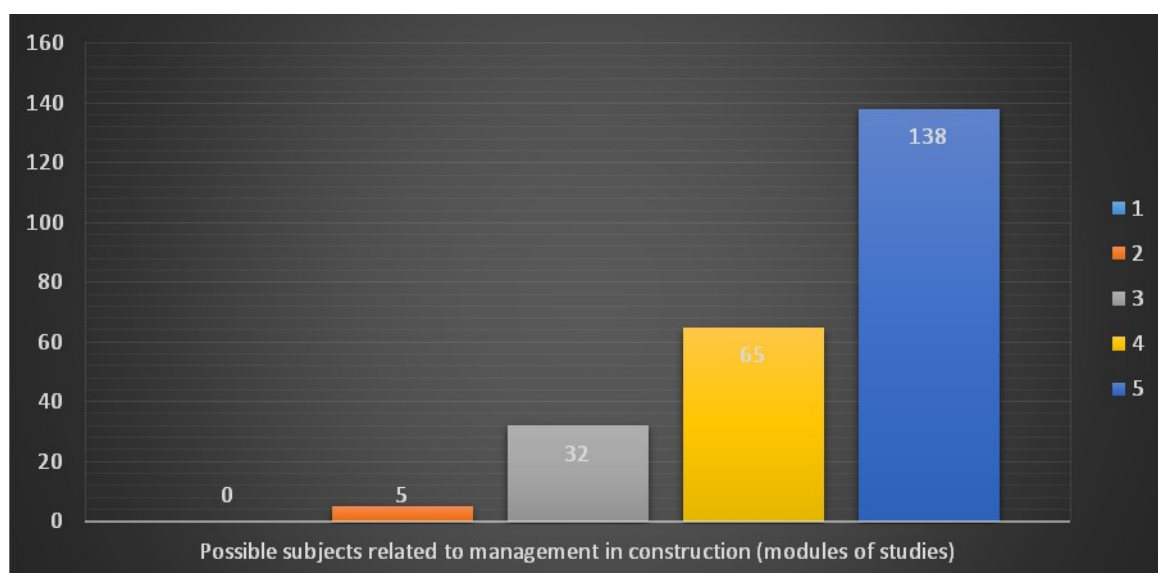
A6.3.4. Legal Aspects in Construction (Claims Management, Disputes, Change/Variations Management)

1	2	3	4	5	Number of observations	Average
0	1	6	15	38	60	4,50



A6.3.5. Possible subjects related to management in construction (modules of studies) – summary

1	2	3	4	5	Number of observations	Average
0	5	32	65	138	240	4,40

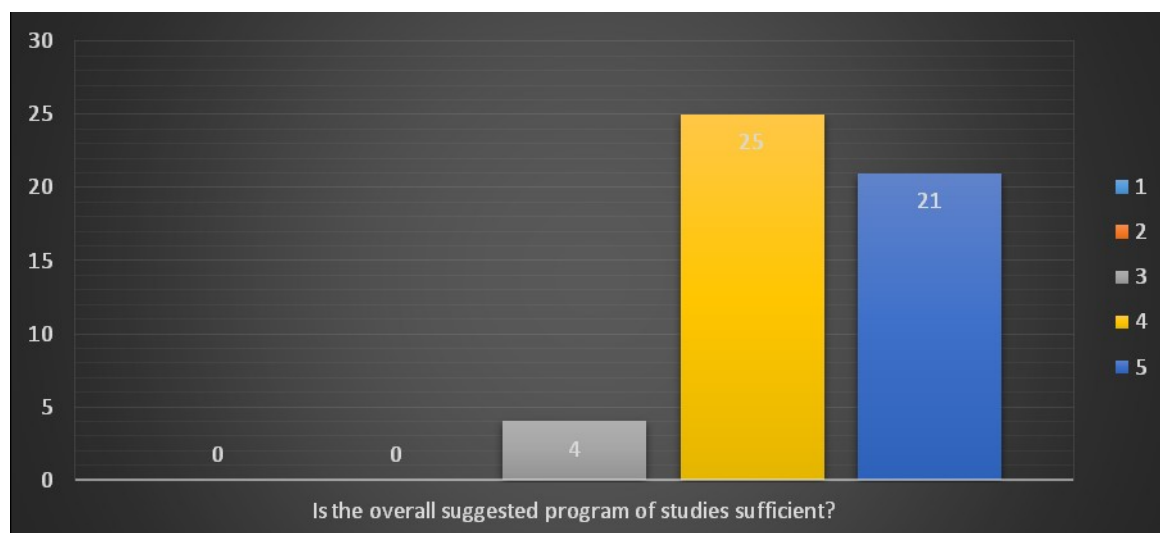


APPENDIX 7

Detailed results from WUT

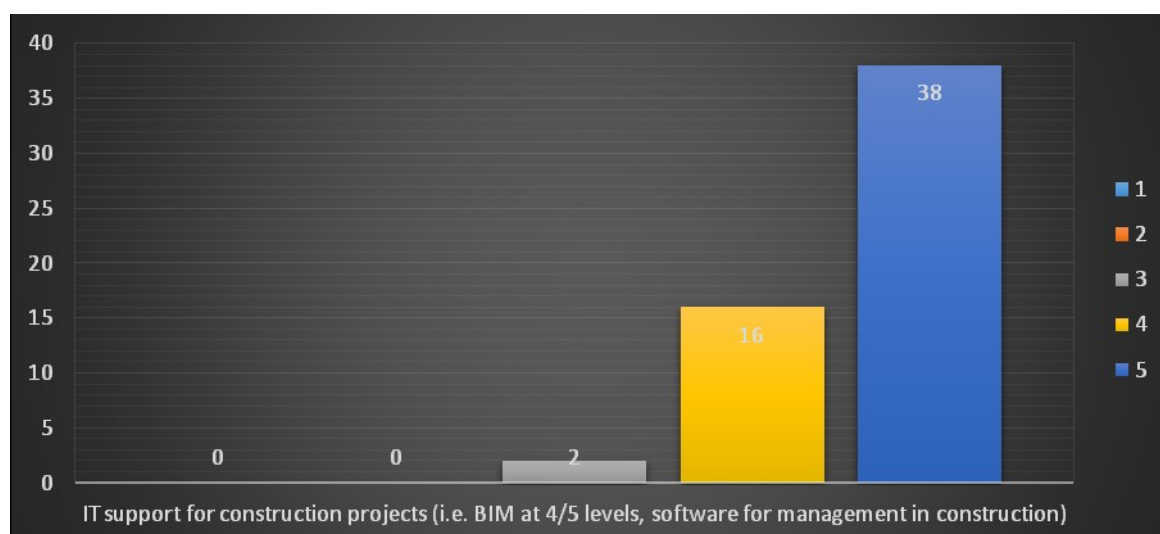
A7.1. Is the overall suggested program of studies sufficient?

1	2	3	4	5	Number of observations	Average
0	0	4	25	21	50	4,34

**A7.2. Possible technical subjects (modules of studies)**

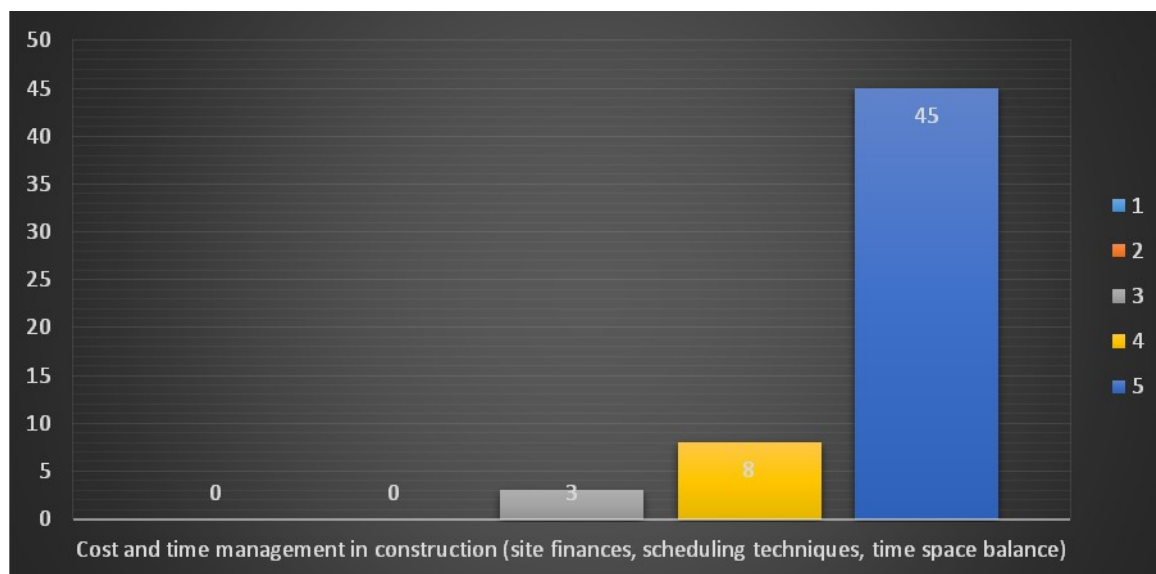
A7.2.1. IT support for construction projects (i.e. BIM at 4/5 levels, software for management in construction)

1	2	3	4	5	Number of observations	Average
0	0	2	16	38	56	4,64



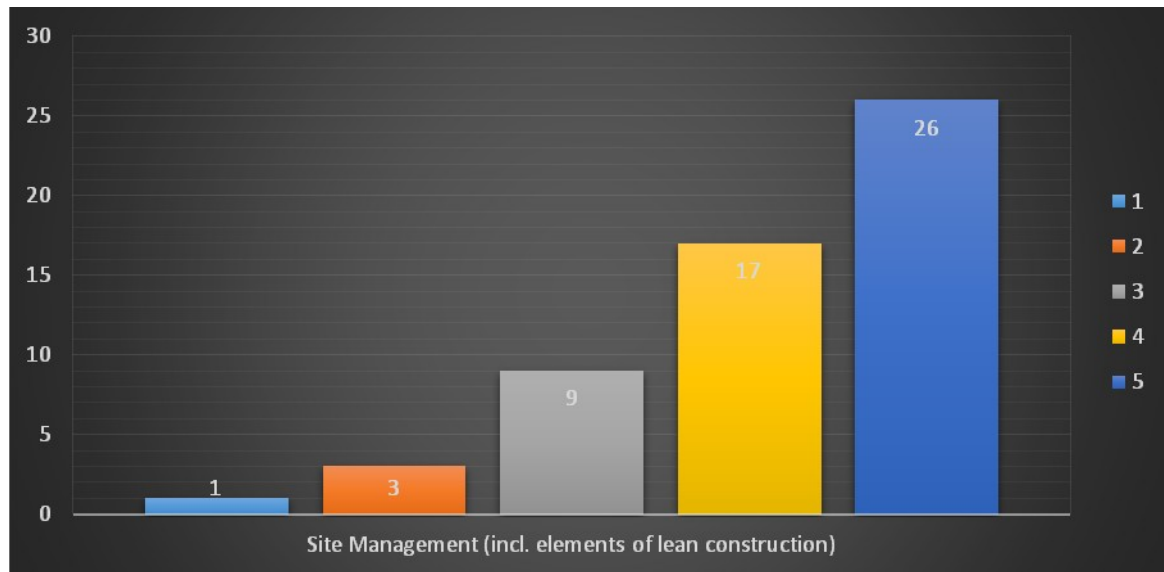
A7.2.2. Cost and time management in construction (site finances, scheduling techniques, time space balance)

1	2	3	4	5	Number of observations	Average
0	0	3	8	45	56	4,75



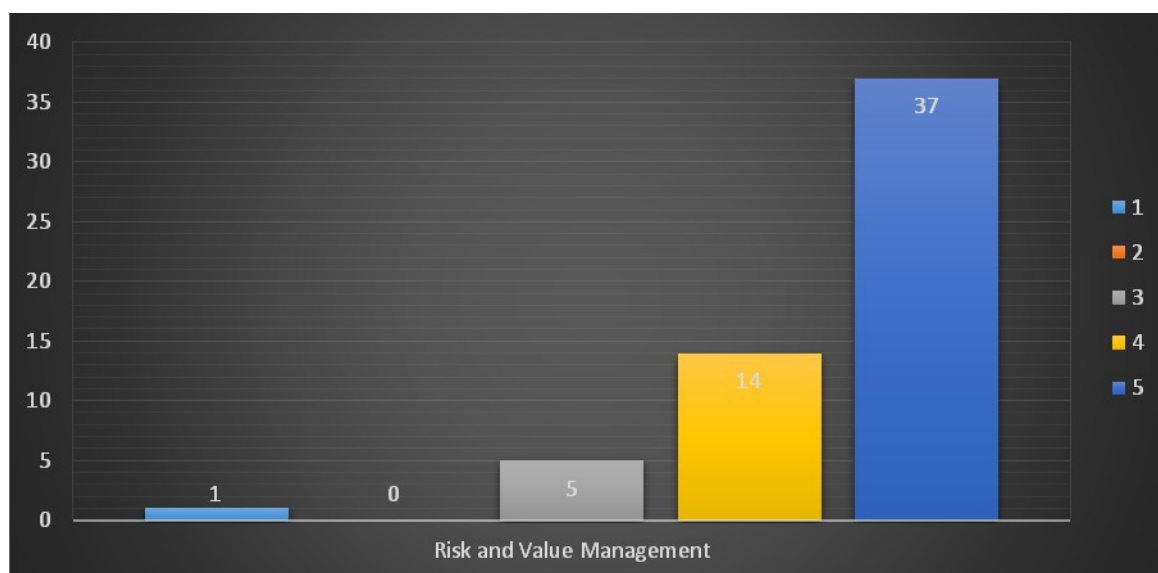
A7.2.3. Site Management (incl. elements of lean construction)

1	2	3	4	5	Number of observations	Average
1	3	9	17	26	56	4,14



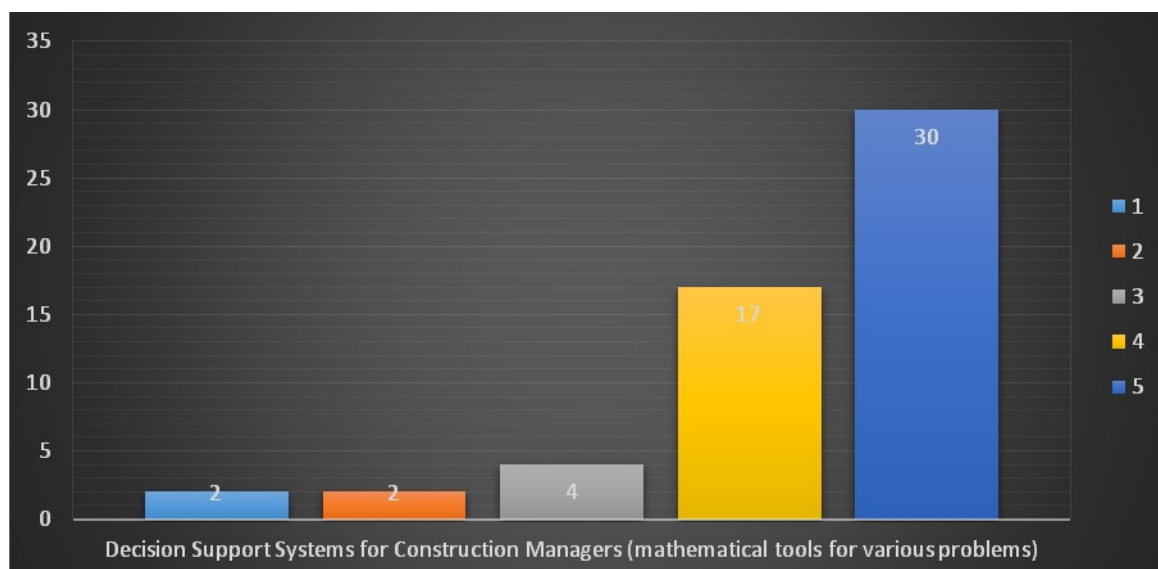
A7.2.4. Risk and Value Management

1	2	3	4	5	Number of observations	Average
1	0	5	14	37	57	4,51



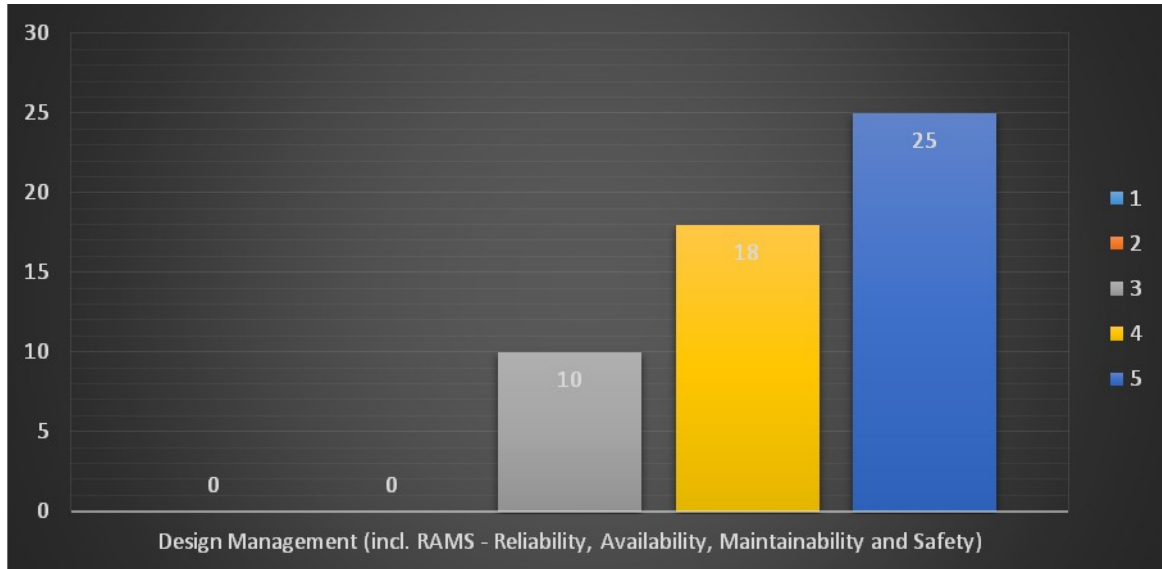
A7.2.5. Decision Support Systems for Construction Managers (mathematical tools for various problems)

1	2	3	4	5	Number of observations	Average
2	2	4	17	30	55	4,29



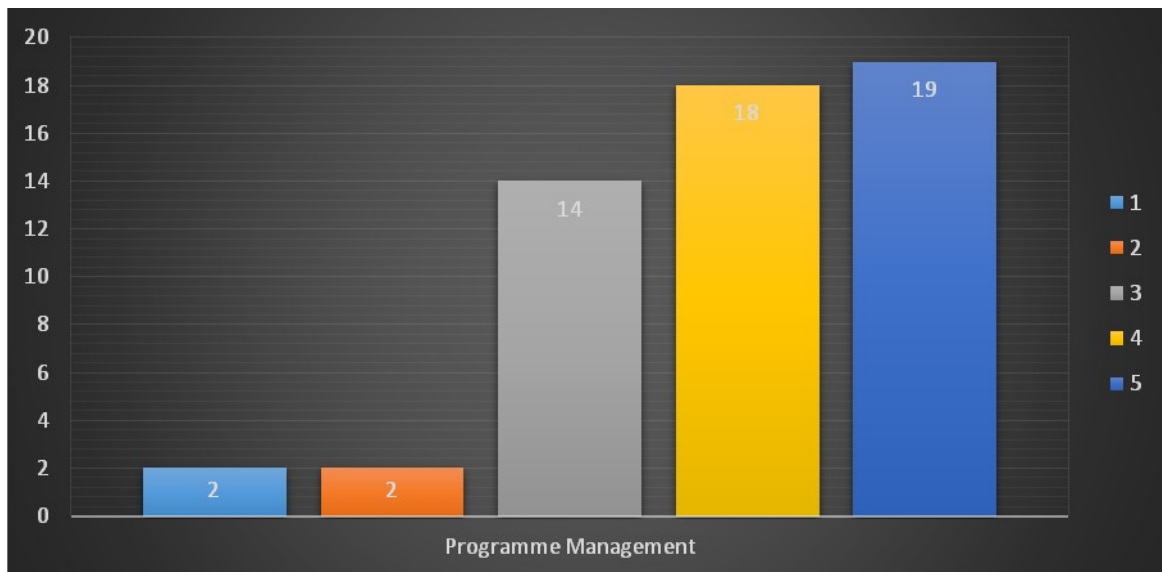
A7.2.6. Design Management (incl. RAMS - Reliability, Availability, Maintainability and Safety)

1	2	3	4	5	Number of observations	Average
0	0	10	18	25	53	4,28



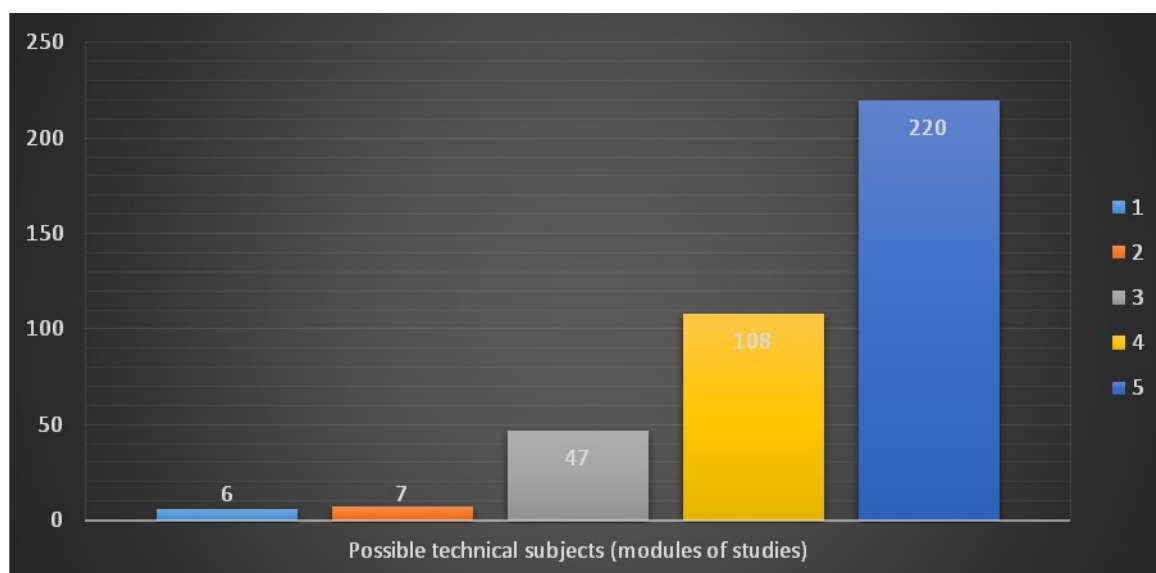
A7.2.7. Programme Management

1	2	3	4	5	Number of observations	Average
2	2	14	18	19	55	3,91



A7.2.8. Possible technical subjects (modules of studies) – summation

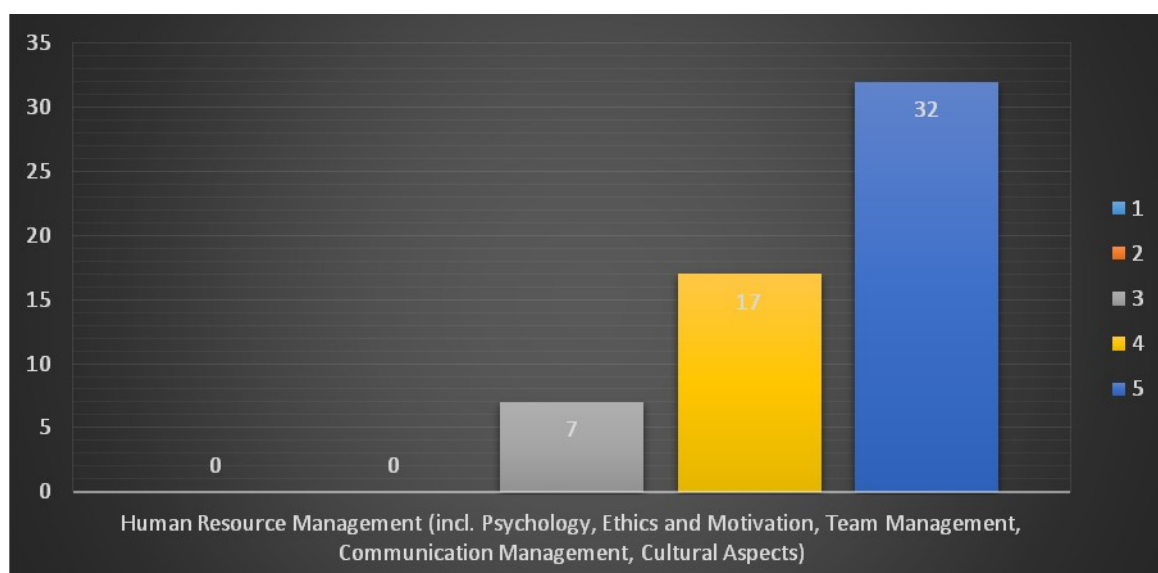
1	2	3	4	5	Number of observations	Average
6	7	47	108	220	388	4,36



A7.3. Possible subjects related to management in construction (modules of studies)

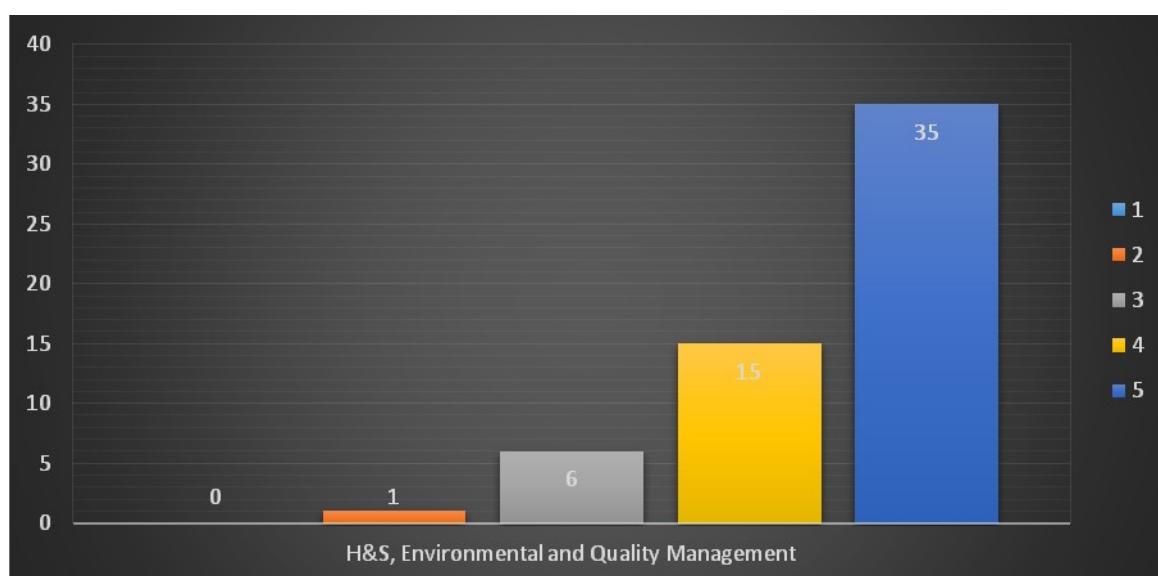
A7.3.1. Human Resource Management (incl. Psychology, Ethics and Motivation, Team Management, Communication Management, Cultural Aspects)

1	2	3	4	5	Number of observations	Average
0	0	7	17	32	56	4,45



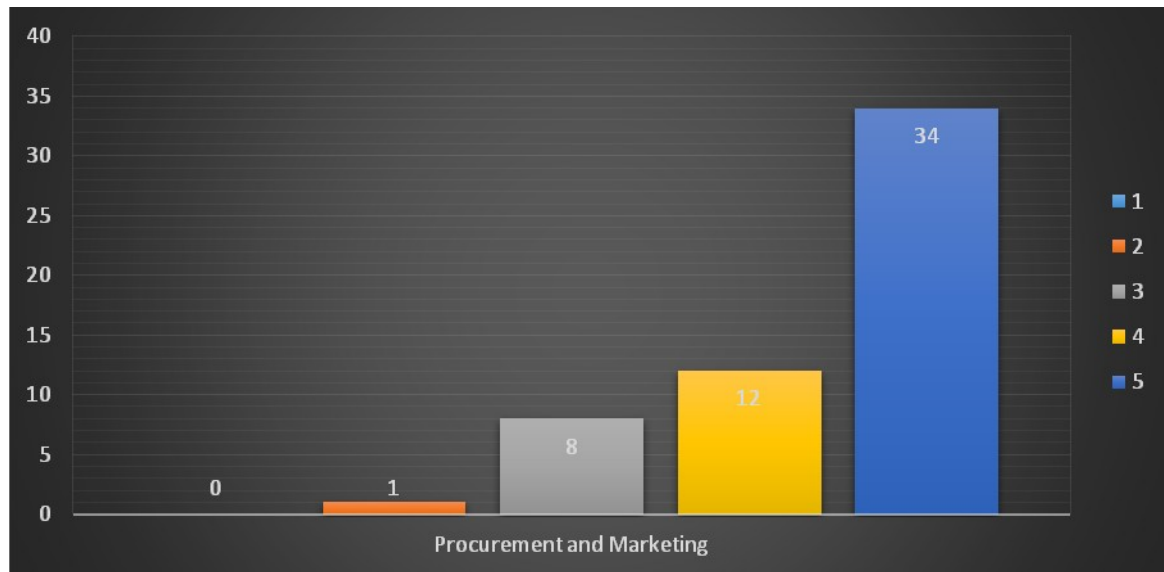
A7.3.2. H&S, Environmental and Quality Management

1	2	3	4	5	Number of observations	Average
0	1	6	15	35	57	4,47



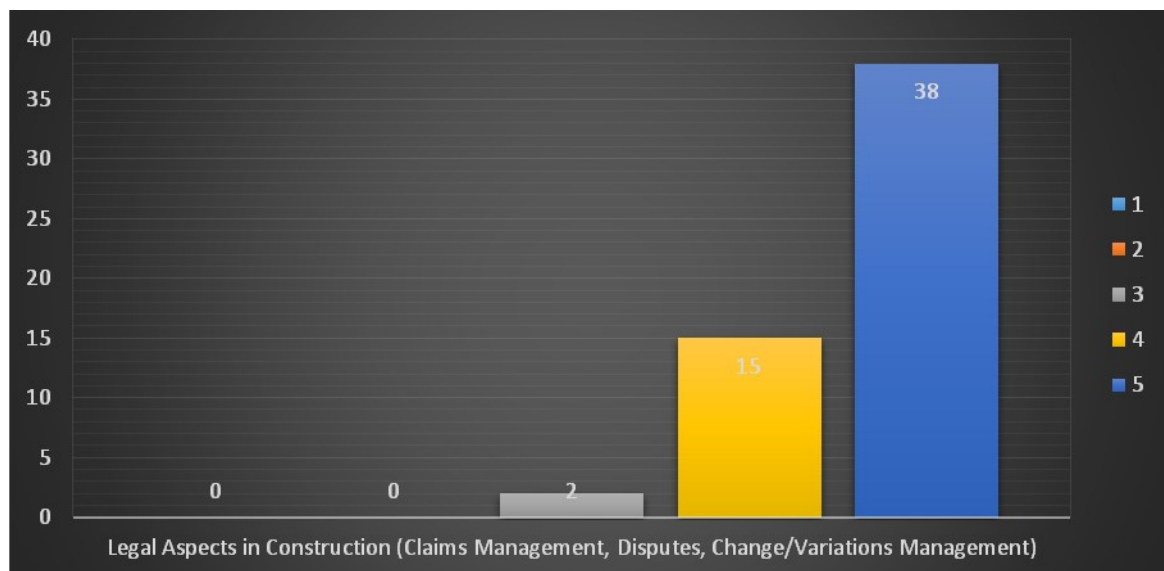
A7.3.3. Procurement and Marketing

1	2	3	4	5	Number of observations	Average
0	1	8	12	34	55	4,44



A7.3.4. Legal Aspects in Construction (Claims Management, Disputes, Change/Variations Management)

1	2	3	4	5	Number of observations	Average
0	0	2	15	38	55	4,65



A7.3.5. Possible subjects related to management in construction (modules of studies) – summary

1	2	3	4	5	Number of observations	Average
0	2	23	59	139	223	4,50

