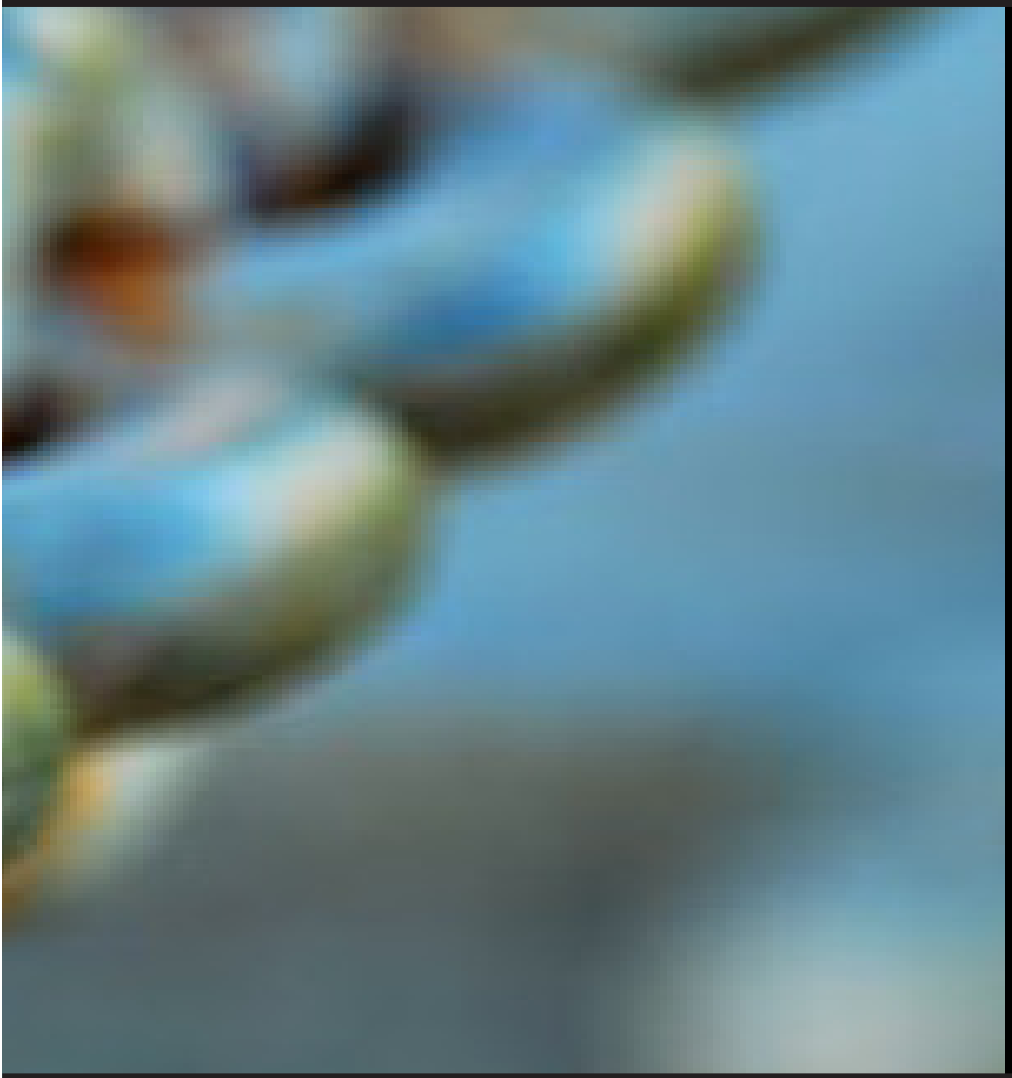
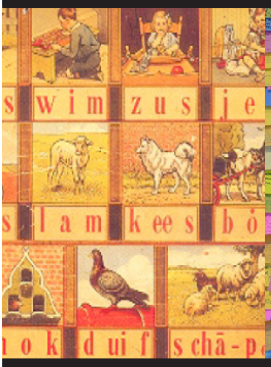


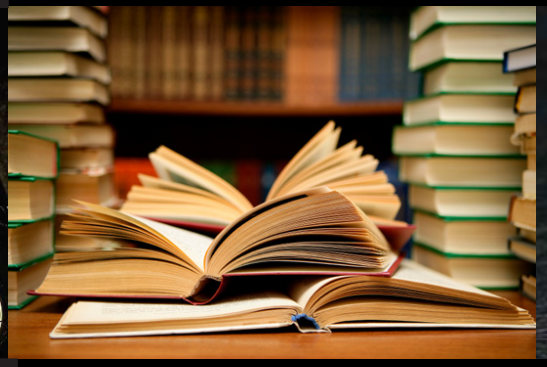
EXPERIENCE CHAIN APPENDICES

Researchers and practitioners explain that in traditional collaborations between housing associations and contractors, there is a difference in culture, a lack of trust and ill collaboration. In combination with the economic crisis, the climate change and the more demanding end users, this demands a change in the way parties cooperate. Supply chain integration is used as a method to eliminate the problems that exist in the traditional collaboration. However, most supply chain integrations are still premature and there is insufficient information about what the experiences of the experts are regarding successes and problems related to the FLOTIQ aspects.

SANNE MENSINGA
15.245.26
2010 - 2011

TU DELFT / STADGENOOT





Appendices


Motivation
&
Mentors

1. Motivation and learning objectives

Before attending the master program at Delft university, I studied engineering / architecture at a high school in Amsterdam, and before that I studied construction on a 'mts' level. Throughout these years I've had some experience with several internships but also from case studies, and teacher's and colleagues opinions. This has led me to see that there is a difference between practice and theory.

I have noticed that theories, despite being good on paper, sometimes can have little interface with practice. Of course this has to do with several matters. An example, from my personal experience, can be found in a previous research about project delivery (Mensinga, 2008). I examined four companies, of which two housing associations and two project developers. In total I analyzed six cases, all of which had theoretical process descriptions on how to deliver data, conduct evaluations and how to handle deliveries.
When analyzing the projects I often concluded that the theoretical tools were barely used. From interviews I held I found out that either the handles did not suffice, the people did not know of their existence or they relied more on their own (practical) experience than on other peoples theories.

I believe that I can relate to both the practical and the theoretical worlds. The practical from my experience in internships and jobs, and the theoretical aspects from my study at the university. I am eager to find (or create) a bridge between the two worlds.

Last summer, during a summer internship, I stumbled across a project conducted according to the chain integration principle. Right from that moment I was intrigued, and wanted to learn more about it. From what I read, and heard, there had not been a lot of projects conducted in chain integration, despite the amount of literature. This made it even more interesting for me to make this into my graduation project.

The second major topic in this research is learning organisations. The incorporation of this was the result of literature study combined with my own hypotheses. I strongly believe that learning is not a automatic result of repetition, but that it has to be managed. The long term partnership of chain integration, in comparison to regular projects, make it all the more interesting to combine these two fascinating subjects.

Graduation process

Doing research is not yet my second nature. Despite my two years tenancy at Delft university, a time in which I have obtained a lot of knowledge and enough books to fill my bookcase, I notice that I still often relay on habit instead of science. My learning objectives for this graduation period is to get in-depth knowledge on how to conduct a proper research, and to make doing so my second nature.

Research topic.

When this graduation period is over, the life of employment begins. The things I hope to obtain is expertise on how to implement learning into a organisation or collaboration, in order to improve the process.

2. Graduation company

The graduation company is Stadgenoot, which is an Amsterdam housing association whom is experimenting with the implementation of chain integration. Several departments, both development and maintenance, have shown their interest in the subject. Because of the financial crisis, climate change and other, the importance of maintenance and (small) renovations is getting the upper hand. Chapter 6 debated the difference between new development and maintenance (new vs. renew).

Stadgenoot is considered to be one of the three leading companies in applying chain integration. The other two companies are Woonwaard, and Comwonen

My graduation mentors within Stadgenoot are P. van der Horst, who is the director of Real Estate. And J. Veerman, manager of the planned maintenance department. It goes without saying that the acquired information is handled discreetly and respectfully.

3. Graduation mentors

In order to get the most out of this graduation period, two mentors from different departments have to be chosen. My first mentor was Ruben Vrijhoef, from the department of Design and Construction management. However, after the P2 presentation, Jelle Koolwijk became the first mentor. A quick grasp of his curriculum:

Biographic note

Experience
ProRail B.V., Tendermanager
Multi Vastgoed B.V., Developer
Rabo Vastgoed B.V. (Rabo Bouwfonds), Junior Developer
DelftUniversityof Technology, Researcher

Membership
CIB Taskgroup 61, Benchmarking Construction Performance Data Centre for Process Innovation in Building and Construction in Delft

Education
1998 - Atheneum, Schoonhoven, The Netherlands
2003 - Delft University of Technology, Architecture, Real Estate & Housing, Master of Science, received an honorable mention

Publications

Publicationlist ir. J.S.J. Koolwijk (METIS)
Prequalification of contractors based on past performance (in opdracht van PIANOo)
Projectallianties, Procesinnovatie bij complexe bouwprojecten
PSIBouw-PP1: International Reforms in Building and Construction

My second mentor is V. Gruis from the department of Housing. A quick grasp of his curriculum:

Biografic note

Education
Prof.dr.ir. Vincent Gruis graduated at the Faculty of Architecture in 1996 in the MSc courses Real Estate & Project Management and Housing. He finished is PhD in 2001 with a dissertation on "Financial-economic fundamentals for housing associations".

Experience
Vincent is professor of Housing Management. He is working at the faculty of Architecture since 1996. Furthermore, he is a member of the board of supervisors of two housing associations

Courses

Vincent lectures in MSc courses on Real Estate & Housing. Furthermore he is coordinator of the Housing graduation laboratory.

Research

Vincent conducts research and consultation in the area of housing management and urban renewal. He is specialized in corporate governance, organization and asset management for social landlords and is co-coordinator of the working group on Housing Regeneration and Maintenance within the European Network for Housing Research.
Vincent is leader of the research program Housing Quality and a group of researchers that is working on the theme "Social Entrepreneurship and Housing Management".

Publications

Publicationlist dr.ir. V. Gruis (METIS)
Selection of scientific publications:
Management of Privatised Housing: International Perspectives (2009), Oxford, Wiley-Blackwell.
Organisational archetypes for Dutch housing associations (2008) in Environment and planning c-government and policy, 26, 1077-1092.
Sustainable neighbourhood transformation (2006) Amsterdam, IOS
Financial and social returns in housing asset management (2005) in Urban Studies (42) no. 10.
Tenant empowerment through innovative tenures (2005) in Housing Studies (20) no. 1.
Asset management in the social rented sector; policy and practice in Europe and Asutralia (2004), Dordrecht, Kluwer Academic Publishers.

Social vs. Commercial
&
New vs. renew

4. Social vs. commercial

The focus of this research was on the combination of a housing association, which in general have a social 'background', and their chain partners regarding renovation and maintenance works. One could however wonder if there Is a difference between a social organization and a commercial institution?

Two folded tasks

First of all, according to Brabant (2010), 'housing associations operate between the public and private worlds'. He continues that 'the commercial targets should be reunited with the social interests all within the boundaries of various laws and regulations'. According to Born (2010), a new legislative proposal is forcing housing associations to make a division between the activities they perform with and without state support. Other activities, such as building more expensive rental and owner-occupied dwellings, should be considered as commercial activities and should be treated the same as other commercial parties (Born, 2010)

Incentives

The expected benefits of supply chain integration are lower costs, shorter planning and better quality. These benefits are interesting for both social and commercial parties. That is probably why many of the experts of Stadgenoot do not seem to think that there is a difference between social and commercial parties, 'it should not make a difference' is one of the most frequent answers (Unawekla, 2011b, Koert, 2011b, Vermeulen, 2011b). Veerman (2011) explains that both groups aim for cost reduction, quality improvement, satisfied employees ea, however the incentives (social vs financial) might differ.

Risk division

Vermeulen acknowledges that the profit and risk division does probably differ. Jonker (2011) confirms this by stating that "commercial developers in some cases have a different perspective about the basic principles of supply chain integration. In particular the approach of the profit and risk division is different". This is related to the difference in focus of the two parties. Commercial parties derive their 'raison d'être' from making profit, and in order to obtain the highest possible profit their self interest prevails. Social (housing) associations are more dependent on customer satisfaction and long term quality.

Social vs. commercial

The general opinion is that it should not make a difference, whether a company is social or commercial. There are however some points of discussion regarding long term agreements, risk division and incentives. It is highly possible that commercial parties are postponing the appliance of supply chain integration principles, until the social parties have proven that it truly does contribute to (financial) improvement.

5. New vs. renew

The research focused on maintenance and renovations, because of the growing importance of maintaining the existing housing stock, but also because of the opportunity to investigate these types of works at Stadgenoot. However, one could wonder if there is a difference between 'new and renew'?

Again, the first reaction of several experts is that it should not make a difference. In both cases lower costs, shorter planning and a better quality are the desired end results. Also the method of collaboration is the same, transparency, equality, early involvement etc.

But the actual activities and techniques do differ. In a new development project, the plan starts at point zero, where in a renovation project there is already a lot of given data, building flaws, tenants, insecurities at cetera. This requires intensive research at the beginning of the project in order to map all the possibilities and uncertainties, and a flexible and adequate team which can adapt to the possible changes.

Further research should be conducted to the extent of the difference between the two methods.


Interview questions

6. Interview questions

6.1. Personalia

Datum:
Naam:
Afdeling / functie:
Werk ervaring:

6.2. Algemene opinie over keten integratie

- Heeft u eerdere ervaring met het werken in een keten? Zo ja, hoe veel projecten?
- Wat zijn volgens u, de voordelen van een ketensamenwerking ten opzichte van een traditionele samenwerking?

6.3. Project gerelateerde vragen

informatie - Communicatie

- Vindt er frequent communicatie plaats tussen u en uw ketenpartner? En betreft dit verschillende partijen / afdelingen of is dit steeds de zelfde perso(o)n(en)?
- Hoe heeft u deze communicatie en het niveau ervan ervaren?
- Ondervindt u een verschil in communicatie tussen een ketensamenwerking, en een traditionele samenwerking?
- Heeft u in bepaalde perioden behoefte gehad aan meer overleg dan standaard plaats vond of aan overleg in een andere vorm? Zo ja: wanneer, met wie en waarover? En: heeft dat toen ook plaats gevonden?
- Denkt u (achteraf gezien) dat anderen meer overleg met u hadden moeten voeren? Zo ja: wie, wanneer, waarover en hoe? En: waarom denkt u dat dit niet heeft plaats gevonden?
- Wat zijn de grootste informatie- en communicatie- successen en problemen op dit project geweest?
- Wat zijn voor u de grootste informatie- en communicatie- problemen en successen (ooit) geweest?
- Wat is hier volgens u de directe / achterliggende oorzaak van? (per situatie)
- Heeft een of meer van bovenstaande situaties een repeterend karakter? (hebben ze zich vaker voor gedaan/) Zo ja: welke?
- Denkt u dat boven genoemde problemen voorkomen (hadden) kunnen worden? Zo ja: heeft u suggesties hoe?
- Denkt u dat er een verschil is in bovenstaande situatie tussen ketensamenwerking en een traditionele samenwerking?
- Is er bij aanvang van het project besproken waar er allemaal rekening mee gehouden moet worden? I.a.w. zijn eerder opgedane ervaringen geïmplementeerd aan het begin van het project?
- Hoe heeft de aannemer selectie plaats gevonden?
- Denkt u dat de wijze van aanbesteden van invloed is geweest op het project? Zo ja, hoe?
- Lijkt het u lonend om boven genoemde leerervaringen te verspreiden binnen de ketensamenwerking? Zo ja: hoe en voor wie?

Kosten

- Was de begroting, zoals hij in eerste instantie gehanteerd werd, haalbaar? Zo niet: welke punten niet en waarom niet?
- Welke acties heeft u ondernomen toen u ondervond dat de begroting niet gehaald zou worden?
- Was dit succesvol en / of had dit (achteraf gezien) beter gekund? Zo ja, wanneer en hoe?
- Waar denkt u dat `onnodige´ kosten in zijn gaan zitten binnen dit project?
- Waar denkt u dat `onnodige´ kosten in zitten binnen uw werkdomein?
- Wat is hier de oorzaak van? (per onderdeel)

Tijd

- Hoe heeft u de planning bewaakt?
- Was de planning, zoals hij in eerste instantie opgesteld werd, haalbaar? Zo niet: welke punten niet en waarom niet?
- Welke acties heeft u ondernomen toen u ondervond dat de planning niet gehaald zou worden?
- Was dit succesvol en / of had dit (achteraf gezien) beter gekund? Zo ja: wanneer en hoe?
- Welke punten hebben meer tijd gekost dan gepland was? En wat was hier de oorzaak van?
- Denkt u dat de planning anders had gelopen als dit een traditionele samenwerking was geweest? Waarom?

Kwaliteit product

- Wat heeft u er aan gedaan om de kwaliteit van het product te bewaken?
- Was dit succesvol en / of had dit (achteraf gezien) beter gekund? Zo ja: wanneer en hoe?
- Wat zijn de grootste successen en problemen op dit project geweest?
- Wat zijn voor u de grootste successen en problemen (ooit) geweest?
- Wat is hier volgens u de directe / achterliggende oorzaak van? (per situatie)

- Heeft u een of meerdere van boven genoemde situaties (successen en problemen) al eens eerder meegemaakt? Zo ja: welke?
- Denkt u dat boven genoemde situaties (successen en problemen) voorkomen (hadden) kunnen worden? Zo ja: Hoe?
- Lijkt het u zinvol / lonend om deze leermomenten te verspreiden binnen de organisatie? Zo ja: hoe en voor wie?

Kwaliteit keten organisatie

- Is er een gezamenlijke cultuur tussen Stadgenoot en de aannemer?
- Is er een gezamenlijke missie / visie over de kern van ketensamenwerking?
- Had u (als persoon) vertrouwen in uw ketenpartner?
- Heeft u zich open en transparant opgesteld ten opzichte van uw ketenpartner?
- Worden in de praktijk de ambities van uw ketenpartner volledig nageleefd?
- Hoe werd er om gegaan met de transparantie, bijvoorbeeld wanneer is het tijd om de kaarten op tafel te leggen?
- Wie moet er volgens u als eerste de kaarten op tafel leggen? En wanneer?
- Beide partijen kunnen wanneer de samenwerking tegenvalt, deze samenwerking beëindigen. Liggen de machtsverhoudingen hierin evenredig? Hoe zou hiermee om moeten worden gegaan?
- Hoe zou je de positie / rol van de aannemer verwoorden tov een traditioneel proces?
- Deelt u een gezamenlijk gevoel van 'Fair play' met uw ketenpartner?
- Vindt u dat uw ketenpartner zich goed inzet, toont hij commitment?
- Hoe wordt er binnen deze ketensamenwerking omgegaan met eigen inbreng en mening?
- Van hoe groot belang was het om met vernieuwende ideeën en inzichten te komen?
- Werden experimenten geaccepteerd binnen deze samenwerking?
- In hoeverre bent u van mening dat het behouden van deze relatie van belang is?
- In hoeverre ben u (uw organisatie) bereid om extra energie te steken in het behoud van deze relatie?
- Vertrouwt u uw gevoelige informatie toe aan deze partner?
- Bent u bereid fouten en successen te 'openlijk' te delen met uw ketenpartner, om zo tot gezamenlijke proces
- verbetering te komen?
- Zijn er lange termijn afspraken gemaakt met de ketenpartner?
- Wordt er veel waarde gehecht aan consensus over besluitvorming?
- Is uw ketenpartner bereid om u te helpen als er zich een probleem voordoet?
- Bent u op de hoogte van de bedrijfsbelangen en intenties van uw ketenpartner, en bent u ingesteld om elkaars bedrijf te versterken?
- Houdt u, bij het maken van veranderingen in de organisatie, rekening mee met andere delen van de keten?
- Wat zou u achteraf anders gedaan hebben of in het vervolg anders doen?

(Tussen)evaluatie

- Is er een verschil tussen evalueren in ketensamenwerking en dat bij een traditionele samenwerking?
- Wat zijn de belangrijkste punten die uit de tussenevaluatie naar voren zijn gekomen?
- Wat is er met de gegevens die naar voren kwamen uit de tussenevaluatie gebeurd?
- Wat vindt u van de huidige manier van evalueren?
- Vindt u dat het accent van de evaluatie te veel of te weinig op een bepaald aspect ligt? Zo ja: welk(e) aspect(en)?
- Heeft u het gevoel dat uw mening genoeg aandacht krijgt tijdens de evaluatie en dat er genoeg mee gedaan / naar geluisterd wordt?
- Heeft u aanbevelingen om de evaluatie te veranderen, bijvoorbeeld opdat er meer verbeterpunten naar voren komen?

Model

- Denkt u dat kennis die is opgedaan in voorgaande projecten, van toegevoegde waarde kan zijn voor nieuwe projecten? Waarom?
- Hoe denkt u dat leermomenten hergebruikt kunnen worden?
- In welke fase(n) ontstaan de meeste leermomenten?
- Als een dergelijk model wordt ontwikkeld, zou u bereid zijn om er mee te werken? Waarom?
- Waar zou het model volgens u aan moeten voldoen, wat moet er in zitten?
- Tegenwoordig worden er veel 'tools' ontwikkeld. Wanneer wordt een toolbox – een tool shed? Dus, wanneer wordt een toolbox te groot, waardoor het zijn functionaliteit verliest?

Einde

- Zijn er vragen / zaken die u mist in dit interview? Heeft u nog dingen die u relevant lijken die nog niet aan de orde zijn gekomen?
- Hoe heeft u dit interview ervaren?
- Wat ging er goed
- Wat kon er beter?

Questionnaire respondent list

7. Questionnaire respondent list

Nr.	Bedrijf	Type bedrijf	Connectie	Afdeling	Naam	Contact	Verzonden	Verzonden	Retour complee t
1	Stadgenoot	WBV	Stage bedrijf	Planmatig onderhoud	J. Veerman	jveerman@stadgenoot.nl	21-10-10	11-10-10	
2	Stadgenoot	WBV	Stage bedrijf	Planmatig onderhoud	J. Unawekla	junawekla@stadgenoot.nl	21-10-10	11-10-10	
3	Stadgenoot	WBV	Stage bedrijf	Vastgoed verbetering	N. ten Bosch	ntenbosch@stadgenoot.nl	21-10-10	11-10-10	
4	Stadgenoot	WBV	Stage bedrijf	Vastgoed verbetering	A Vermeulen	avermeulen@stadgenoot.nl	21-10-10	11-10-10	25-10-10
5	Stadgenoot	WBV	Stage bedrijf	Vastgoed verbetering	J. van Koert	Jvankoert@stadgenoot.nl	21-10-10	11-10-10	18-11-10
6	Stadgenoot	WBV	Stage bedrijf	Project ontwikkeling	J. Wolff	jwolff@stadgenoot.nl	21-10-10	11-10-10	
7	Stadgenoot	WBV	Stage bedrijf	Project ontwikkeling	A Ravenstein	aravestein@stadgenoot.nl	gestopt	11-10-10	½
8	Stadgenoot	WBV	Stage bedrijf	Project ontwikkeling	C. Sijtsma	csijtsma@stadgenoot.nl	21-10-10	11-10-10	15-11-10
9	Stadgenoot	WBV	Stage bedrijf	Project ontwikkeling	P. Kramer	pkramer@stadgenoot.nl	21-10-10	11-10-10	
10	Stadgenoot	WBV	Stage bedrijf	Vastgoed directeur	P. van der Horst	pvanderhorst@stadgenoot.nl	21-10-10	11-10-10	
11	Stadgenoot	WBV	Stage bedrijf		S. Brown				½
12	Van Ieperen Groep	Aannemer	Expert meeting 17.02.2010		H. van Ieperen	H.vanIeperen@ieperen.nl	21-10-10	11-10-10	18-11-10
13	Van Ieperen Groep	Aannemer	Expert meeting 17.02.2010		P. van Ieperen	P.vanieperen@ieperen.nl	21-10-10	11-10-10	12-10-10
15	Van Ieperen Groep	Aannemer	Expert meeting 17.02.2010		B. Brinkman	b.brinkman@ieperen.nl	21-10-10	11-10-10	25-10-10
16	Provides	WBV	Expert meeting 17.02.2010		H. den Heiligenberg	e.boersbroek@provides.nl	Sec.	11-10-10	
17	Woonbelang Veghel	WBV	Expert meeting 17.02.2010		A. Stas	secretariaat@woonbelang.nl	Sec.	11-10-10	
18	Wonen Breburg	WBV	Expert meeting 17.02.2010		J. Mennen	J.mennen@wonenbreburg.nl	21-10-10	11-10-10	
19	Klinc	Adviseur	Expert meeting 17.02.2010		H. van Hees	h.vanhees@klinc.me	21-10-10	11-10-10	12-10-10
20	Hooyschuur architecten	Architect	Planmatig onderhoud		Cees Hooyschuur	ceesh@hooyschuur.nl	21-10-10	11-10-10	15-11-10
21	Vandersnoek	Aannemer	Planmatig onderhoud		Koosje de Koeijer	k.dekoeijer@vdsnoek.nl	21-10-10	11-10-10	12-10-10
22	SW Wolda	Aannemer	Planmatig onderhoud		Michael Dienaar	mdienaar@swwolda.nl	21-10-10	11-10-10	18-10-10
23	Breijer	Aannemer	Planmatig onderhoud		Rob Hendriks	rhendriks@breijer.nl	21-10-10	11-10-10	½
24	Hemink	Aannemer	Planmatig onderhoud		Debora Citgez	d.citgez@heminkgroep.nl	21-10-10	11-10-10	21-10-10
25	Hemink	Aannemer	Planmatig onderhoud		L. Viveen	l.viveen@vandergriftenvalkenburg.nl	21-10-10	11-10-10	18-10-10
26	Van der Grift en Valkenburg gr.	Aannemer	Planmatig onderhoud		R. Valkenburg	l.viveen@vandergriftenvalkenburg.nl	21-10-10	11-10-10	
27	Hartman	Aannemer	Planmatig onderhoud		Hans Lemstra	hlemstra@hartmantotaalonderhoud.nl	21-10-10	11-10-10	18-11-10
28	Dirkzwager	Aannemer	Planmatig onderhoud		Ger Uitermark	g.uitermark@dirkzwager-groep.nl	21-10-10	11-10-10	21-10-10
29	Feenstra	Installatie	Planmatig onderhoud		Ed van Delft	evdelft@feenstra.com	21-10-10	11-10-10	½
30	Metapart	Installatie	Planmatig onderhoud		Frits Hoole	f.hoole@metapart.nl	21-10-10	11-10-10	

Nr.	Bedrijf	Type bedrijf	Connectie	Afdeling	Naam	Contact	Verzonden	Verzonden	Retour compleet
31	Vios	Aannemer	Planmatig onderhoud		Cees Star	c.star@vios-amsterdam.nl	21-10-10	11-10-10	20-10-10
32	Woonwaard noord Kennemerland	WBV	Rapportage, Krijn Smallenburg Consult		Dirk Zuiderveld	Dirk.zuiderveld@xs4all.nl	21-10-10	11-10-10	12-10-10
33	Woonwaard	WBV	Geen		Ferry Van Wilgenburg,	fvanwilgenburg@woonwaard.nl	21-10-10	11-10-10	15-11-10
34	De Nijs	Aannemer	A. Ravenstein		Camiel Honselaar	Camiel.honselaar@mjdenijs.nl	21-10-10	11-10-10	
35	Heddes	Aannemer	A. Ravenstein		Boaz de Boer	Bboer@heddes.nl	21-10-10	11-10-10	25-10-10
36	MVRDV	Architect	A. Ravenstein		Renske van der Stoep	renskevanderstoep@mvrdv.nl	21-10-10	11-10-10	
37	Hemubo	Aannemer	Sarphatistraat onderhoudsproject	Adjunct directeur verkoop	D. Wagemakers	d.wagenmakers@hemubo.nl	14-10-10	15-10-10	½
38	Hemubo	Aannemer	Sarphatistraat onderhoudsproject	Adviseur vastgoedonderh.	T. Bergmans	t.bergmans@hemubo.nl	14-10-10	15-10-10	
39	Mens-Zeist	Aannemer	Solebaystraat onderhoudsproject		M. Koenders	m.koenders@mens-zeist.nl	14-10-10	15-10-10	18-11-10
40	Mens-Zeist	Aannemer	Solebaystraat onderhoudsproject		C van den Berg (H)	c.vandenberg@mens-zeist.nl	14-10-10	15-10-10	½
41	Rappange & Partners	Architect	Solebaystraat onderhoudsproject		Bart Kwant	rap@euronet.nl	14-10-10	15-10-10	½
42	Rappange & Partners	Architect	Solebaystraat onderhoudsproject		Kees Doornenbal	kdoornenbal@rappange.nl	14-10-10	15-10-10	
43	Nieman Adviesbureau	Adviseur	Solebaystraat onderhoudsproject		Harm Valk	h.valk@nieman.nl	gestopt	15-10-10	½
44	Nieman Adviesbureau	Adviseur	Solebaystraat onderhoudsproject		Frank Deuring	f.deuring@nieman.nl	14-10-10	15-10-10	
45	Nieman Adviesbureau	Adviseur	Solebaystraat onderhoudsproject		Lars van de Kamp	l.vdkamp@nieman.nl	14-10-10	15-10-10	
46	Logchies	Aannemer	L. Couperus onderhoudsproject	Commercieel Manager	C. Been	corbeen@logchies.nl	18-10-10	26-10-10	½
47	Logchies	Aannemer	L. Couperus onderhoudsproject	Hoofd uitvoering	E. de Goede	erjandegoede@logchies.nl	18-10-10	26-10-10	
48	Logchies	Aannemer	L. Couperus onderhoudsproject		Tom Heemskerk	info@logchies.nl	18-10-10	26-10-10	
49	Hooyschuur	Architect	L. Couperus onderhoudsproject	Architect – directeur	Jeroen Hooyschuur	jeroenh@hooyschuur.nl	18-10-10	26-10-10	15-11-10
50	Patina	Aannemer	L. Couperus onderhoudsproject	Algemeen directeur	Wil Boots	wb@patina.nl	18-10-10	26-10-10	15-11-10
51	Patina	Aannemer	L. Couperus onderhoudsproject		Ruud Schat	rs@patina.nl	18-10-10	26-10-10	15-11-10
52	Vibes	BIM	L. Couperus onderhoudsproject		Wilfred Wolf	w.wolf@vibes.nl	18-10-10	26-10-10	
53	Vibes	BIM	L. Couperus onderhoudsproject		Krijn Naeff	k.naeff@vibes.nl	18-10-10	26-10-10	
54	Metapart	Installateur	L. Couperus onderhoudsproject		Arjen van Dorland	a.vandorland@metapart.nl	18-10-10	26-10-10	
55	Ymere Haarlem	WBV	Via Cor Been	Projectleider vastgoedbeh	Mike van Latum	m.van.latum@ymere.nl	gestopt	26-10-10	½
56	Heddes	Aannemer	Extra connectie (via-via)		Paul Beemster	pbeemster@heddes.nl (?????)			12-10-10
57	Woonwaard	WBV			Jan Bon				½
58	Hooyschuur architecten				Ron Baltussen				½
59					Patrick				½
60					Honout				½

Linked In

Nr.	Bedrijf	Type bedrijf	Connectie	Afdeling	Naam	Contact	Verzonden	Retour compleet
1	NIBO bouwbedrijf		LinkedIn	Directeur	Nico Lemmerman	nlemmerman@zonnet.nl	15-10-10	18-10-10
2	Universiteit van Amsterdam		LinkedIn	Proff. Supply chain optimization	Jack van der Veen	j.a.a.vanderveen@uva.nl	15-10-10	18-10-10
3	BM Projectontwikkeling BV		LinkedIn	Jr. Projectmanager	Ward Koppejan	w.koppejan@bmvanhouwelingen.nl	15-10-10	½
4	Hogeschool Rotterdam		LinkedIn	Lecturer Supply chain managem	Alexander de Vries	vriam@hro.nl	15-10-10	½
5	Dura Vermeer		LinkedIn	Organisatie medewerker	Bas van Winkelhof	b.van.winkelhof@kpnmail.nl	15-10-10	½
6	Balance & Result		LinkedIn	Directeur Balance & Result	Jan Straatman	j.straatman@balance-result.nl	15-10-10	18-10-10
7	Portiva		LinkedIn	Sales Consultant Bouwlogics	Carolien Slaghekke	cslaghekke@portiva.nl		½
8	Stichting ETIM Nederland		LinkedIn	Director	Marc Habets			½
9	Dijk van een Wijf.nl		LinkedIn	Coach	Sabine (van den Boom-Schoorl)			½
10	Kristal	Ontwikkelaar	LinkedIn		Barend Jonker			15-11-10
11	Dura Vermeer	Aannemer	Linkedin	Adj. directeur	Jeroen Heijdra			31-12-10


ANALYSIS
Questionnaire outcome
TESTING

8. Questionnaire outcome

Readers guide

The questionnaire is divided over respondents with experience in supply chain integration (s.c.i.) and respondents with no experience. The difference between these two groups is indicated by using different colours, purple for the respondents with experience and blue for the respondents with no experience

For those with experience the questions address their experience. For the respondents with no experience, the question can either addresses their expectation about s.c.i. or address their experience in non-chain integration projects.

The graphs, which are used throughout this chapter, are based on the count (N=__) of number of answers. This means that sometimes the count can exceed the amount of respondents, because some respondents gave more than one answer.

The tables are also divided over respondents with experience (purple) and respondents with no experience (blue). The first column presents the different occupation groups. The middle and right columns present the answers of the two respondent groups (with and with no experience) The bottom half of the tables gives the total count for the specific answer, and its percentage relating to the 'Yes' or 'No' answer.

8.1.Communication

[N=39]

Is there a difference in communication between supply chain integration and a traditional collaboration?

The majority of the respondents (93% and 91%) answered that there is a difference. The respondents with no experience expect that there is a difference, and the respondents with experience, experience that there is a difference.

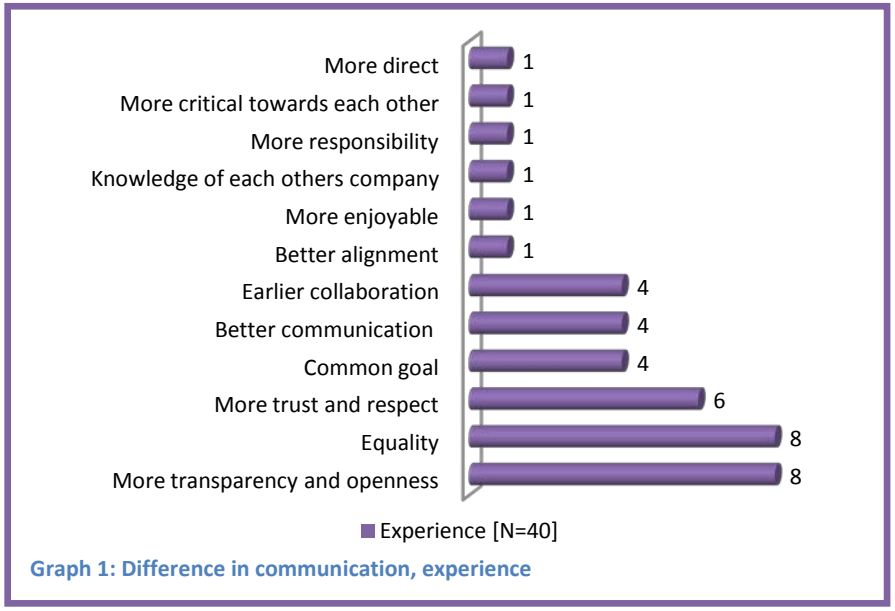
	Experience		No experience	
	Yes	No	Yes	No %
Client	100 %	0 %	100 %	0 %
Contractor	85 %	15 %	80 %	20 %
Additional	100 %	0 %	100 %	0 %

	Experience		No experience	
Count (nr.)	26	2	10	1
Total	93 %	7 %	91 %	9 %

Table 1: Difference in communication [N=39]

If so, what is the difference?

When asked what these differences are, the respondents with experience indicated that 'transparency' and 'openness' increase, that there is 'more equality' and 'more trust and respect'. "Communication on a basis of equality, and all chain partners are responsible for their own part in the whole" (Contractor, 2010a) [1]. The respondents with no experience expect that the communication will improve, "the idea of being active as a team should have a positive outcome on the communication" (Contractor, 2010b). Also "the techniques are not different or new, but because of the openness and transparency the content is different" (Additional, 2010b).



Graph 1: Difference in communication, experience

Graph 2: Difference in communication, no experience

[1] The citations are extracted from the questionnaire, the indication 'a' means 'with experience' and the indication 'b' means with no experience. Further explanation about these sources (client, contractor. additional) can be found in the literature list.

If not, why not?

Of the respondent with experience, 7% indicated that there is no difference between the two collaboration methods. Of the respondents with no experience, 8% indicated that there is no difference. Because of the small count [N=3], the answers are not categorized, but they are presented as citations. The citations that answered with 'no comment' are not included.

"People are not accustomed to think and work on each other's behalf" (Contractor, 2010a). And "it should be the intention but the working groups of the particular parties soon fall into their familiar pattern, and then everything is back to usual" (Contractor, 2010b).

What was your biggest success regarding communication and information sharing?

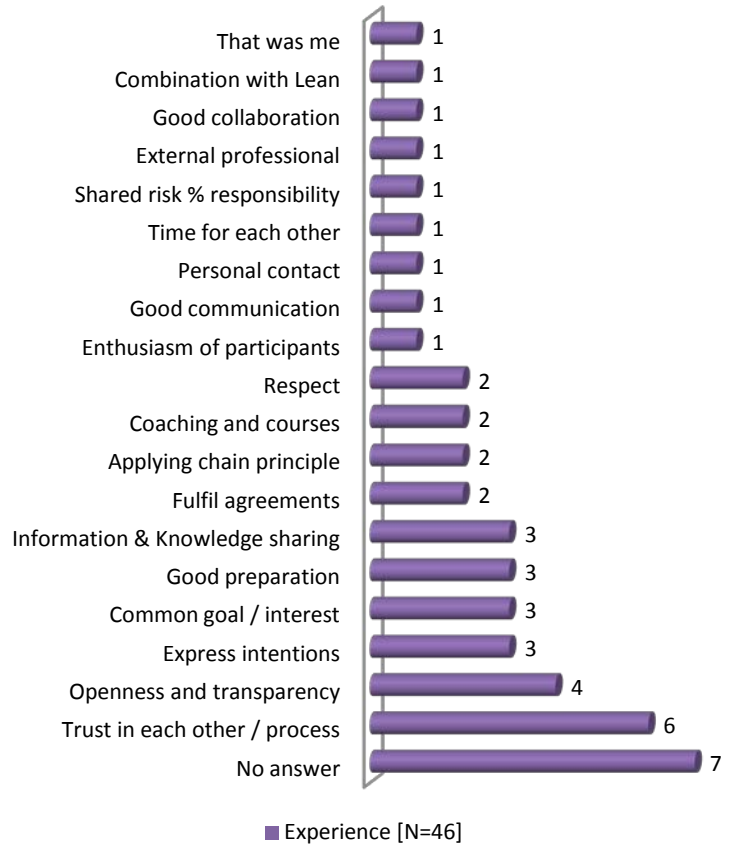
Past successes can contain valuable lessons. For the respondents with chain experience, the majority does not give an answer, or mentions a specific project to be their biggest success. Other answers regard the openness and transparency, end user satisfaction and sharing documentation of systems, "the architect worked in the budget (document) of the contractor" (Contractor, 2010a) and "that we completely discarded the original principles, and together created other systems that were better and cheaper and also had a better fit in the workflow" (Additional, 2010a). The same applies for the respondents with no experience in supply chain integration.

Graph 4: Biggest communicational success, experience

Graph 3: Biggest communicational success, no experience

What is the most important cause of this success?

Finding out how successes are created, can contribute to improving the supply chain integration. According to the respondents, the successes are caused by;



Graph 6: Cause of success, experience

According to the respondents with experience, trust in each other and in the process is the most common cause for communicative successes. Remarkable however, is that the respondents indicated almost twenty different reasons, such as "express the intention to be open and help each other to stick to this intention" (Client, 2010a) also, "jointly implementing knowledge, an open environment of communication, mutual respect and enthusiasm to achieve a common goal" (Contractor, 2010a).

Graph 5: Cause of success, no experience

The respondents with no experience in supply chain integration also indicated that their successes were caused by openness and transparency, good communication and collaboration and the willingness to learn. "Openness, and willingness to learn from each other's mistakes and shortcomings" (Client, 2010b). And "the will of the architect to share his vision of the project with the construction workers, realizing that the architect is also dependent on others in order to realize his vision" (Contractor, 2010b). Also, "to drink coffee with the contractor every day, during execution phase, on the contractor's expense. This created a group of friends from all disciplines in the project, which resulted in people watching over each other's work and people warning each other for threatening failures" (Contractor, 2010b).

Has this success been repeated?

The following table shows the division of success repetition for the indicator communication, divided over respondents with experience and those with no experience The first table presents the answers of the different occupation groups. The second table gives the total count for the specific answer, and its percentage relating to the 'Yes' or 'No' answer.

Regarding the repetition of successes in communication 64% of the respondents with experience in supply chain integration indicated that successes are repeated. For the respondents with no experience this percentage is 55%.

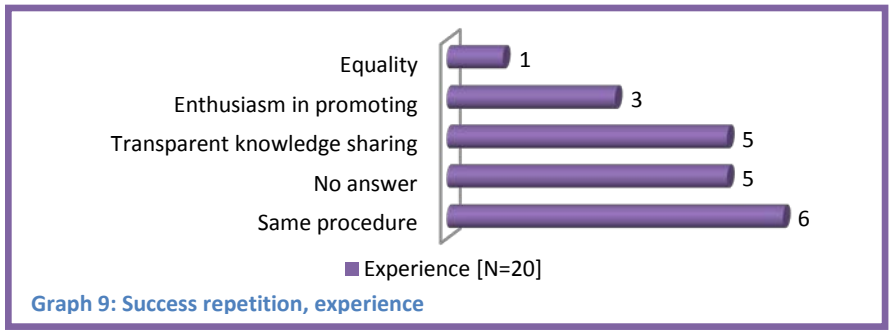
Communication Success repetition	Experience		No experience	
	Yes	No	Yes	No
Client	50 %	50 %	33 %	67 %
Contractor	54 %	46 %	60 %	40 %
Additional	82 %	18 %	67 %	33 %

	Experience		No experience	
Count (nr.)	18	10	6	5
Total	64 %	36 %	55 %	45 %

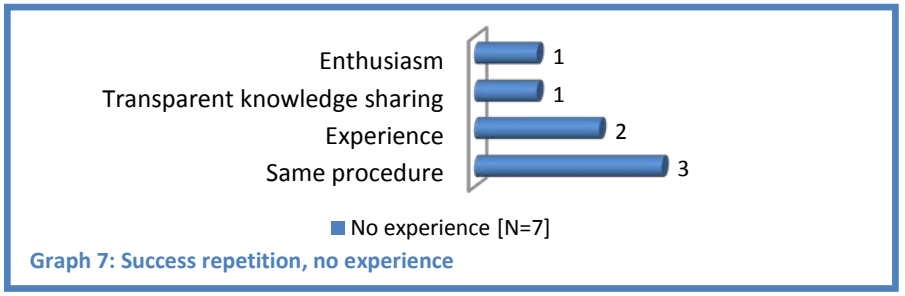
Table 2: Communication success repetition [N=39]

If yes, how did this occur?

The respondents, who indicated that successes were repeated, were asked how this success repetition occurred.



Graph 9: Success repetition, experience

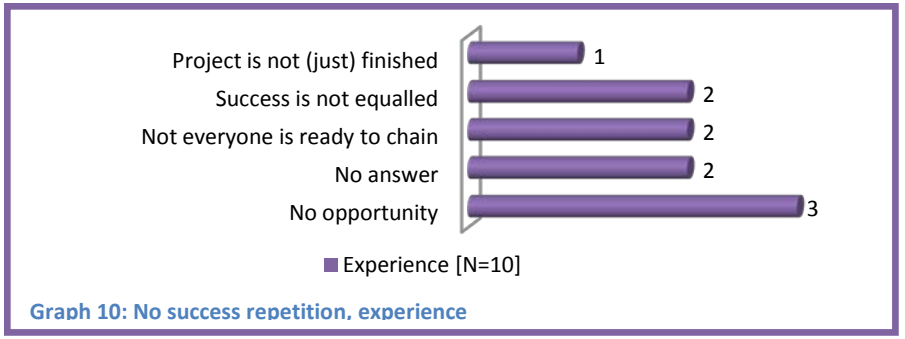


Graph 7: Success repetition, no experience

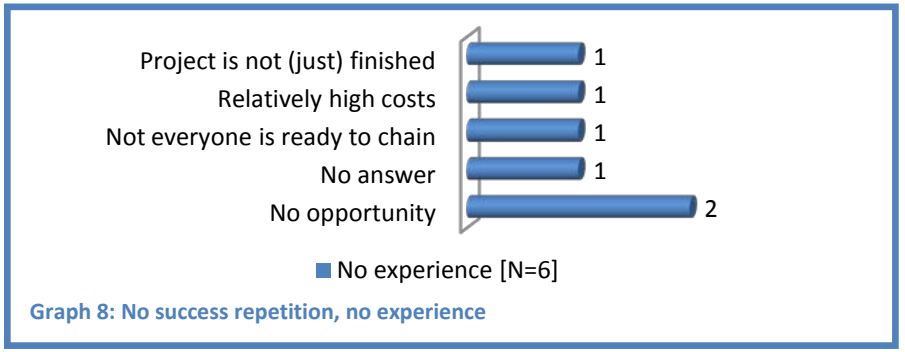
For both respondent groups success repetition comes from applying the same procedure as before, "repeat the successful things"(Contractor, 2010a). Also both groups indicated that transparency in knowledge sharing and being enthusiastic contributes to repeating successes. "Clarity of purpose, brought with passion and knowledge" (Client, 2010a).

If not, why did this success not repeat itself?

The respondents, who indicated that the successes were not repeated, were asked why this did not happen.



Graph 10: No success repetition, experience



Graph 8: No success repetition, no experience

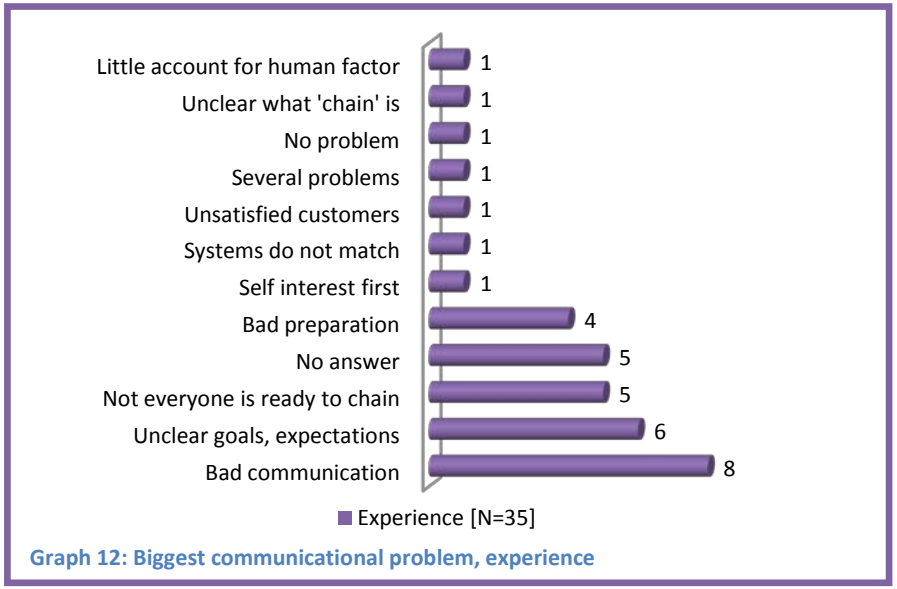
The most frequent answer for both respondent groups is that they did not have an opportunity to repeat this success, “no opportunity yet”(Contractor, 2010a), “these types of works are still uncommon” (Contractor, 2010a).

Other causes for both respondent groups, is that the success has not yet been repeated because the project it occurred in is not yet completed. Another aspect is that people are not ready to chain, meaning that they hold on to their traditional standards and procedures, “people are still searching and do not know how transparent they can be” (Client, 2010a).

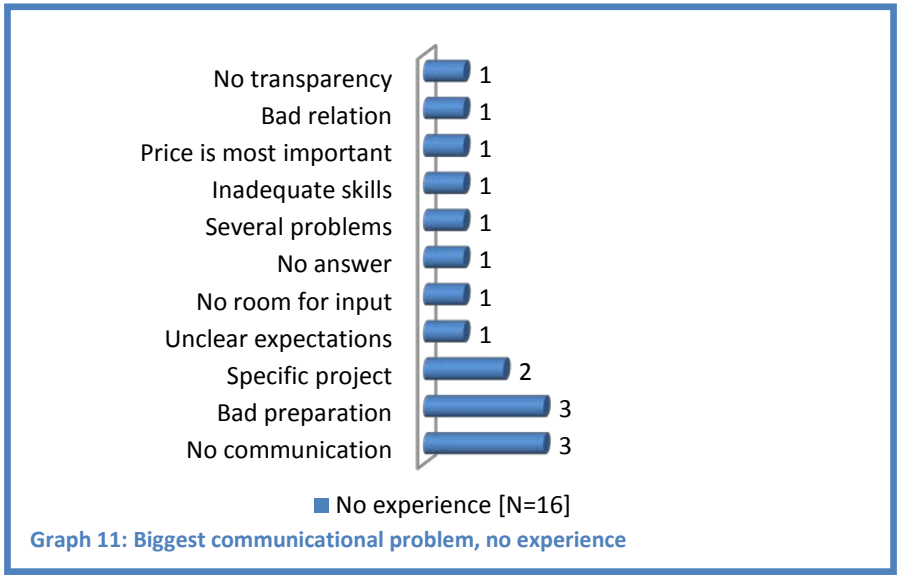
What was your biggest problem regarding communication and information sharing?

Past problems can contain valuable lessons to learn. The majority of the respondents with experience in supply chain integration indicate that their biggest problem was regarding bad communication and unclear goals and expectations. However, rather similar to successes, there are many different aspects which the respondents find problematic. “How to reach the traditional, conservative and perhaps a little stiff construction industry with new ideas and initiatives?”(Additional, 2010a).

The respondents with no experience indicate that no communication and bad preparation are the cost common problems.



Graph 12: Biggest communicational problem, experience

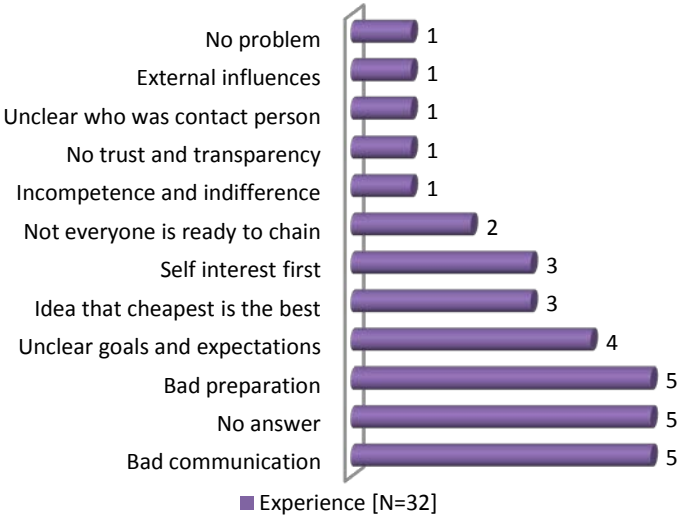


Graph 11: Biggest communicational problem, no experience

What is the most important cause of this problem?

Finding out how problems are created, can contribute to improving the supply chain integration. According to the respondents, the problems are caused by;

Regarding the causes of problems, the answers of the two respondent groups do not differ that much. Both mention bad communication, no trust and transparency and incompetence and indifference. Other aspects such as bad culture (no experience) can be compared with 'self interest first' and 'the idea that the cheapest is the best'.



Graph 15: Cause of problem, experience

Graph 14: Cause of problem, no experience

Has this problem repeated itself?

Regarding the repetition of problems in communication 57% of the respondents with experience in supply chain integration indicated that problems are repeated. For the respondents with no experience this percentage is 45%.

Communication Problem repetition	Experience		No experience	
	Yes	No	Yes	No
Client	25 %	75 %	33 %	67 %
Contractor	69 %	31 %	40 %	60 %
Additional	55 %	45 %	67 %	33 %

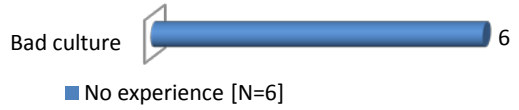
	Experience		No experience	
Count (nr.)	16	12	5	6
Total	57 %	43 %	45 %	55 %

Table 3: Communication problem repetition [N=39]

If so, why has this problem repeated itself?

The respondents, who indicated that the problem was repeated, were asked why this problem was repeated.

Graph 16: Problem repetition, experience



Graph 13: Problem repetition, no experience

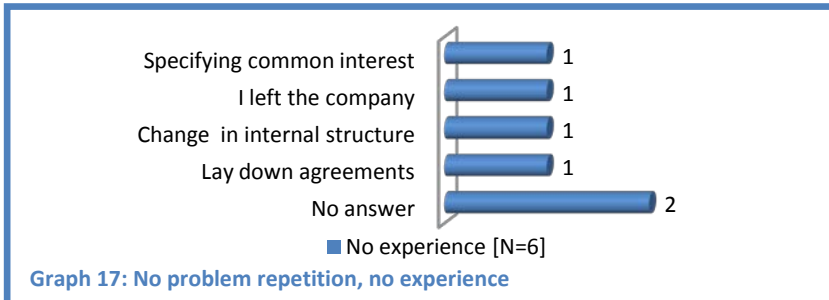
The majority of both the respondents with experience and those with no experience indicated that problems are most likely to be repeated because of the 'bad culture'. The respondents with no experience mentioned the traditional and hierarchical relation between client and contractor, "the culture in the construction industry is one of distrust" (Additional, 2010b). For the respondents with experience the problem repetition most commonly occurs at the contractors, they indicated that clients still hold on to their own procedures and methods, "the client holds on this his own process(ses)" (Contractor, 2010a).

If not, how is this prevented?

The respondents, who indicated that problems were not repeated, were asked how the problems were prevented from repetition.

The most common aspects for preventing problem repetition are according to the respondents with experience, better communication and better preparation.

Graph 18: No problem repetition, experience



Graph 17: No problem repetition, no experience

The paragraph 'organization' addresses six aspects which are formulated by Spekman (2002), and uses these aspects in order to analyse the organizations quality. However, one of these aspects is communication, and is therefore implemented in this paragraph.

Each of the six indicators, of which communication is the only aspect discussed in this paragraph, is divided over three questions addressing that specific aspect. Different to the other tables we have seen, this table has a more ordinal division, as it presents the answers to questions or statements in a range of answer possibilities.

We have made long term agreements with our chain partner.

1	Very no	No	Neutral	Yes	Very yes
Client	0 %	33 %	33 %	0 %	33 %
Contractor	0 %	0 %	20 %	40 %	40 %
Additional	0 %	33 %	17 %	17 %	33 %

	Very no	No	Neutral	Yes	Very yes
Count	0	5	5	4	7
	0 %	24 %	24 %	19 %	33 %

Table 4: Communication, long term agreements, experience

Do you think that long term agreements lead to a better process between client and contractor?

1	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	2	4	1
	0 %	0 %	29 %	57 %	14 %

Table 5: Communication, long term agreements, no experience

The respondents with experience (purple) indicated a diversity of answers when it comes to making long term agreements. On the one hand 52% (19% + 33%) indicated that long term agreements have been made. On the other hand in 48% (24% + 24%) of the answers the respondents indicate neutral, which could mean that intentions were pronounced but no agreements were made, or even no.

The respondents with no experience (blue) were asked whether or not they think it is relevant for the process to have long term agreements. Of the respondents with no experience, the majority indicated to find it (very). 29% indicated to have a neutral opinion.

Within the supply chain integration we value a consensus in decision making

2	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	67 %	33 %
Contractor	0 %	0 %	0 %	60 %	40 %
Additional	0 %	0 %	0 %	33 %	67 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	11	10
	0 %	0 %	0 %	52 %	48 %

Table 7: Communication, consensus in decision making, experience

To what extent is consensus in decision making important to you?

2	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	100 %	0 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	1	6	0
	0 %	0 %	14 %	86 %	0 %

Table 8: Communication, consensus in decision making, no experience

The respondents with experience indicate d that a consensus in decision making is (highly) valued. The respondents with no experience were asked to what extent they think that consensus in decision making is important. Only 14% indicated 'neutral' when it comes to the importance of consensus in decision making, the other 86% thinks that it is important.

2. *People who are part of the supply chain integration, participate in decision making which are critical for the general success.*

3. *To what extend do you value participation in critical decision making moment?*

3	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	0 %	60 %	40 %
Additional	0 %	0 %	0 %	33 %	67 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	2	9	10
	0 %	0 %	10 %	43 %	48 %

Table 6: Communication, participation in decision making, experience

3	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	7	0
	0 %	0 %	0 %	100%	0 %

Table 9: Communication, participation in decision making, no experience

The respondents with chain experience indicated that the majority (43% + 48%)is involved in decision making which are critical for the general success. The respondents with no chain experience all value participation in critical decision making to be important.

8.2.Finance

[N=37]

Is there a difference in the financial aspect in supply chain integration and a traditional process?

The majority of the respondents (89% and 73%) answered that there is a difference in the financial aspect. The percentages are relatively high, however lower that the difference for communication (93% and 91%)

	Experience		No experience	
	Yes	No	Yes	No %
Client	100 %	0 %	67 %	33 %
Contractor	85 %	15 %	80 %	20 %
Additional	100 %	0 %	100 %	0 %

	Experience		No experience	
Count (nr.)	25	2	8	2
Total	89%	7%	73%	18%

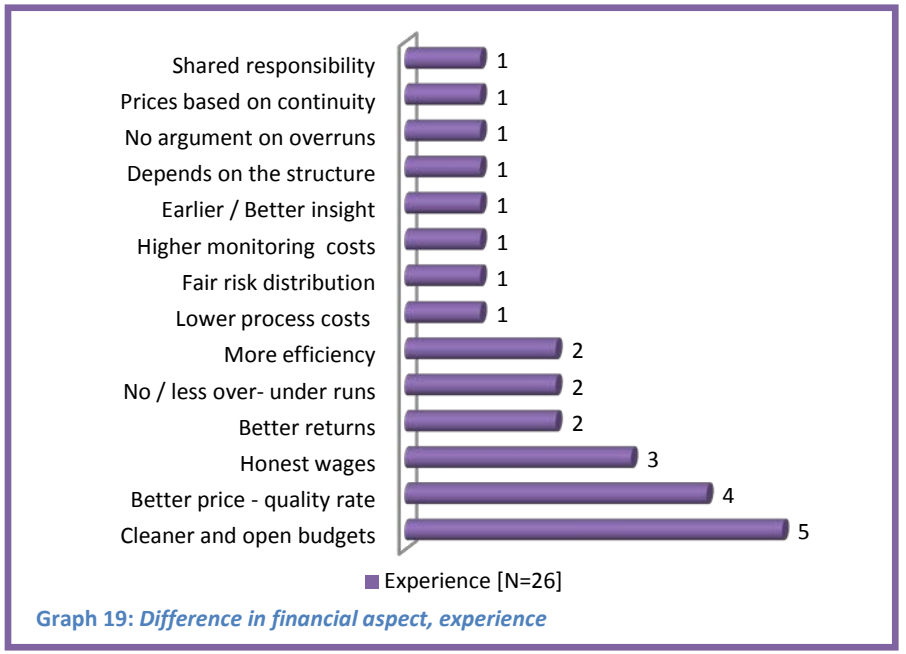
Table 10: Difference in finance [N=37]

If so, what is this difference?

When asked what these differences are, the respondents with experience indicated that the difference between a supply chain integration and a traditional process, lies in the cleaner and more open budgets and the better price – quality rate. Also honest wages and better returns are important factors. The respondents with no experience expect that the process will be optimized and that there is a better risk division between the project participants.

If not, why not? [N=4]

Of the respondent with experience 7% indicated that there is no difference and for the respondents with no experience 18% indicated that there is no difference. Because of the small count [N=4], the answers are not categorized, but they are presented as citations. "The benefits will not become visible" (Contractor, 2010a). And "if there is a positive financial difference, it will be enclosed somewhere else, the contractor world is very good at that" (Contractor, 2010b). Also, "the path to it different" (Contractor, 2010a). "The profit margins of contractors and sub-contractors remain the same to my perspective" (Client, 2010b).



Graph 19: *Difference in financial aspect, experience*

Graph 20: Difference in financial aspect, no experience

What was your biggest success regarding the financial aspect?

Past successes can contain valuable lessons for process improvement.

Graph 22: Biggest financial success, experience

Graph 21: Biggest financial success, no experience

The majority of the respondents with experience (over 1/3) did not answer this question. Other answers regard lower (failure) costs, better returns, more efficiency and customer satisfaction and no additional work.

The respondents with no experience presented a variety of answers, such as 'having a focus on the process' and 'having lower costs, at a higher selling price'.

What is the most important cause of this success?

Finding out how successes are created, can contribute to improving the supply chain integration. According to the respondents, the successes are caused by;

Graph 23: Cause of financial success, experience

Graph 25: Cause of financial success, no experience

Also concerning the cause of successes, many of the respondents with experience did not give an answer. Other answers are rather similar to the answers of the respondents with no experience , being 'good preparation', 'transparent and good communication' and 'good collaboration'. The most important factor for those with no experience is 'involvement'.

Has this success been repeated?

Finance Success repetition	Experience		No experience	
	Yes	No	Yes	No
Client	33 %	67 %	100 %	0 %
Contractor	69 %	31 %	20 %	80 %
Additional	64 %	36 %	100 %	0 %

	Experience		No experience	
Count (nr.)	17	10	6	4
Total	63 %	37 %	60%	40%

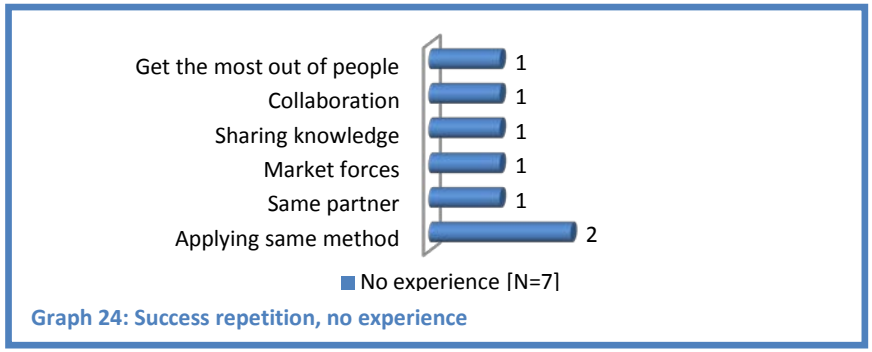
Table 11: Financial success repetition

Regarding the repetition of successes in communication 63% of the respondents with experience indicated that successes are repeated.
For the respondents with no experience this percentage is 60%.

If yes, how did this occur?

The respondents, who indicated that successes were repeated, were asked how this success repetition occurred.

Graph 26: Success repetition, experience

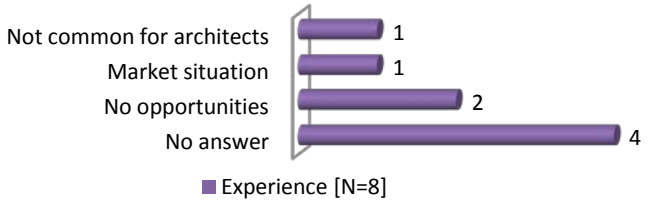


Graph 24: Success repetition, no experience

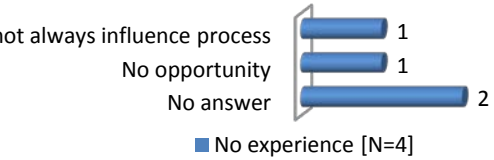
Similar to the success repetition in the communication aspect, repeating the lessons learned and applying the same method (same procedure) are the most common factors for success repetition.

If not, why did this success not repeat itself?

The respondents, who indicated that the successes were not repeated, were asked why this did not happen.



Graph 29: No success repetition, experience



Graph 30: No success repetition, no experience

Regarding why successes did not repeat themselves, the most frequent answer for both respondent groups is that they did not have an opportunity to repeat this success, "there are few repetition projects" (Additional, 2010a).

What was your biggest problem regarding the financial aspect?

Past problems can contain valuable lessons for improving the supply chain integration. The respondents with experience indicated that the most common problems are 'exceeding budgets' and 'no process control'. "In a project we exceeded the budget by 100%" (Client, 2010a). Also 'late payments', 'not knowing what to expect' and 'inadequate knowledge' are considered to be problems. "Executing a project for which we did not have enough experience and knowledge" (Contractor, 2010a). And, "we signed in on a project, for which we did not have the competence, while we thought that we did" (Contractor, 2010a).

The respondents with no experience presented a wide variety of problems. Among which, "several problems (to many)" (Contractor, 2010b).

Graph 28: Financial problems, experience

Graph 27: Financial problems, no experience

What is the most important cause of this problem?

Finding out how problems are created, can contribute to improving the supply chain integration.

Graph 31: Caused of problems, experience

Graph 32: Causes of problems, no experience

The majority of both respondent groups indicate that problems are caused by inadequate knowledge and skills. The respondents with experience also mentioned 'bad preparation', 'to little monitoring' and 'communicative errors' as causes for the problems.

Has this problem repeated itself?

Finance Problem repetition	Experience		No experience	
	Yes	No	Yes	No
Client	0 %	100 %	33 %	67 %
Contractor	38 %	62 %	40 %	60 %
Additional	36 %	64 %	100 %	0 %

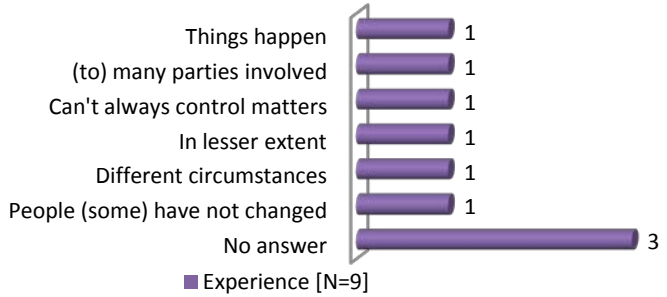
	Experience		No experience	
Count (nr.)	9	18	5	5
Total	33%	67%	50%	50%

Table 12: Financial problem repetition

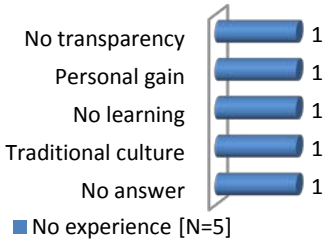
Regarding the repetition of financial problems, 33% of the respondents with experience indicated that problems are repeated. For the respondents with no experience this is 50%.

If so, why has this problem repeated itself?

The respondents, who indicated that the problem was repeated, were asked why this problem was repeated.



Graph 33: Financial problems repetition, experience

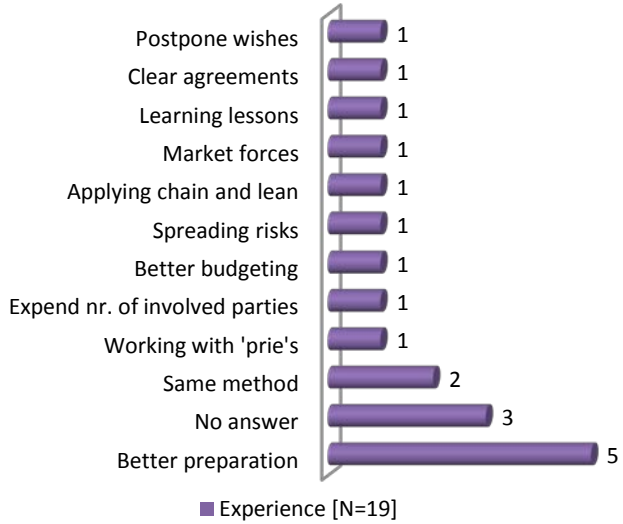


Graph 34: Financial problems repetition, no experience

For both respondent groups, there is no most frequent reason for financial problem repetition. Besides the aspects of ´traditional culture´ and that ´(some) people have not changed' there is no comparison between the answers of the respondent with experience and with no experience

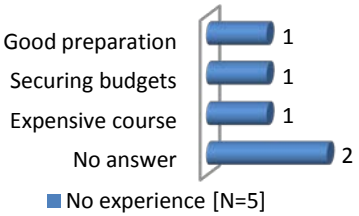
If not, how is this prevented?

The respondents, who indicated that problems were not repeated, were asked how the problems were prevented from repetition.



Graph 36: Financial no problems repetition, experience

(prie = project, risico, inventarisatie en evaluatie.)



Graph 35: Financial no problem repetition, no experience

The respondents with experience indicate that 'better preparation' is the most common aspect to prevent financial problem repetition. In total the respondents present 10 other factors to prevent problem repetition. The respondents with no experience also indicate that 'good preparation' can help in preventing problem repetition.

8.3.Planning

[N=35]

Is there a difference in planning between supply chain integration and a traditional collaboration?

The majority of the respondents (88% and 90%) answered that there is a difference in the planning aspect.

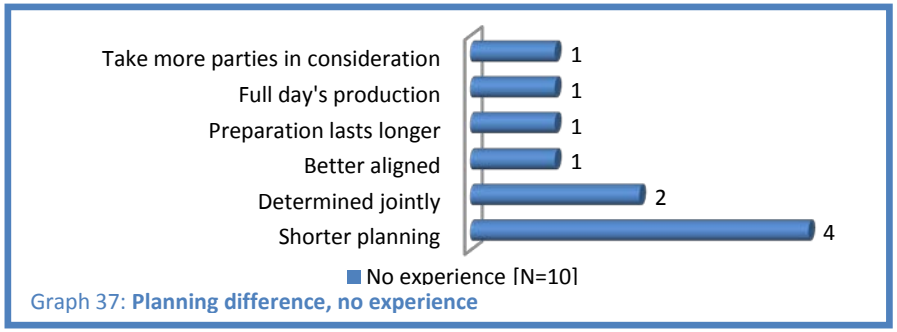
	Experience		No experience	
	Yes %	No %	Yes %	No %
Client	100	0	100	0
Contractor	75	25	80	20
Additional	100	0	100	0

	Experience		No experience	
Count (nr.)	22	3	9	1
Total	88%	12%	90%	10%

Table 13: Difference in planning [N=35]

If so, what is the difference?

Graph 38: Planning difference, experience



Graph 37: Planning difference, no experience

When asked what these differences are, the respondents mentioned several items. The respondents with experience indicated that the difference in planning between a traditional process and a supply chain integration process is the shorter and better aligned planning. “Through intelligent planning a project can be realized in a much shorter time” (Client, 2010a), and “in a supply chain integration, the planning can be established in an early stage in agreement with all parties” (Contractor, 2010a). In total the respondents with experience indicate 14 different factors.

The respondent with no experience expect the same aspects to occur namely shorter planning, better alignment and a jointly determined planning.

In both respondent groups people have indicated that the preparation phase lasts longer than it would in a traditional process.

If not, why not? [N=4]

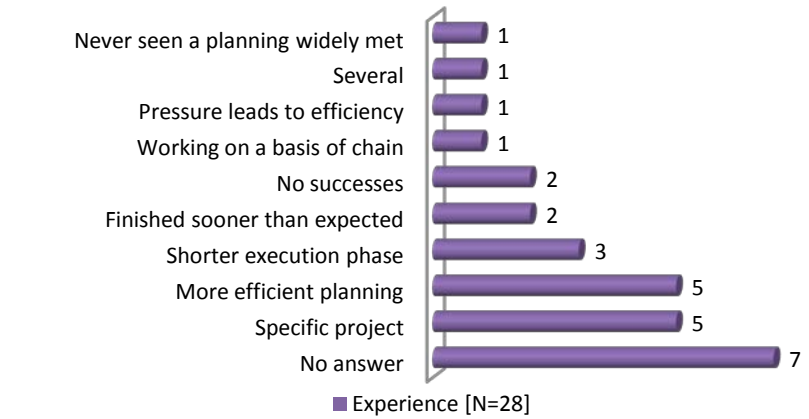
Of the respondent with experience I s.c.i. 12% indicated that there is no difference between the two collaboration methods. From the respondents with no experience 10% indicated that there is no difference. Because of the small count [N=4], the answers are not categorized, but they are presented as citations. Citations which answered with ‘no comment’ are not included.

“A planning is always set up jointly” (Contractor, 2010a). And “the planning differs per project, both positive and negative” (Contractor, 2010a).

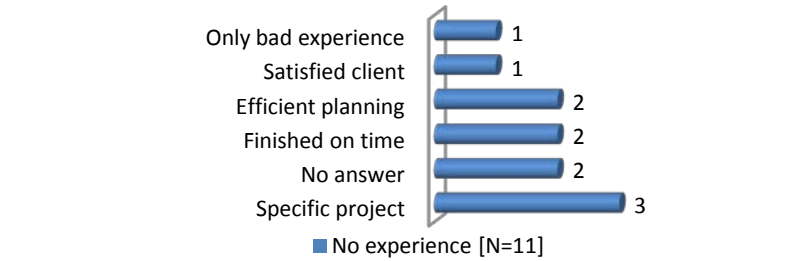
“It all sounds nice on paper but in practice it does not work. Supply supply chain integration is a perfect collaboration in a world of gypsies. But the gypsies are of another origin” (Contractor, 2010b).

What was your biggest success regarding planning?

Past successes can contain valuable lessons for process improvement.



Graph 41: Biggest planning success, experience



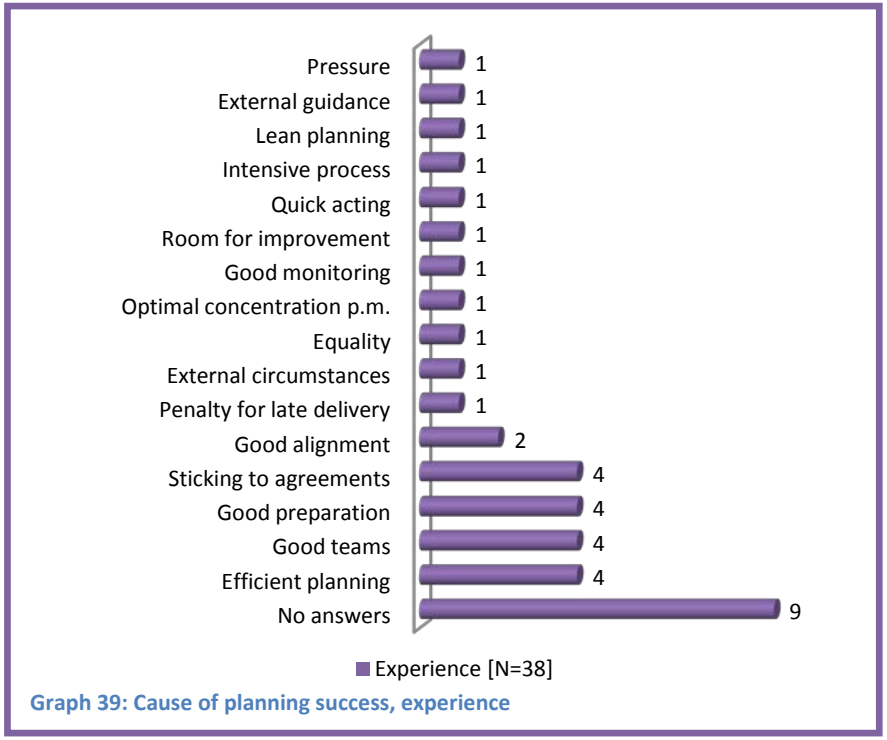
Graph 42: Biggest planning success, no experience

The respondents with experience indicated that a having a 'more efficient planning' is considered to be a success. Also, having a 'shorter execution' phase and 'finishing sooner than expected' are indicated as successes.

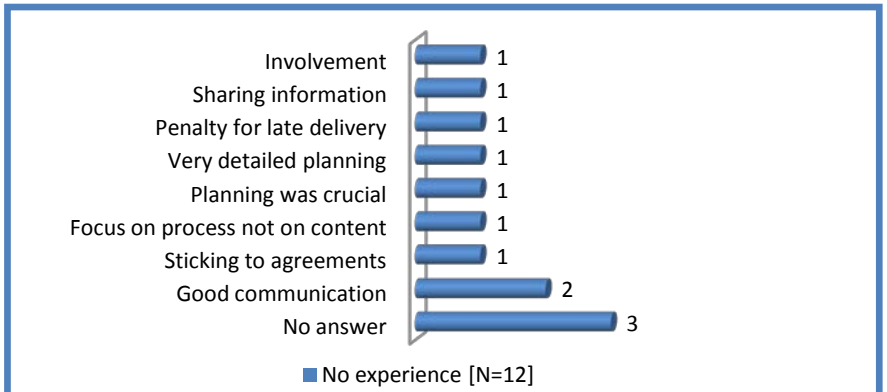
The respondents with no experience mentioned the same aspects; finishing on time and an efficient planning. In both respondent groups, there are people who indicate not to have experienced a success regarding planning, "I have never seen a planning being largely met" (Client, 2010a). "I almost only have bad experience with planning" (Additional, 2010b).

What is the most important cause of this success?

Finding out how successes are created, can contribute to improving the supply chain integration.



Graph 39: Cause of planning success, experience



Graph 40: Cause of planning success, no experience

The respondents with experience in s.c.i indicated that having an efficient planning, a good team, a good preparation and sticking to the agreements are the most frequent causes for successes to occur. In total, the respondents with experience indicate that there are 16 different factors that can contribute to success.

The respondents with no experience also mention that sticking to agreements is one of the aspects, but they also indicate that good communication is important.

Has this success been repeated?

Planning Success repetition	Experience		No experience	
	Yes	No	Yes	No
Client	33 %	67 %	67 %	33 %
Contractor	67 %	33 %	20 %	80 %
Additional	60 %	40 %	100 %	0 %

	Experience		No experience	
Count (nr.)	15	10	5	5
Total	60%	40%	50%	50%

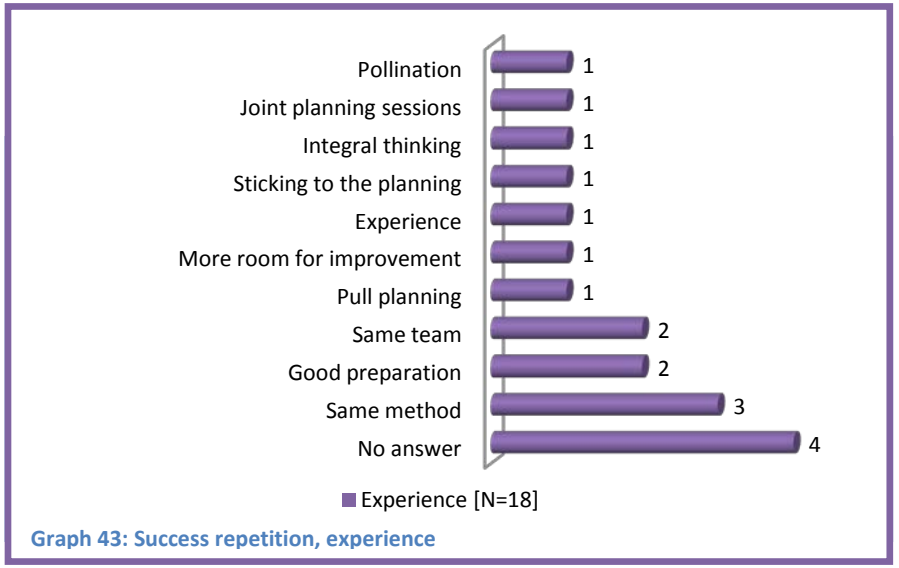
Table 14: Planning success repetition

Regarding the repetition of successes in planning, 60% of the respondents with experience indicated that successes are repeated. For the respondents with no experience this percentage is 50%.

If yes, how did this occur?

The respondents, who indicated that successes were repeated, were asked how this success repetition occurred.

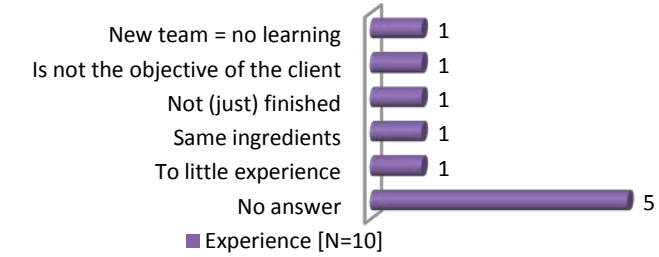
In total the respondents with experience in s.c.i present 10 different factors which would contribute to success repetition, such as pollination, experience and integral thinking, but the most common is applying the same method as before. The respondents with no experience do not indicate a 'most frequent' factor.



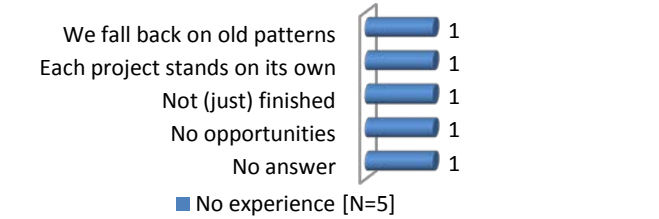
Graph 43: Success repetition, experience

If not, why did this success not repeat itself?

The respondents, who indicated that the successes were not repeated, were asked why this did not happen.



Graph 46: No success repetition, experience



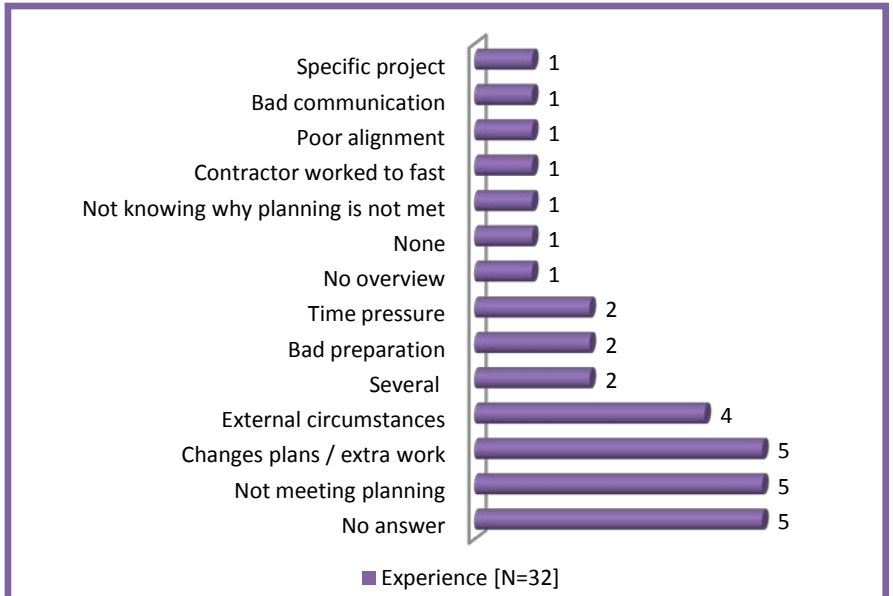
Graph 47: No success repetition, no experience

The answers of both respondent groups do not indicate one main factor for why successes are not repeated.

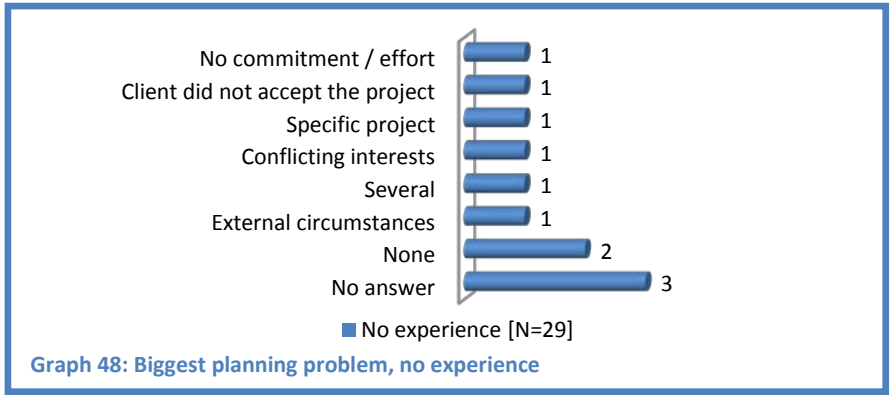
Where half of the respondents did not given an answer, the other half mentioned among others that "it happens often that a new project has a new team, through which learning does not occur" (Additional, 2010a) and that "applying the same ingredients" (Additional, 2010a) can also prevent success repetition.

What was your biggest problem regarding the planning aspect?

Past problems can contain valuable lessons for improving the supply chain integration.



Graph 45: Biggest planning problem, experience



Graph 48: Biggest planning problem, no experience

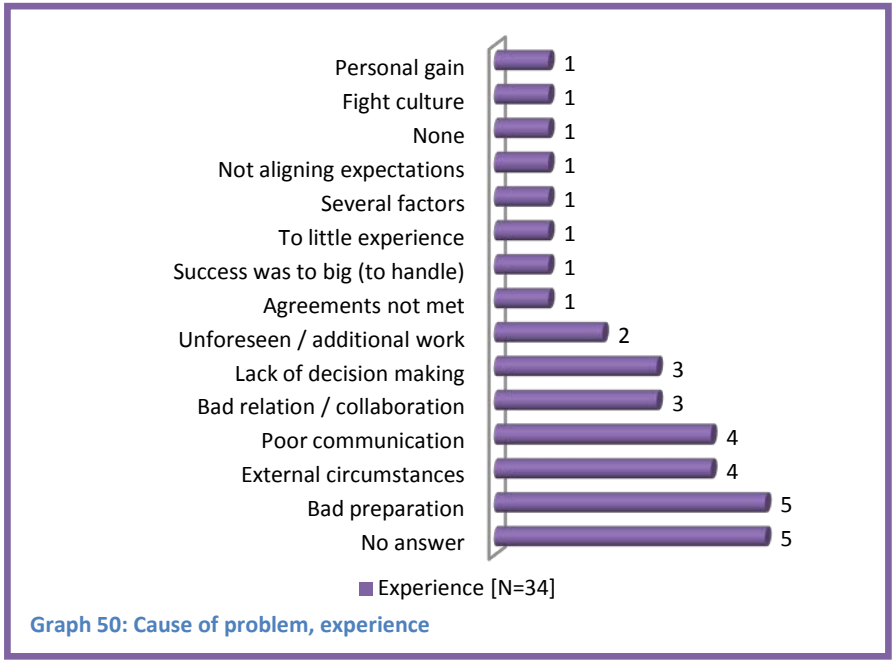
The biggest planning problems for the respondents with experience are 'not being able to meet the planning' and 'having to cope with changing plans' and 'additional (extra) work'. "Exceeding the planning, through which the project lasted 2 years instead of 9 months" (Additional, 2010a). Similar to the other indicators (communication and finance) bad preparation and communication are also planning problems.

For both respondent groups some indicated that no problems regarding planning have occurred. However, the same amount of respondents indicated that several problems occurred "there were several" (Contractor, 2010a).

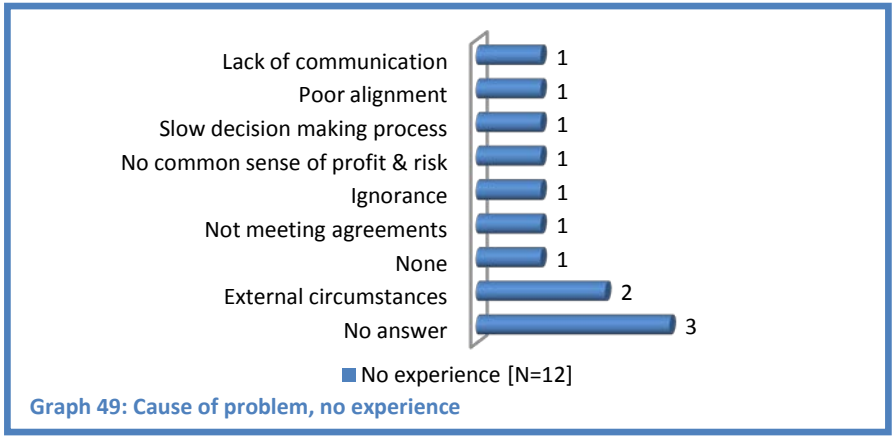
Conflicting interests, external circumstances and showing no commitment are, among others, the problems indicated by the respondents with no experience

What is the most important cause of this problem?

Finding out how problems are created, can contribute to improving the supply chain integration.



Graph 50: Cause of problem, experience



Graph 49: Cause of problem, no experience

The most frequent problem cause is, again, bad preparation. Other relevant answers are; external circumstances, poor communication, bad relation or collaboration and a lack of decision making. The respondents with no experience also mention external circumstances as a cause of problems, they also mention 6 other reasons.

Has this problem repeated itself?

Planning Problem repetition	Experience		No experience	
	Yes	No	Yes	No
Client	33 %	67 %	33 %	67 %
Contractor	42 %	58 %	40 %	60 %
Additional	70 %	30 %	100 %	0 %

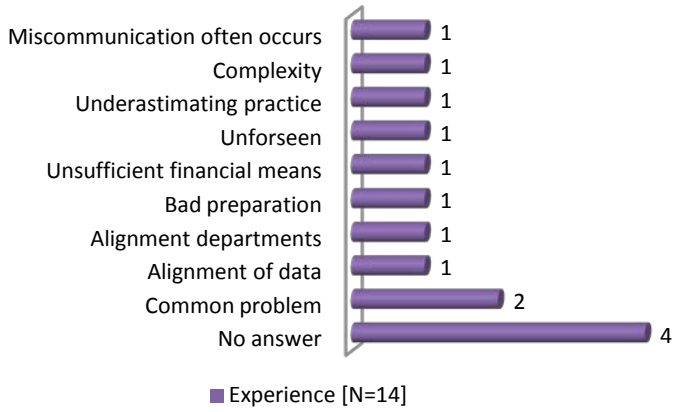
	Experience		No experience	
Count (nr.)	13	12	5	5
Total	52%	48%	50%	50%

Table 15: Problem repetition

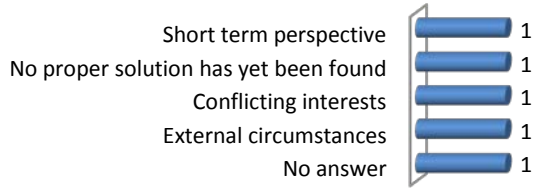
Regarding the repetition of problems in planning 52% of the respondents with experience indicated that problems are repeated. For the respondents with no experience this percentage is 50%.

If so, why has this problem repeated itself?

The respondents, who indicated that the problem was repeated, were asked why this problem was repeated.



Graph 51: Problem repetition, experience

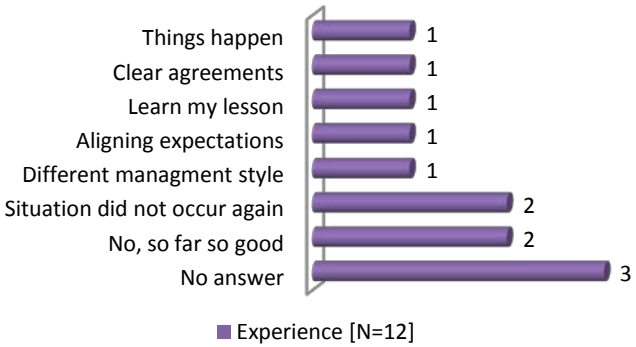


Graph 52: Problem repetition, no experience

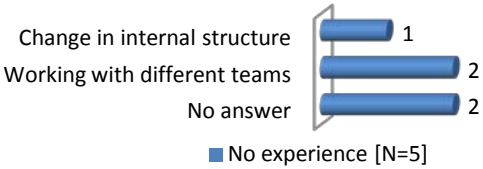
The respondents did not indicate a common cause for why problem are repeated. One of the answer is that "this is a common problem" (Additional, 2010a). Other answers are; the complexity of the project, bad preparation and , "clients often underestimate the practice" (Additional, 2010a),

If not, how is this prevented?

The respondents, who indicated that problems were not repeated, were asked how the problems were prevented from repetition.



Graph 53: No problem repetition, experience



Graph 54: No problem repetition, no experience

The respondents with experience indicated that 'the situation did not occur again' and they said 'so far so good'. Other answers relate to aligning expectations and making clear expectations.

The respondents with no experience indicated that "working with a different team" (Client, 2010b) and a change in the internal structure contributed to preventing problem repetition.

8.4.Quality

[N=35]

Is there a difference in quality in supply chain integration in comparison to a traditional collaboration?

The majority of the respondents (80% and 70%) answered that there is a difference. The percentages are relatively high, however lower that the difference for communication (93% and 91%) .

	Experience		No experience	
	Yes	No	Yes	No
Client	100 %	0 %	100 %	0 %
Contractor	75 %	25 %	60 %	40 %
Additional	80 %	20 %	50 %	50 %

	Experience		No experience	
Count (nr.)	20	5	7	3
Total	80%	20%	70%	30%

Table 16: Difference in product quality [N=35]

If so, what is this difference?

When asked what these differences are the respondents answered with;

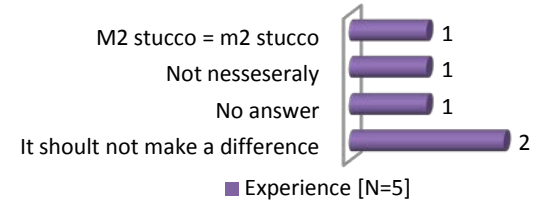
Graph 58: Qualitative difference, experience

Graph 55: Qualitative difference, no experience

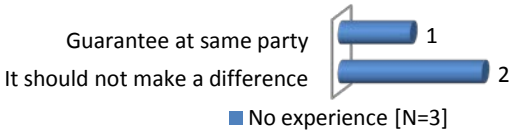
The respondents with experience indicate that a better product, a better price – quality rate and 'quality according to agreement' to be the most common differences. "Quality fully synchronized to the preset requirements" (Additional, 2010a). In total the respondents give over 10 other differences. The respondents with no experience also appoint a 'better price quality rate' as an expected difference. Other expected differences are a better collaboration and more involvement of the parties.

If not, why not?

Of the respondent with experience, 20% indicated that there is no difference regarding product quality between the two collaboration methods. From the respondents with no experience, 30% indicated that there is no difference.



Graph 56: No qualitative difference, experience

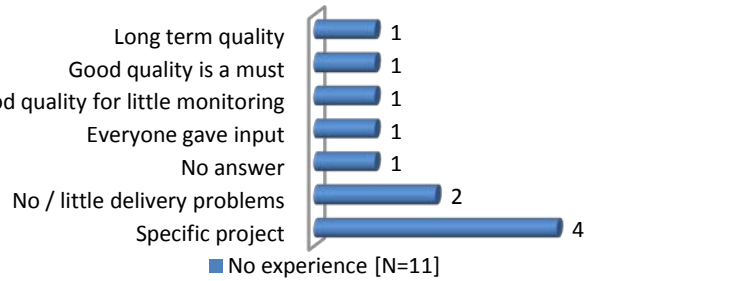


Graph 57: No qualitative difference, no experience

What was your biggest success regarding product quality?

Past successes can contain valuable lessons for process improvement.

Graph 59: Biggest qualitative success, experience



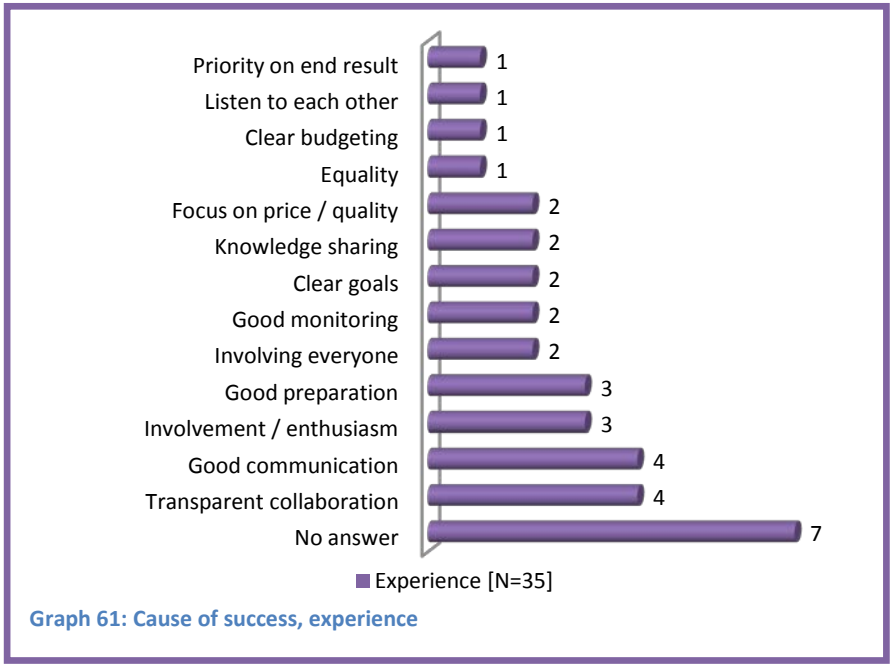
Graph 60: Biggest qualitative success, no experience

Besides the good price – quality rate, the respondents with experience mentioned 'satisfied end users and clients' to be experiences successes, "we received many compliments form our tenants on how the contractor performed their work" (Client, 2010a)." In total the respondents presented 10 other successes regarding product quality.

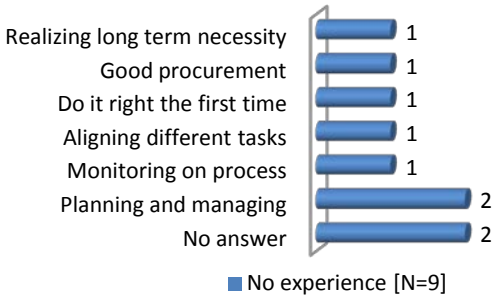
Both respondent groups mention long term quality, but the respondents with no experience also give four other successes besides the 'specific projects' they mentioned.

What is the most important cause of this success?

Finding out how successes are created, can contribute to improving the supply chain integration. According to the respondents, the successes are caused by;



Graph 61: Cause of success, experience



Graph 62: Cause of success, no experience

The most common causes for successes relating to product quality, according to the respondents with experience are transparent collaboration, good communication involvement and enthusiasm. Also the other 10 causes are related to management skills and soft skills.

The respondents with no experience also indicate that planning, managing and aligning are factors that can contribute to success. Another remark is to 'just do it right the first time'. "Because if you don't have the time to do it right the first time, where will you find the time to do it again!" (Contractor, 2010b).

Has this success been repeated?

Quality Success repetition	Experience		No experience	
	Yes	No	Yes	No
Client	67 %	33 %	33 %	67 %
Contractor	67 %	33 %	60 %	40 %
Additional	90 %	10 %	50 %	50 %

	Experience		No experience	
Count (nr.)	19	6	5	5
Total	76%	24%	50%	50%

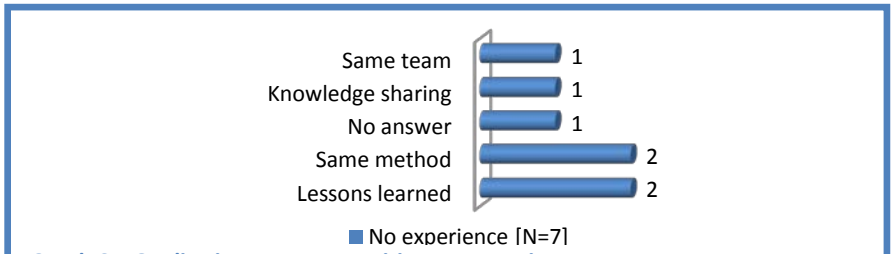
Table 17: Qualitative success repetition

Regarding the repetition of successes in communication 76% of the respondents with experience in supply chain integration indicated that successes are repeated. For the respondents with no experience this percentage is 50%.

If yes, how did this occur?

The respondents, who indicated that successes were repeated, were asked how this success repetition occurred.

Graph 63: Qualitative success repetition, experience



Graph 64: Qualitative success repetition, no experience

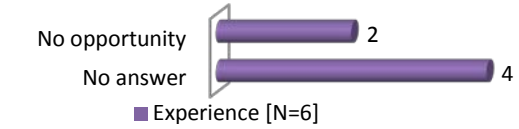
The respondents with experience presented 12 different factors for why the successes were repeated. The most frequent, but not outstanding, answers are applying the same method and being involved.

The respondents with no experience also mentioned that applying the same method contributed to success repetition, same as applying lessons learned.

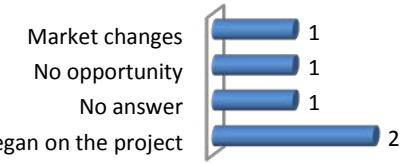
If not, why did this success not repeat itself?

The respondents, who indicated that the successes were not repeated, were asked why this did not happen.

Both respondent groups indicated that not having the opportunity is a reason for why the success did not repeat itself.



Graph 68: No success repetition, experience

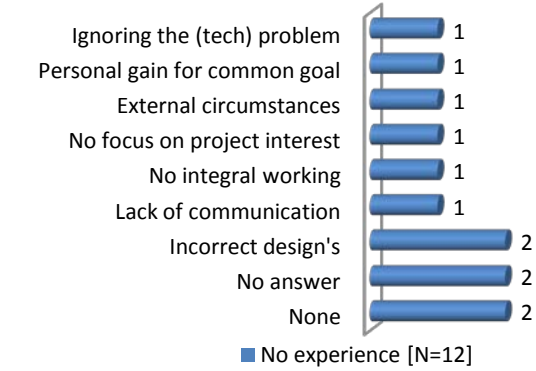


Graph 67: No success repetition, no experience

What was your biggest problem regarding the product quality?

The respondents with experience indicate that the most common problems regarding product quality is 'being unable to deliver the quality level'. Other answers are i.e. financial cut backs, incompetence, working with new products and conflicting demands. Some respondents of both groups indicated not to have experience with problems regarding product quality, "we have not had problems with quality" (Client, 2010b). Other answers for the respondents with no experience are i.e. incorrect designs, parties ignoring the technical problems and personal gain dominates the common goal.

Graph 66: Biggest problem, experience



Graph 65: **Biggest problem, no experience**

What is the most important cause of this problem?

According to the respondents with experience 'poor alignment' and 'insufficient knowledge' are the most common reasons for problems to occur. The eight other factors include distrust, insufficient financial means and the lack of available expertise. The respondents with no experience also indicate poor alignment to be a cause of problems, but they also mention a lack of sense of responsibility. In total they present nine other causes.

Graph 69: Cause of problem, experience

Graph 70: Cause of problem, no experience

Has this problem repeated itself?

Quality Problem repetition	Experience		No experience	
	Yes	No	Yes	No
Client	33 %	67 %	0 %	100 %
Contractor	75 %	25 %	60 %	40 %
Additional	50 %	50 %	50 %	50 %

	Experience		No experience	
Count (nr.)	15	10	4	5
Total	60%	40%	40%	60%

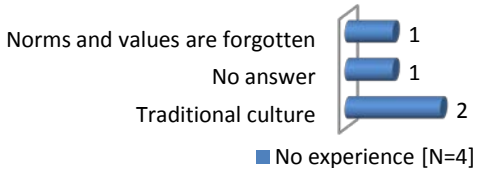
Table 18: Qualitative problem repetition

Regarding the repetition of problems in communication 60% of the respondents with experience in supply chain integration indicated that problems are repeated. For the respondents with no experience this percentage is 40%.

If so, why has this problem repeated itself?

The respondents, who indicated that the problem was repeated, were asked why this problem was repeated.

Graph 72: Problem repetition, experience



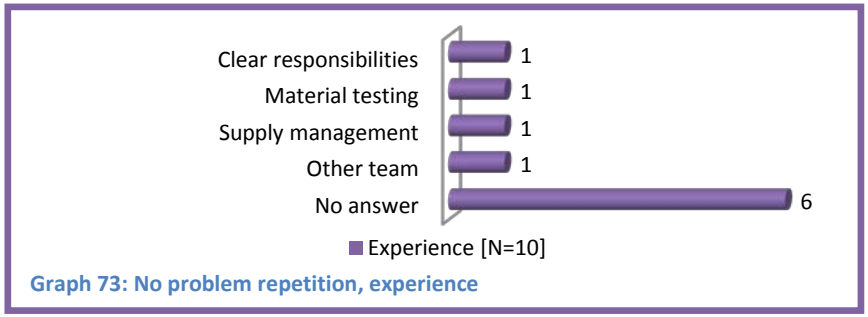
Graph 71: Problem repetition, no experience

The most common answer for the respondents with experience is that 'not everyone is ready to chain', meaning that some people still maintain to hang on to their traditional methods "there is always someone who wants to play alone" (Contractor, 2010a). The respondents indicate seven other aspects including misjudgement, bad preparation and insufficient knowledge.

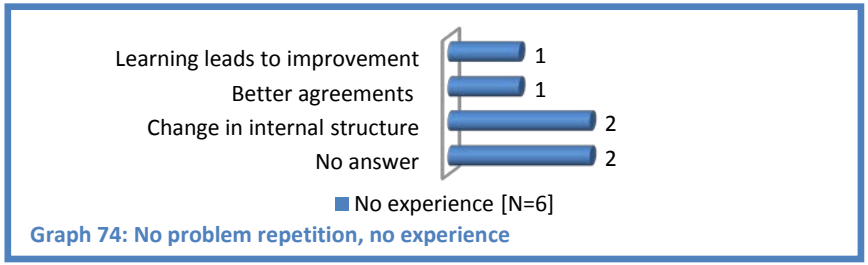
The respondents with no experience blame the 'traditional culture' and say that "norms and values are quickly forgotten on the work floor" (Contractor, 2010b)

If not, how is this prevented?

The respondents, who indicated that problems were not repeated, were asked how the problems were prevented from repetition.



Graph 73: No problem repetition, experience



Graph 74: No problem repetition, no experience

The respondents with no experience do not present a 'most frequent' answer. The four single answers that are given include; testing the material, working with another team and making clear who is responsible for what part.

The respondents with no experience indicate that a change in the internal structure can contribute in preventing problem repetition. Also making better agreements and learning are indicated as causes for preventing problems to be repeated.

8.5. Organization

[N=28]

In his research Spekman (2002) used six indicators, which will be used to describe how the experts experience the quality of the supply chain integration. These indicators are:

- Learning encouragement (see paragraph 5.8 Learning)
- **Culture**
- **Commitment**
- **Trust**
- Communication (see paragraph 5.2 Communication)
- **Win – Win**

The first (learning encouragement) and fifth (communication) aspects are incorporated in their own paragraph. The remaining aspects will be treated in this chapter.

Each of the indicators is divided over three questions addressing that specific aspect. These three questions are also divided over respondents with experience (purple) and respondents with no experience (blue). The questions for both respondent groups may differ a bit, because for the second group the questions may address opinions or experience from non-supply chain integration projects.

Different to the other tables we have seen, these tables has a more ordinal division, as it presents the answers to questions or statements in a range of answer possibilities.

Culture
Do your organization, and your partner organization, share a common culture?

1	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	67 %	33 %	0 %
Contractor	0 %	0 %	60 %	20 %	20 %
Additional	0 %	17 %	0 %	67 %	17 %

	Very no	No	Neutral	Yes	Very yes
Count	0	2	7	9	3
	0%	10%	33%	43%	14%

Table 19: Culture, sharing a common culture

Do you think there is more or less cultural consistency between the two parties in supply chain integration in comparison to a traditional process?

1	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	100 %	0 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	3	3	1
	0%	0%	43%	43%	14%

Table 20: Culture, sharing a common culture

The respondents with experience have a deviated opinion to whether or not the organizations have a common culture. Nonetheless the majority (43% + 14%) said (very) Yes.

The respondents with no experience were asked about their expectations regarding shared culture. Their response is largely divided over neutral and yes.

Do your organization, and your partner organization, share a common vision on the meaning and intentions of supply chain integration?

2	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	0 %	60 %	40 %
Additional	0 %	0 %	17 %	67 %	17 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	3	12	6
	0%	0%	14%	57%	29%

Table 21: Culture, sharing a common vision

Do you think your organization and your partner organization more or less should have a shared vision about the essence of the (chain) collaboration, compared with a traditional cooperation?.

2	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	7	0
	0%	0%	0%	100%	0%

Table 22: Culture, sharing a common vision

All respondents with no experience indicate to think that the partners should have a shared vision about the (chain) collaboration. The opinion of the respondents with experience is slightly more deviated.

Does your organization and your partners organization share a common sense of "fair play"

3	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	67 %	0 %	33 %
Contractor	0 %	0 %	0 %	20 %	80 %
Additional	0 %	0 %	0 %	67 %	33 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	3	8	10
	0%	0%	14%	38%	48%

Table 23: Culture, sharing a common sense of "fair play"

Does your organization and your partners organization share a common sense of "fair play"

3	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	7	0
	0%	0%	0%	100%	0%

Table 24: Culture, sharing a common sense of "fair play"

The majority of the respondents with experience indicate that the partners share a common sense of fair play. The response of the respondents with no experience is a little less deviated, they all answered that they have a shared sense of fair play.

Commitment
Do you think that your partner has shown good commitment?

4	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	0 %	80 %	20 %
Additional	0 %	0 %	0 %	67 %	33 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	2	13	6
	0%	0%	10%	62%	29%

Table 25: Commitment, showing commitment

Do you think that your partner has shown good commitment?

4	Very no	No	Neutral	Yes	Very yes
Client	0 %	33 %	0 %	67 %	0 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	100 %	0 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	1	2	4	0
	0%	14%	29%	57%	0%

Table 26: Commitment, showing commitment

The majority of the respondents with experience indicated to think that their partner has shown good commitment. The outcome of the respondents with no experience is a little less positive.

To what extent do you think that maintaining the relationship with your chain partner is important?

5	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	0 %	80 %	20 %
Additional	0 %	0 %	0 %	17 %	83 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	2	9	10
	0%	0%	10%	43%	48%

Table 28: Commitment, maintaining relationship

To what extent do you think that maintaining the relationship with your partner is important?

5	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	100 %	0 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	1	6	0
	0%	0%	14%	86%	0%

Table 27: Commitment, maintaining relationship

Regarding the topic of maintaining the relationship with the (chain) partner almost all respondents indicate to think that this is important.

To what extent are you (your organization) prepared to commit extra energy in maintaining this relation?

6	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	67 %	0 %	33 %
Contractor	0 %	0 %	0 %	20 %	80 %
Additional	0 %	0 %	0 %	17 %	83 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	3	3	15
	0%	0%	14%	14%	71%

Table 29: Commitment, committing extra energy

To what extent are you (your organization) prepared to commit extra energy in maintaining this relation?

6	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	100 %	0 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	1	6	0
	0%	0%	14%	86%	0%

Table 30: Commitment, committing extra energy

The respondents with experience indicated that they (their organization) is very much prepared to commit extra energy in maintaining their chain partner. Also the respondents with no experience are willing to commit extra energy in maintaining the relation.

Trust

Do you trust your chain partner?

7	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	0 %	60 %	40 %
Additional	0 %	0 %	0 %	33 %	67 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	2	9	10
	0%	0%	10%	43%	48%

Table 31: Trust, in chain partner

Do you trust your partner?

7	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	100 %	0 %	0 %
Additional	0 %	0 %	100 %	0 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	3	4	0
	0%	0%	43%	57%	0%

Table 32: Trust, in chain partner

The deviation of trust between the two respondent groups has shifted positively for the respondents with experience form neutral / yes to yes / very yes.

Do you entrust your partner with sensitive information?

8	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	67 %	0 %	33 %
Contractor	0 %	0 %	20 %	60 %	20 %
Additional	0 %	0 %	0 %	33 %	67 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	4	8	9
	0%	0%	19%	38%	43%

Table 33: Trust, sensitive information

Do you entrust your partner with sensitive information?

8	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	67 %	0 %
Contractor	0 %	0 %	100 %	0 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	3	4	0
	0%	0%	43%	57%	0%

Table 34: Trust, sensitive information

Also the aspect of sharing sensitive information has a positive shift seen from the point of view of the respondents with experience compared to the respondents with no experience

Are you prepared to openly (between client and contractor) share successes and problems in order to achieve process improvement?

9	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	33 %	67 %
Contractor	0 %	0 %	0 %	20 %	80 %
Additional	0 %	0 %	0 %	0 %	100 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	3	18
	0%	0%	0%	14%	86%

Table 35: Trust, sharing successes and problems

Are you prepared to openly (between client and contractor) share successes and problems in order to achieve process improvement?

9	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	7	0
	0%	0%	0%	100%	0%

Table 36: Trust, sharing successes and problems

Both respondent groups have indicated to be (very) prepared to openly share successes and problems.

Win - win
We find that our chain partner is willing to help us if problems occur.

10	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	40 %	40 %	20 %
Additional	0 %	0 %	0 %	33 %	67 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	5	7	9
	0%	0%	24%	33%	43%

Table 37: Win-win, willingness to help

We find that our partner is willing to help us if problems occur.

10	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	100 %	0 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	1	6	0
	0%	0%	14%	86%	0%

Table 38: Win-win, willingness to help

Regarding the win – win perspective, the respondents with experience indicated that they think that their chain partner is (very) willing to help if problems happen to occur (3% + 43%). However, respondents with no experience also indicate to think that their partner is willing to help if problems occur.

We understand what issues affect our partners business, and we are proactive in improving each other's business.

11	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	0 %	80 %	20 %
Additional	0 %	0 %	0 %	50 %	50 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	2	12	7
	0%	0%	10 %	57 %	33 %

Table 39: Win-win, understand each other's business

We understand what issues affect our partners business, and we are proactive in improving each other's business.

11	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	67 %	0 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	1	6	0
	0%	0%	14%	86%	0%

Table 40: Win-win, understand each other's business

The majority of both respondent groups indicate to have an understanding of the (chain) partners business, and that they are proactive in improving each other's business.

If we want to make changes in our organization, we take other chain partners into account.

12	Very no	No	Neutral	Yes	Very yes
Client	0 %	33 %	33 %	33 %	0 %
Contractor	0 %	0 %	20 %	80 %	0 %
Additional	0 %	0 %	17 %	67 %	17 %

	Very no	No	Neutral	Yes	Very yes
Count	0	2	4	13	2
	0%	10 %	19 %	62 %	10 %

Table 41: Win-win, taking chain partner into account

If we want to make changes in our organization, we take other partners into account.

12	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	67 %	33 %	0 %
Contractor	0 %	0 %	100 %	0 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	4	3	0
	0%	0%	57%	43%	0%

Table 42: Win-win, taking chain partner into account

Taking the chain partners into account is, when making organizational changes, is an aspect of which the respondents with experience do not agree upon. The answers range from 'no' to 'very yes'. The range of the respondents with no experience is less divided, nonetheless more 'neutral' then 'yes'.

8.6.Learning

The sixth aspect is learning. As mentioned in the problem statement, learning is an aspect that can help improve the supply chain integration.

Do you think that it is rewarding to share lessons learned within the chain organization?

This question was asked at the end of the four other aspects, in order to measure to what extend the respondents value the importance of sharing lessons learned, and whether or not there is a difference in the value of the lessons learned for the different indicators. The following tables and graphs are again divided over respondents with experience and those with no experience. For both respondent groups the question addressed learning in supply chain integration.

The sequence is similar to the previous paragraphs, communication, finance, planning and quality. Because the organization chapter was structured differently, this chapter is not included in this paragraph.

Communication	Experience		No experience	
	Yes	No	Yes	No
Client	100 %	0 %	100 %	0 %
Contractor	100 %	0 %	80 %	20 %
Additional	100 %	0 %	100 %	0 %

	Experience		No experience	
Count (nr.)	28	0	10	1
Total	100%	0%	91%	9%

Table 43: Sharing lessons learned, communication

Finance	Experience		No experience	
	Yes	No	Yes	No
Client	100 %	0 %	67 %	33 %
Contractor	85 %	15 %	60 %	40 %
Additional	82 %	18 %	100 %	0 %

	Experience		No experience	
Count (nr.)	23	4	7	3
Total	85%	15%	70%	30%

Table 46: Sharing lessons learned, finance

In all four tables the percentages for 'yes', indicating that it is rewarding to share the lessons learned, predominate those for 'no'. There is no apparent difference between the opinions of the respondents with experience (purple) and those with no experience (blue).

The respondents do experience a slight difference to whether or not sharing lessons learned is rewarding between the different aspects. For the aspect of communication the respondents indicate 100% (with experience) and 91% (no experience), but for the financial indicator the percentages are 85% and 70%. Perhaps this is related to the more sensitive nature of the financial aspect. Also regarding the planning aspect, the respondents with experience, experience that it is less rewarding (in comparison communication and quality) with a percentage of 84%

The answers to the following open answer questions will indicate why the experts think that it is, or is not rewarding to share the lessons learned.

Planning	Experience		No experience	
	Yes	No	Yes	No
Client	100 %	0 %	67 %	33 %
Contractor	92 %	8 %	100 %	0 %
Additional	90 %	19 %	100 %	0 %

	Experience		No experience	
Count (nr.)	21	4	9	1
Total	84%	16%	90%	10%

Table 44: Sharing lessons learned, planning

Quality	Experience		No experience	
	Yes	No	Yes	No
Client	100 %	0 %	67 %	33 %
Contractor	92 %	8 %	100 %	0 %
Additional	100 %	0 %	100 %	0 %

	Experience		No experience	
Count (nr.)	24	1	9	1
Total	96%	4%	90%	10%

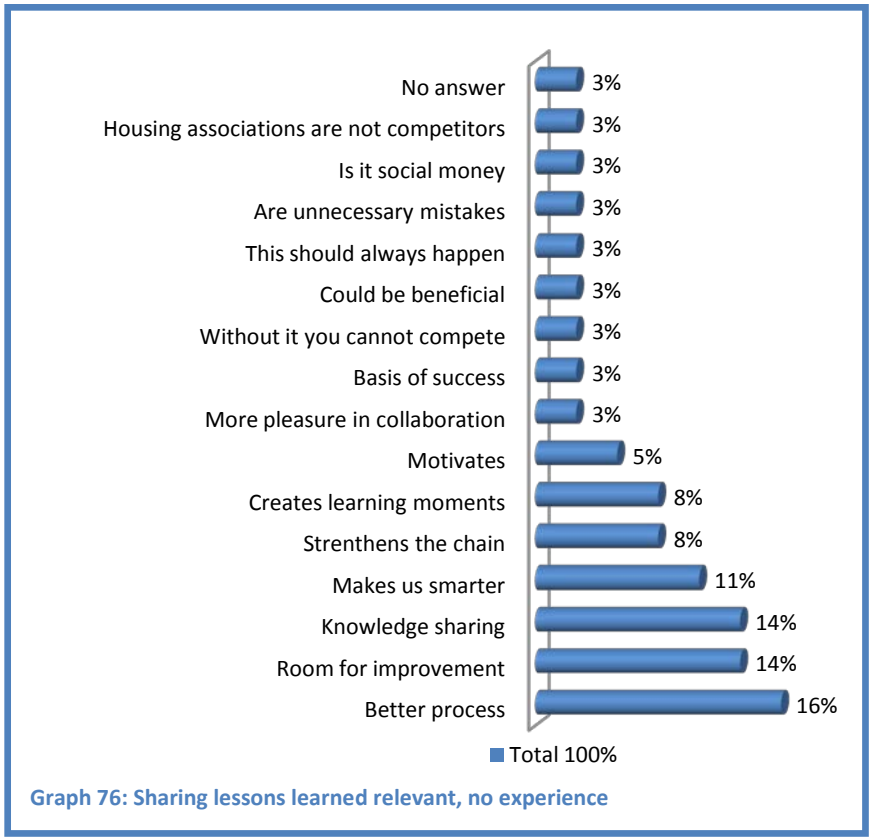
Table 45: Sharing lessons learned, quality

If yes, why is it relevant?

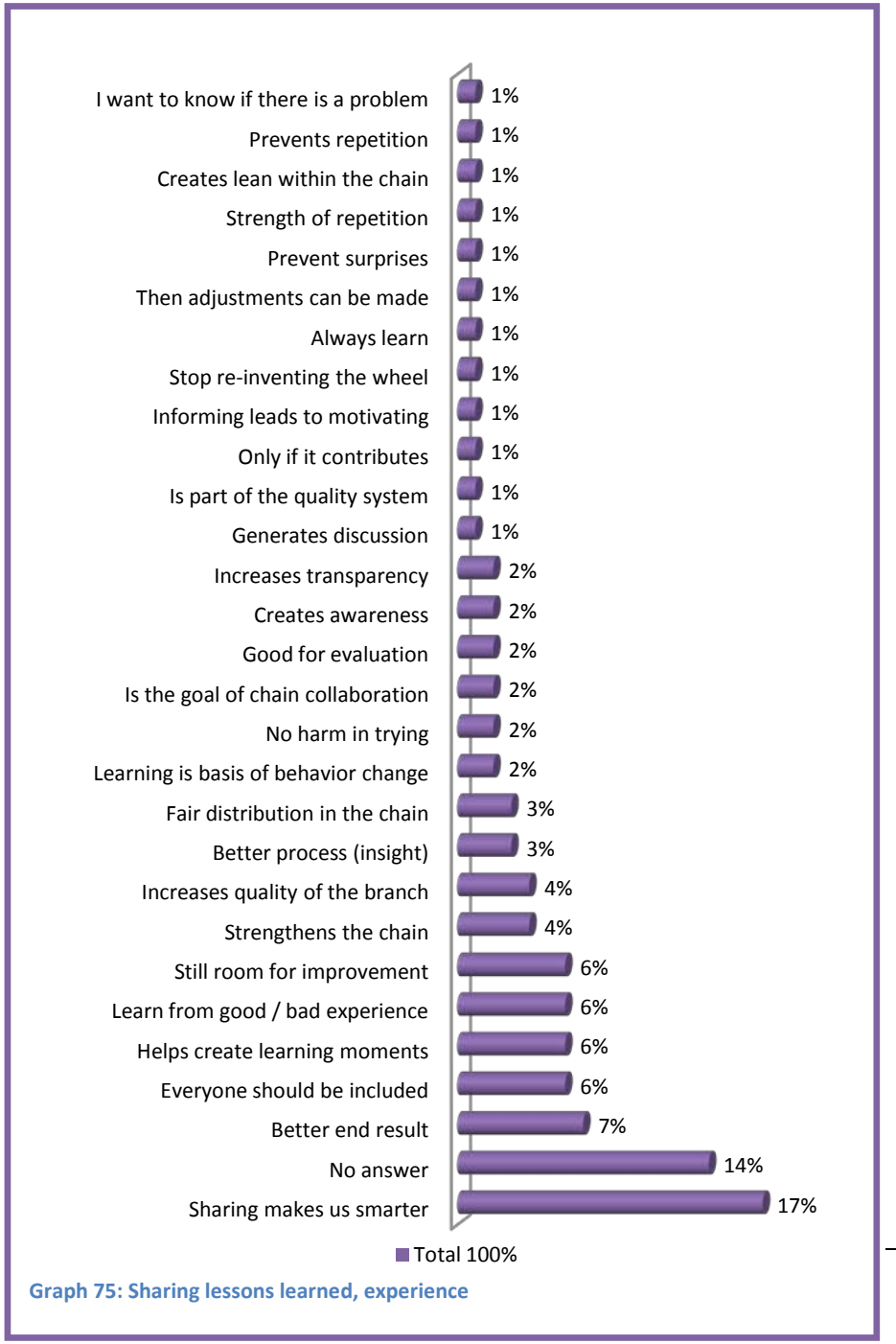
The respondents who indicated that it is rewarding to share lessons learned within the chain organization, were asked why they think it is relevant. The two tables (blue for no experience, and purple for experience) are composed out of the open answer questions of the previously mentioned four aspects, because the answers for the different aspects are very similar. The separate tables can be found in the appendix.

The respondents with experience indicate that 'sharing makes us smarter' is the most frequent benefit of sharing lessons learned. In total, the respondents give 28 different reasons for why it is relevant to share lessons learned. On the one hand, many of these 28 different factors are related to preventing repetition and having a better evaluation. On the other hand, the respondents indicate that it can help to motivate, and change the culture in the construction industry.

The respondents with no experience indicate that sharing the lessons learned generate a better process, also important is that they indicate that there is still room for



Graph 76: Sharing lessons learned relevant, no experience

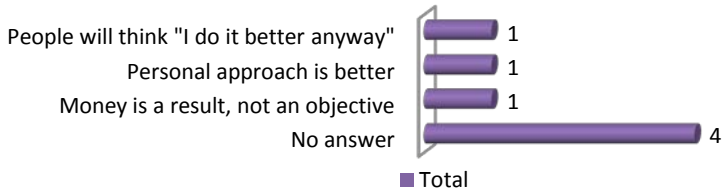


Graph 75: Sharing lessons learned, experience

improvement. The remaining 14 factors are also related to preventing mistakes, motivation and that learning is the basis of success.

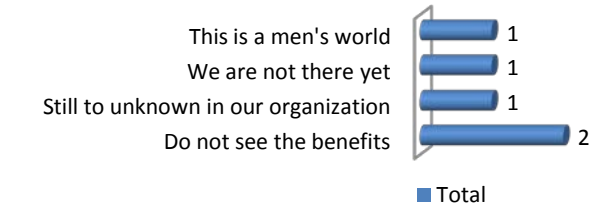
If not, why not?

The respondents who indicated that it is not rewarding to share lessons learned, were asked why they think it is not relevant. The answers of the four aspects are, again, combined in the graphs. Because of the small count, the answers are not presented in percentages, but in count. Regarding the aspects of finance and planning 4 respondents with experience indicated to think that sharing lessons learned is not relevant. For the aspect of quality only one respondent experiences this.



Graph 77: Sharing lessons learned not relevant, experience

Regarding the aspects of communication, planning and quality, only one of the respondents with no experience indicated that sharing lessons learned would not be rewarding. Relating to the financial aspect, 3 respondents indicated that sharing lessons learned would not be rewarding.



Graph 78: Not spreading financial learning moments

One of the respondents indicated that “the world of the construction industry is a real men’s world, and different laws are applied here. Sometimes you meet people who do not meet those character traits, maybe it would be applicable for them” (Contractor, 2010b).

The previous paragraph, regarding organizational quality, addressed the six indicators of Spekman (2002). The first indicator was the ‘learning encouragement’ which is implemented in this paragraph. The questions differ per respondent group, and therefore the question is presented twice.

Were you encouraged to show your own input and opinion within the supply chain integration?

1	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	67 %	33 %
Contractor	0 %	0 %	0 %	40 %	60 %
Additional	0 %	0 %	0 %	17 %	83 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	8	13
	0%	0%	0%	38%	62%

Table 47: Learning encouragement, own input and opinion, experience

Do you think that in a supply chain integration you are encouraged more (very yes) or less (very no) to show your own input and opinion than in a traditional process?

1	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	67 %	33 %
Contractor	0 %	0 %	100 %	0 %	0 %
Additional	0 %	0 %	0 %	100 %	0 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	2	4	1
	0%	0%	29%	57%	14%

Table 48: Learning encouragement, own input and opinion, no experience

The respondents with experience experience a higher learning encouragement compared to the expectations of the respondents with no experience

Was it important within this supply chain integration to come with new ideas and insights?

2	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	33 %	67 %
Contractor	0 %	0 %	0 %	60 %	40 %
Additional	0 %	0 %	0 %	33 %	65 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	9	12
	0%	0%	0%	43%	57%

Table 50: Learning encouragement, new ideas and insight, experience

Do you think that it is important within supply chain integration to come with new insights and ideas?

2	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	100 %	0 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	0 %	0 %	100 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	6	1
	0%	0%	0%	86%	14%

Table 51 Learning encouragement, new ideas and insight, no experience

The respondents with no experience (blue) indicate to think that it is important (86%) to come with new ideas and insights. The respondents with experience (purple) indicate that it is important (43%) to very important (57%) to come with new ideas. This shows that there is a slight shift form 'important' to 'very important' between the two respondent groups.

Were innovations accepted within the supply chain integration?

3	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	33 %	33 %	33 %
Contractor	0 %	0 %	20 %	60 %	20 %
Additional	0 %	0 %	0 %	33 %	67 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	3	9	9
	0%	0%	14%	43%	43%

Table 49: Learning encouragement, innovations, experience

Do you think that innovation will be more (very yes) or less (very no) accepted in supply chain integration in comparison to a traditional process?

3	Very no	No	Neutral	Yes	Very yes
Client	0 %	0 %	0 %	33 %	67 %
Contractor	0 %	0 %	0 %	100 %	0 %
Additional	0 %	0 %	0 %	0 %	100 %

	Very no	No	Neutral	Yes	Very yes
Count	0	0	0	3	4
	0%	0%	0%	43%	57%

Table 52: Learning encouragement, innovations, no experience

The expectations of the respondents with no experience (blue) regarding the acceptance of innovations are slightly higher that the experiences of the other (experienced) respondent group.

What is the quality level of the learning ability?

This question is asked to help determine if learning can contribute the supply chain integration. The answer to this question will be derived from another question, namely if the occurred successes and problems have repeated themselves.

The following tables show the division of success (top table) and problem (bottom table) repetition, divided over respondents with experience(purple) and those with no experience (blue) for the four aspects. The answers are divided over the different occupation groups, accordingly the total 'count' for the specific answer, and its percentage relating to the 'Yes' or 'No' answer are presented.

The count between the two respondent groups is not equal, therefore caution must be considered when comparing the two respondent groups.

Communication Success repetition	Experience Are successes repeated		No experience Are successes repeated	
	Yes	No	Yes	No
Client	50 %	50 %	33 %	67 %
Contractor	54 %	46 %	60 %	40 %
Additional	82 %	18 %	67 %	33 %

	Experience		No experience	
Count (nr.)	18	10	6	5
Total	64 %	36 %	55 %	45 %

Table 56: Communication success repetition [N=39]

Communication Problem repetition	Experience Are problems repeated		No experience Are problems repeated	
	Yes	No	Yes	No
Client	25 %	75 %	33 %	67 %
Contractor	69 %	31 %	40 %	60 %
Additional	55 %	45 %	67 %	33 %

	Experience		No experience	
Count (nr.)	16	12	5	6
Total	57 %	43 %	45 %	55 %

Table 56: Communication problem repetition [N=39]

Regarding the repetition of successes in communication 64% of the respondents with experience indicated that successes are repeated. For the respondents with no experience this percentage is 55%. Problem repetition, however, is indicated to be 57% for those with experience and 45% for those with no experience Meaning that for both respondent groups both successes and problems are relatively often repeated.

For finance, the percentage of success repetition for respondents with experience is 63%, and for those with no experience 60%. The repetition of problems regarding the financial aspect, is for the respondents with experience 33% and for the respondents with no experience 50%. Meaning that the successes are repeated relatively often. But that the problems, especially for the respondent group with experience, are repeated far less often.

Finance Success repetition	Experience Are successes repeated		No experience Are successes repeated	
	Yes	No	Yes	No
Client	33 %	67 %	100 %	0 %
Contractor	69 %	31 %	20 %	80 %
Additional	64 %	36 %	100 %	0 %

	Experience		No experience	
Count (nr.)	17	10	6	4
Total	63 %	37 %	60 %	40 %

Table 56: Financial success repetition

Finance Problem repetition	Experience Are problems repeated		No experience Are problems repeated	
	Yes	No	Yes	No
Client	0 %	100 %	33 %	67 %
Contractor	38 %	62 %	40 %	60 %
Additional	36 %	64 %	100 %	0 %

	Experience		No experience	
Count (nr.)	9	18	5	5
Total	33 %	67 %	50 %	50 %

Table 56: Financial problem repetition

Regarding the repetition of planning related successes, 60% of the respondents with experience indicate that successes are repeated. Of the respondents with no experience, this percentage is 50%. This is very much the same as the percentages for the communication and financial aspects. The repetition of problems related to the planning aspect is, for both respondent groups, divided over the half.

Meaning that, similar to the communication and financial aspects, the successes are repeated in half of more cases, but that the problem repetition is not far behind, with a repetition of half the time.

Planning Success repetition	Experience Are successes repeated		No experience Are successes repeated	
	Yes	No	Yes	No
Client	33 %	67 %	67 %	33 %
Contractor	67 %	33 %	20 %	80 %
Additional	60 %	40 %	100 %	0 %

	Experience		No experience	
Count (nr.)	15	10	5	5
Total	60 %	40 %	50 %	50 %

Table 58: Planning success repetition [N=39]

Planning Problem repetition	Experience Are problems repeated		No experience Are problems repeated	
	Yes	No	Yes	No
Client	33 %	67 %	33 %	67 %
Contractor	42 %	58 %	40 %	60 %
Additional	70 %	30 %	100 %	0 %

	Experience		No experience	
Count (nr.)	13	12	5	5
Total	52 %	48 %	50 %	50 %

Table 59: Planning problem repetition [N=39]

For the aspect of quality 76% of the respondents with experience indicated that successes are repeated. This is higher percentage than the other aspects, which had an average of approximately 60%, however the count of the quality aspect is lower than that of the other indicators.
The outcome of the respondents with no experience is very much equal to the outcome of the other indicators.

Regarding the repetition of problems, the total percentage of the respondents with experience is 60% and that of the respondents with no experience in s.c.i is 40%.

Quality Success repetition	Experience Are successes repeated		No experience Are successes repeated	
	Yes	No	Yes	No
Client	67 %	33 %	33 %	67 %
Contractor	67 %	33 %	60 %	40 %
Additional	90 %	10 %	50 %	50 %

	Experience		No experience	
Count (nr.)	19	6	5	5
Total	76 %	24 %	50 %	50 %

Table 57: Quality success repetition

Quality Problem repetition	Experience Are problems repeated		No experience Are problems repeated	
	Yes	No	Yes	No
Client	33 %	67 %	0 %	100 %
Contractor	75 %	25 %	60 %	40 %
Additional	50 %	50 %	50 %	50 %

	Experience		No experience	
Count (nr.)	15	10	4	5
Total	60 %	40 %	40 %	60 %

Table 60: Quality problem repetition

The following tables combine the outcome of the previous tables, regarding the repetition of successes and 'no problem repetition' for the four indicators. The purple column presents the repetition of the respondents with experience, the blue column for those with no experience and the white column shows the difference in repetition between the two respondent groups.

Because the count between the two respondent groups is not equal, a true comparison cannot be made. However the numbers do give an indication of what happens in practice.

	Did the success repeat itself? Yes.		
	Experience	**No experience**	**Variation**
Communication	**64 %**	**55 %**	**9 %**
Finance	**63 %**	**60 %**	**3 %**
Planning	**60 %**	**50 %**	**10 %**
Quality	**76 %**	**50 %**	**26 %**

Table 61: Summary of success repetition

	Did the problem repeat itself? No.		
	Experience	**No experience**	**Variation**
Communication	**43 %**	**55 %**	**12%**
Finance	**67 %**	**50 %**	**17%**
Planning	**48 %**	**50 %**	**2%**
Quality	**40 %**	**60 %**	**20%**

Table 62: Summary of no problem repetition

The difference regarding the repetition of success for the indicators communication, finance and planning, can be considered as rather small. Because of the difference in count the outcome of these percentages will not be taken into account. The outcome of the open answer question, will indicate the cause of the success repetition and will later on be discussed.

The difference in success repetition for the quality indicator has a difference of 26 %. This can be regarded as a significant difference. However, as noted before, the count for this indicator is lower than of the other indicators.

The answers from the open answer questions, indicating what caused the success repetition, will have to explain which aspects were used to create this improvement.

Regarding 'no problem repetition' the aspect of planning has such a small difference that it is neglected. Nonetheless, the answers of the open answer questions will be analyzed in order to find out why the problems were not repeated, and if there is a difference in cause between the two respondent groups.

The relevance of the difference in communication, 12% can be questioned. Again the difference in quality, 20% can be regarded as significant but because of its difference in count the outcome will not be highlighted.

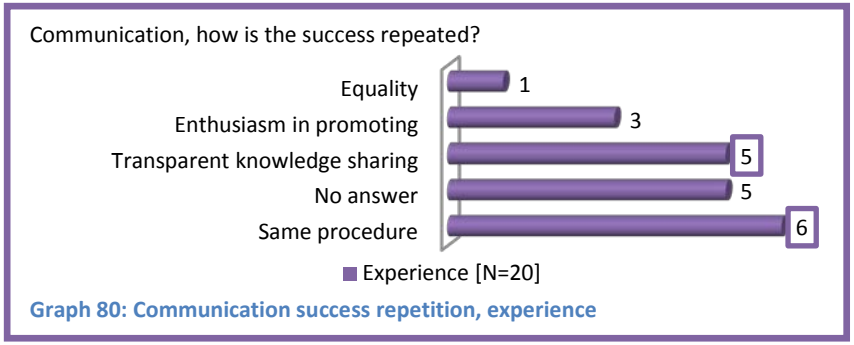
The amount problems prevented from repetition for the financial aspect has increased, according to the respondents with experience in supply chain integration, in comparison to those with no experience. The answers of the open answer questions will have to indicate what caused this increase in comparison with the other aspects.

What causes success repetition and prevents problem repetition?

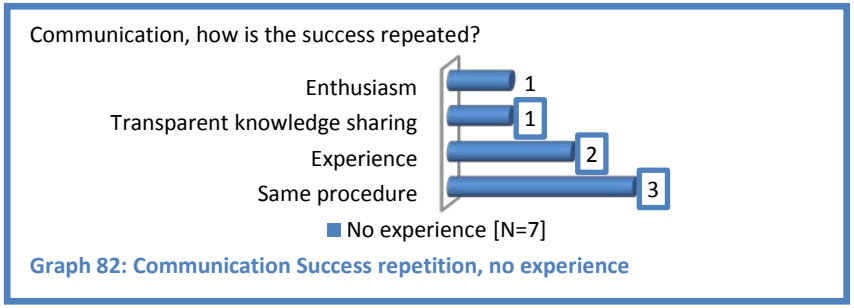
It is important to know how the experts (respondents) managed to repeat their successes and how they prevented problems from being repeated, because they can contain valuable lessons. Another important aspect which can be derived from this question is whether or not learning has contributed to this success repetition and preventing problem repetition. The answer to this question is found in the questionnaire questions 'how successes are repeated and how problems repetition is prevented'.

The four graphs below are the respondents answers. The two tables on the left indicate the repetition of successes, and the two on the right indicate why problems were not repeated. Each cluster of four tables represent one of the four aspects.

For the respondents with experience applying the same procedure and being transparent in the knowledge that is shared, indicate that learning has occurred in 11/15 (not including 'no answer') times. However the same factors, including experience, were used by the respondents with no experience in 6/7 times. Even though success repetition happens slightly more often for the respondents with experience (64%) than it does for those with no experience (55%), the cause of success repetition is relatively seen equally contributed to learning. This could indicate that learning happens more on an individual level than it does in an organizational (or team) level.

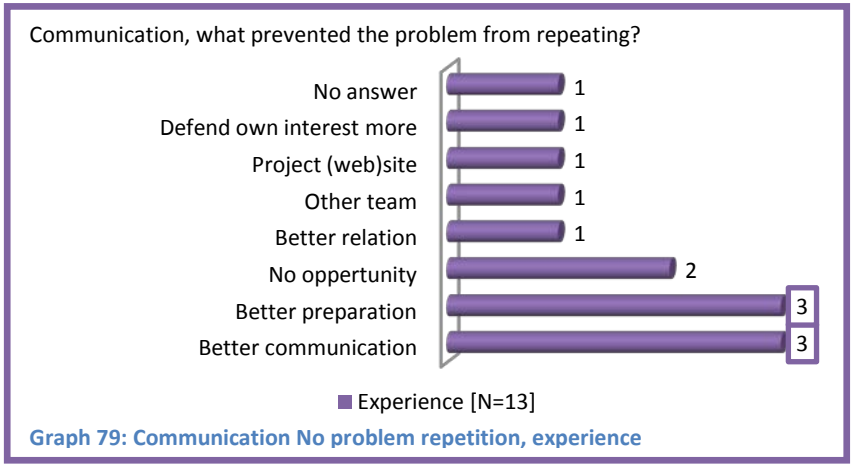


Graph 80: Communication success repetition, experience

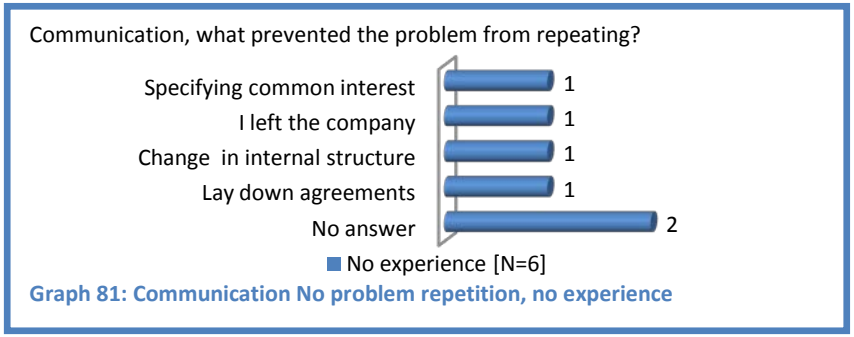


Graph 82: Communication Success repetition, no experience

The respondents with experience indicated that better communication and better preparation are the most common factors for preventing problem repetition. These factors are considered as learning, and indicate that in 6/12 times (no answer not included) learning contributes to preventing problem repetition. The other half is assigned to organizational and personal aspects. For the respondents with no experience all of the answers can be assigned to organizational or personal aspects.



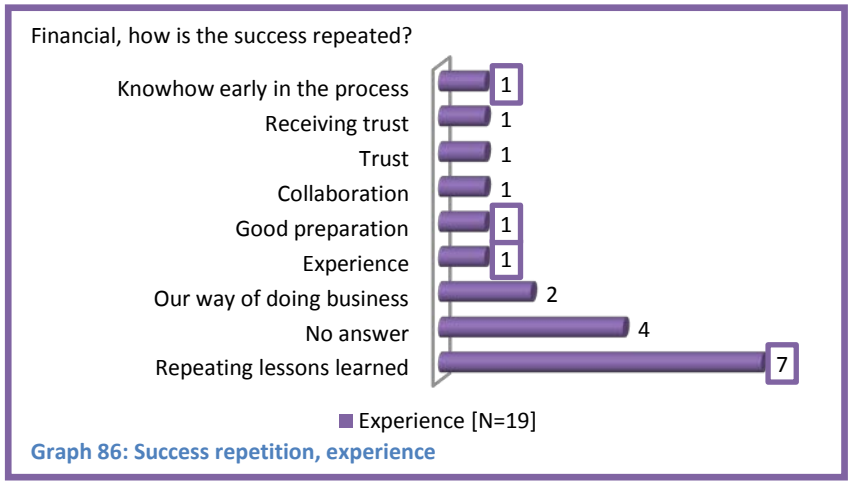
Graph 79: Communication No problem repetition, experience



Graph 81: Communication No problem repetition, no experience

Regarding the financial aspect there is, in terms of percentages, little to no difference between the two respondent groups (63% with, 60% with no experience).

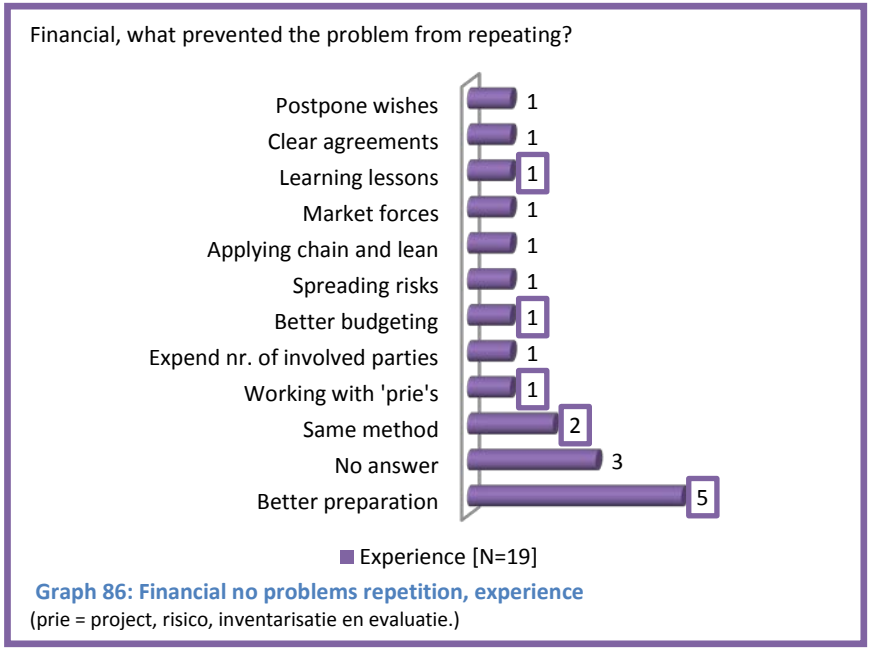
The respondents with experience indicate that repeating the lessons learned is the most common reason for successes repetition. Combined with 'experience', 'good preparation' and 'applying knowhow early on in the process' these factors are considered as learning, and represent 10/15 (no answer, not included) of the answers. The answers of the respondents with no experience which can be assigned to learning are 'applying the same method' and sharing knowledge, which are 3/7 of the given answers.



Graph 86: Success repetition, experience

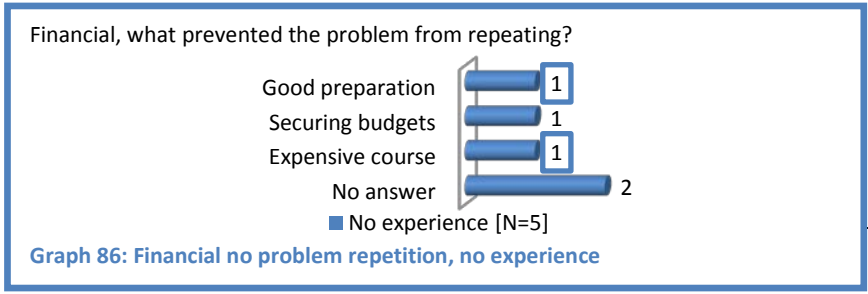
Graph 86: Success repetition, no experience

In the case of preventing problem repetition, the respondents with experience indicate that a better preparation is the most common factor, followed by 'applying the same method'. These, combined with learning lessons, better budgeting and working with prie's, are assigned to learning and represent 10/16 answers. The respondents with no experience indicate that good preparation and an (expensive) course helped contribute to preventing problem repetition. In the table of page 68 we saw that problems regarding finance were prevented from repetition in 67% of the time, for the respondents with experience. However, there is no clear distinction where this higher than average (compared to the other aspects) percentage comes from.



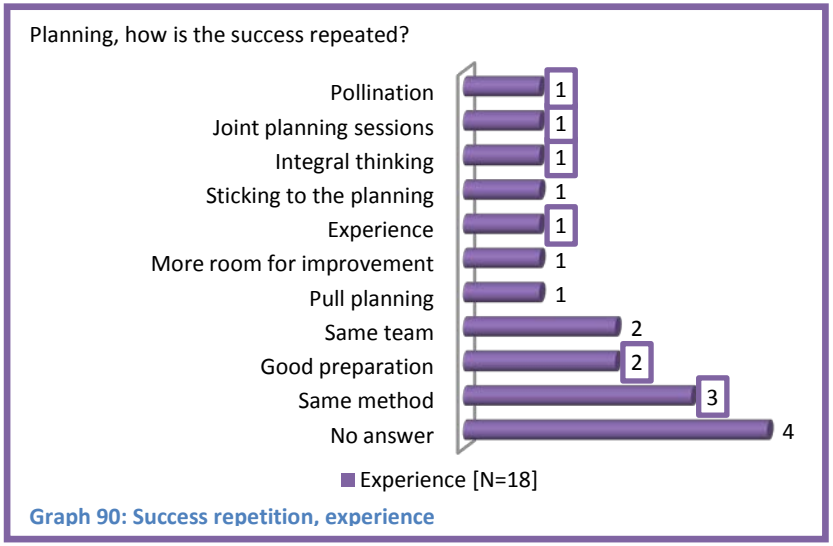
Graph 86: Financial no problems repetition, experience

(prie = project, risico, inventarisatie en evaluatie.)

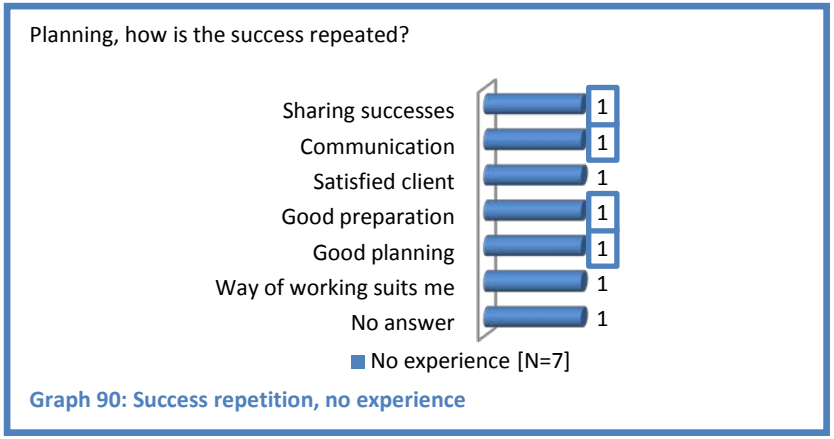


Graph 86: Financial no problem repetition, no experience

In terms of percentages, successes are slightly more often repeated for those with experience (60%) than it does for those with no experience (50%). However, because of the difference in count, this 10% difference will not be further elaborated. The amount of factors contributed by learning is for the respondents with experience 9/12 times, where the respondents with no experience indicated that this is 4/6 times (no answer not included). This could indicate that learning happens more on an individual level and is not dependent on the organization or team. There is no apparent difference between the factors for success repetition between the two respondent groups.

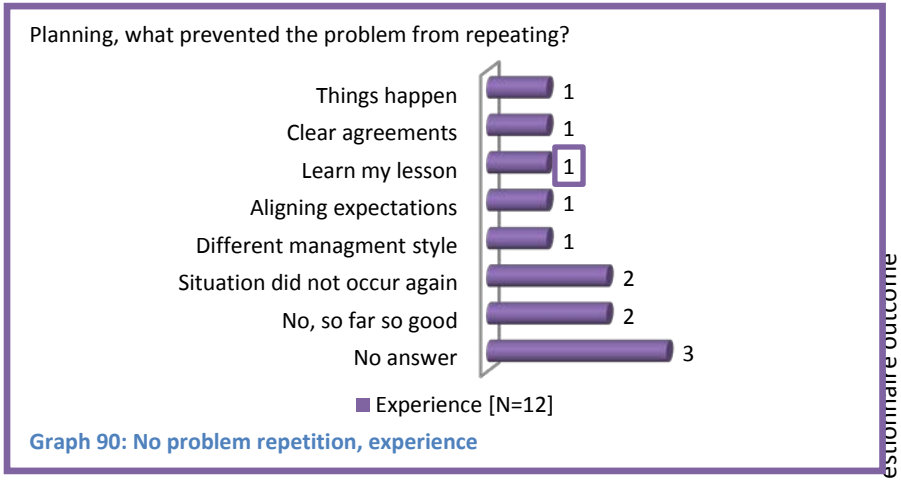


Graph 90: Success repetition, experience

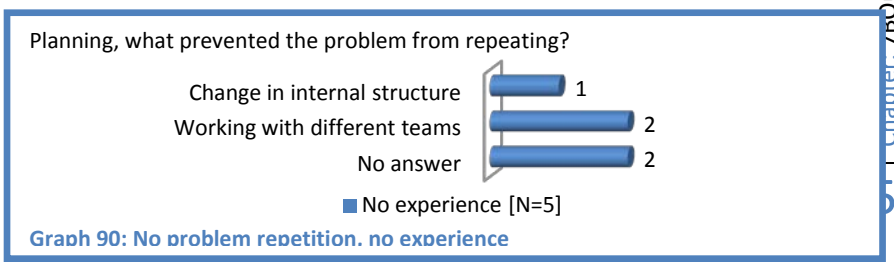


Graph 90: Success repetition, no experience

Regarding the repetition of problems, the difference between the two respondent groups is only 2% (48% experience - 50% no experience). Except for one, 'learn my lessons' from the respondents with experience, all other factors for both groups are related to organizational or circumstantial aspects.

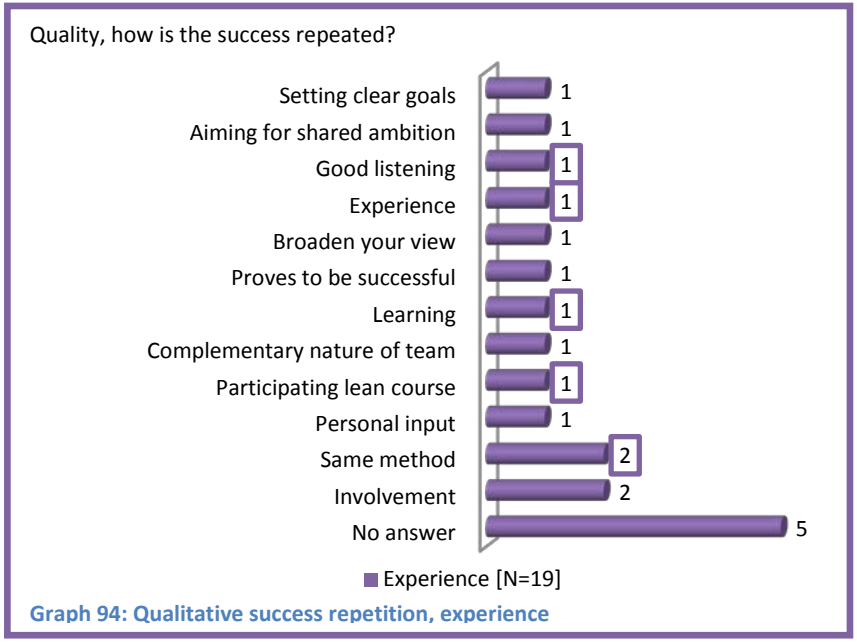


Graph 90: No problem repetition, experience

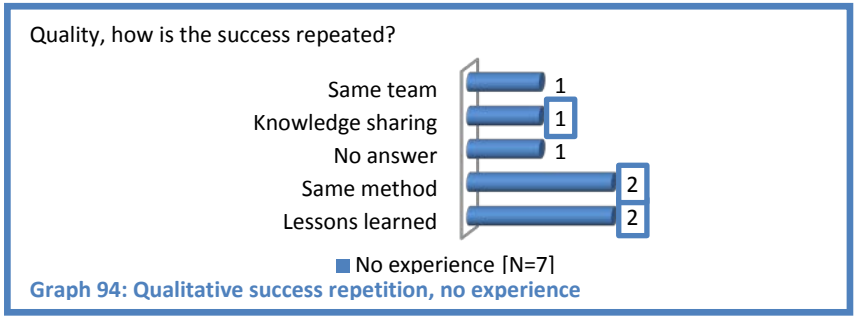


Graph 90: No problem repetition, no experience

The difference in success repetition between the participants with experience (76%) and those with no experience (50%) is the most for the quality factor (26%). The amount of learning that would contribute to this heightened increase is no higher (6/14) than it is for the other aspects. What is different, however, is that the participants specified more factors regarding the characteristics of supply supply chain integration. Where for the communication and financial aspect, only 3 or 4 out of 15 were contributed to supply chain integration characteristics, for the quality aspect, there are 8 out of 14.



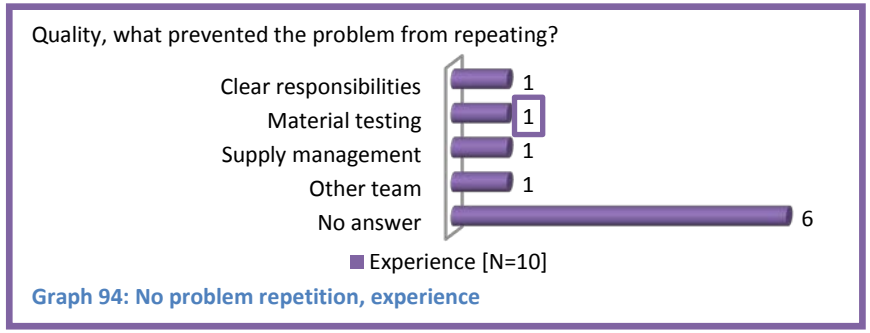
Graph 94: Qualitative success repetition, experience



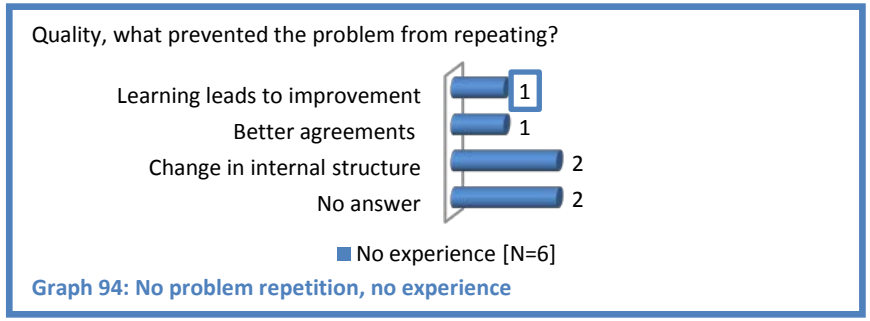
Graph 94: Qualitative success repetition, no experience

The respondents with no experience, indicated that they managed to prevent 60% of the problems to be repeated, where the respondents with experience were able to prevent 40%. Because of the small amount of the open answers (see graphs below), it is difficult to explain what could have caused this unexpected difference.

One would expect that because of the knowledge sharing, early involvement and other supply chain integration characteristics (as mentioned for the qualitative success repetition), problems regarding quality would most likely decrease compared to the outcome of the respondents with no experience instead of increase.



Graph 94: No problem repetition, experience



Graph 94: No problem repetition, no experience

What prevents success repetition and causes problem repetition?

The previous paragraph analyzed what causes success repetition and prevents problems from being repeated. This paragraph addresses what causes problems to be repeated and stops success repetition.

The following tables combines the outcome of the previous tables, regarding the success and problem repetition for the four indicators. The first table represents the percentages of successes that were not repeated, the second table the percentages for problems that were repeated. The first column (purple) indicates the answers of the respondents with experience, the blue column for those with no experience and the white column shows the difference in repetition between the two respondent groups.

	Did the success repeat itself? No.		
	Experience	No experience	Variation
Communication	36 %	45 %	9 %
Finance	37 %	40 %	3 %
Planning	40 %	50 %	10 %
Quality	24 %	50 %	26 %

Table 64: Summary of success repetition

Because the count between the two respondent groups is not equal, a true comparison cannot be made. However the numbers do give an indication of what happens in practice.

	Did the problem repeat itself? Yes.		
	Experience	No experience	Variation
Communication	57 %	45 %	12%
Finance	33 %	50 %	17%
Planning	52 %	50 %	2%
Quality	60 %	40 %	20%

Table 63: Summary of no problem repetition

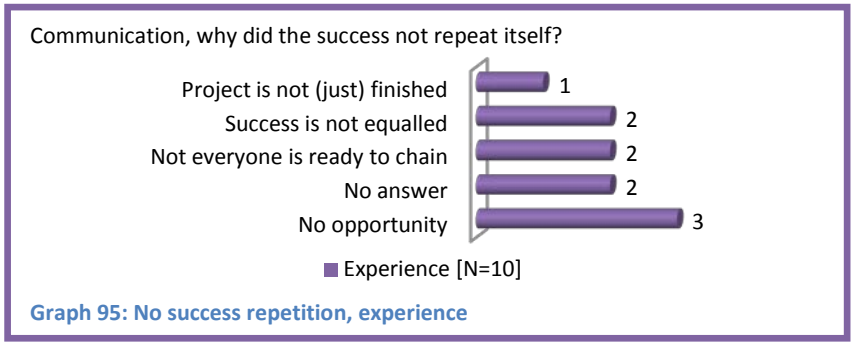
The tables show that on average the successes for the four indicators are *not* repeated in a third of the time. The difference in percentage between the planning (10%) and quality (26%) aspects are remarkable, because the count in the two is the same. So successes regarding planning are far less often repeated than those of quality. The open answer questions will have to indicate whether or not this was caused by insufficient learning or that they were caused by other factors.

Regarding the 'no success repetition' and the repetition of problems, the outcome of the respondents with no experience is fairly even distributed over the four aspects. Meaning that problems do repeat themselves, but the cause is most likely not found in aspect specific factors, and could therefore be a common problem. The answers of the open answer questions will have to verify this assumption, or appoint what the cause is.

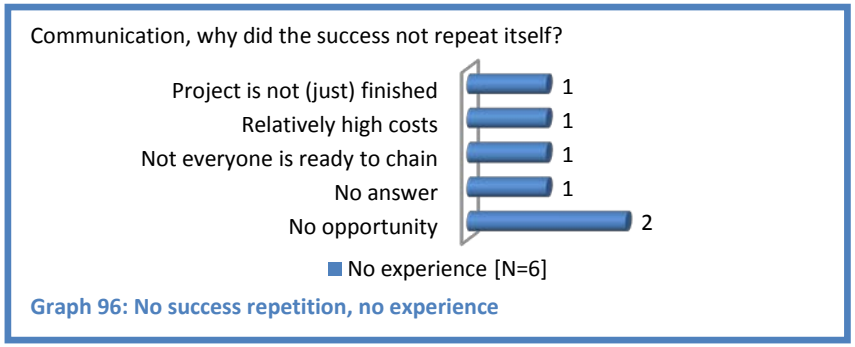
The problem repetition of the respondents with experience is not distributed equally and could therefore indicate that the cause of the problem repetition is different for the four aspects, again the answers of the open answer questions will have to confirm or invalidate this assumption. The four graphs below are the respondents answers to the open answer questions. The two graphs on the left indicate the 'no success repetition', and the two on the right indicate why problems were repeated. Each cluster of four tables represent one of the four aspects.

Of the respondents with experience 36% indicated that the communicational success they encountered did not repeat itself. According to the respondents, this was caused by 'circumstantial factors' such as having 'no opportunity' or that 'the project where the success occurred is not finished yet'. Rather similar factors were indicated by the respondents with no experience

This implies that the cause of not repeating successes is not contributed to a learning deficiency, or at least not recognized as such.

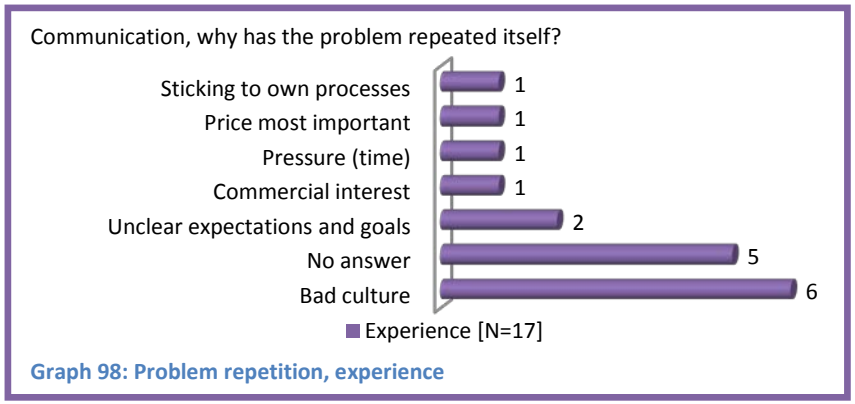


Graph 95: No success repetition, experience

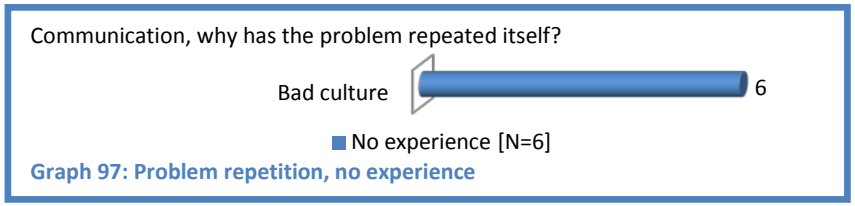


Graph 96: No success repetition, no experience

Both respondent groups indicate that problem repetition is largely contributed to cultural or organizational aspects, such as bad culture, commercial interest and other factors. Again, none of the factors seem to be related to a learning deficiency, which could either indicate there is no need for more learning, or that people do not recognize that they do not learn.



Graph 98: Problem repetition, experience

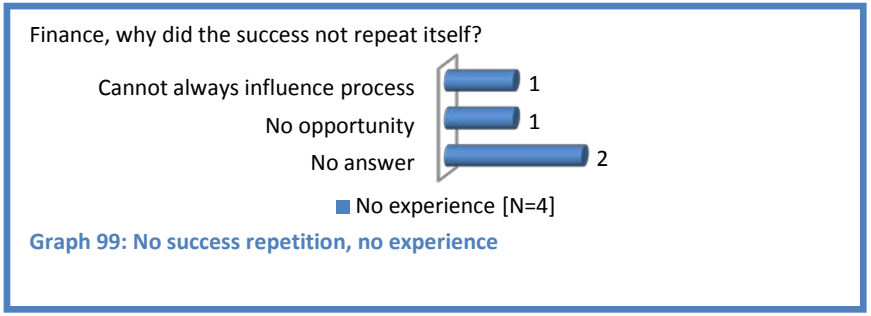


Graph 97: Problem repetition, no experience

Concerning the financial aspect, the answers of both respondent groups are comparable to the answers of the communicational aspect. This is not very remarkable, because in terms of percentages the amount of successes that were not repeated is also rather similar.

Because of the small amount of answers [N=4 / N=2], no real conclusions can be drawn from these answers. Nonetheless, none of the answers indicate a learning disability.

Graph 100: No success repetition, experience

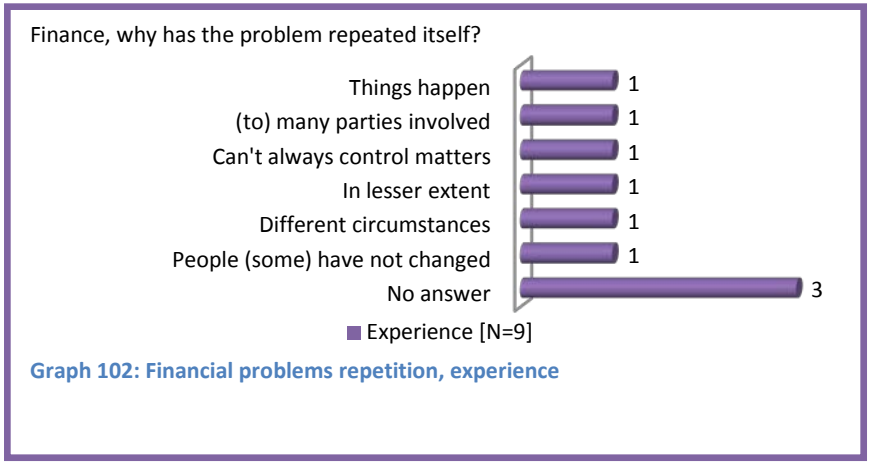


Graph 99: No success repetition, no experience

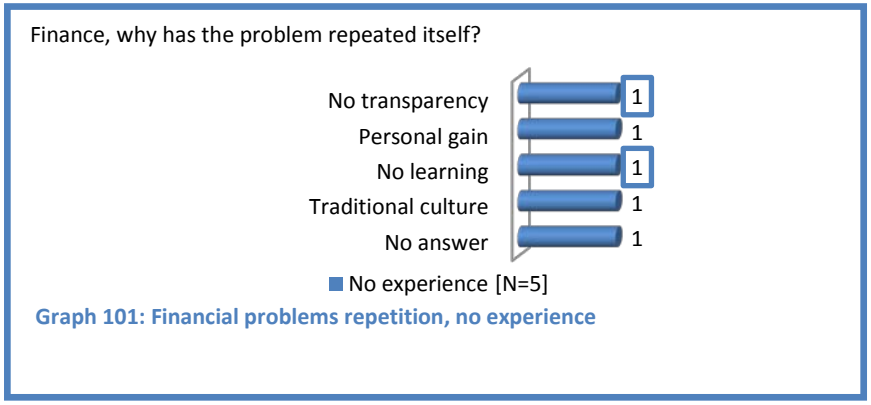
Regarding the repetition of problems, the respondents with experience present more factors however all of them are contributed to 'external circumstances' and 'organizational factors'.

It is remarkable that there is no clear difference in the answers between this aspect and that of communication, because the repetition of the problems of the financial aspect (33%) are far less often repeated than they did for communication (57%)

Some of the respondents with no experience do indicate that a lack of learning and 'not being transparent' are causes for problems to be repeated. However, because of the small count, this does not mean that problems are caused by learning deficiencies, period.



Graph 102: Financial problems repetition, experience

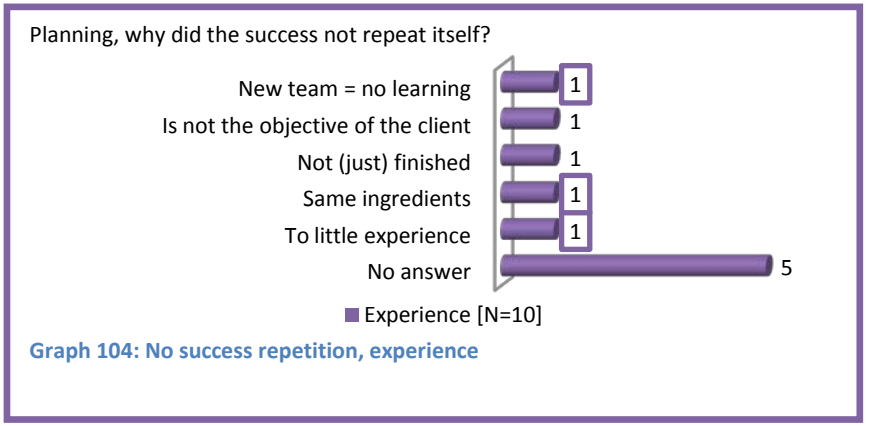


Graph 101: Financial problems repetition, no experience

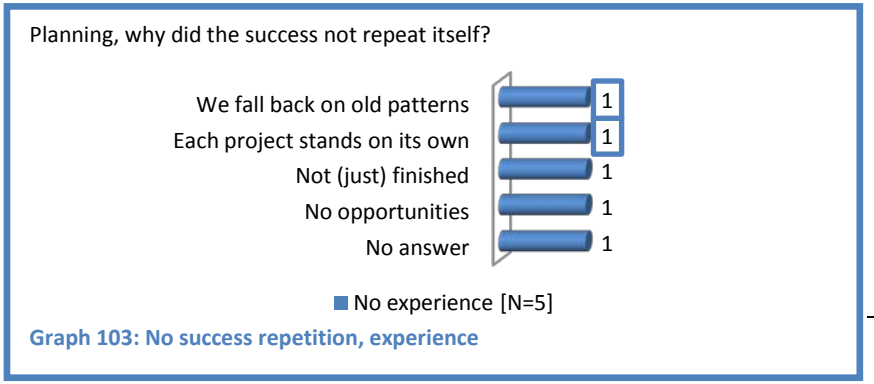
Of the respondents with experience 40% indicated that the successes were not repeated. This amount is rather similar to the outcome of the other aspects (communication and finance), however the respondents do indicate that a lack of learning is one of the causes. One of the respondents said that "every time there is a new team, no learning will occur", and another recognizes that "if the ingredients are incorrect, and you don't change them, problems will keep repeating".

Also the answers of the respondents with no experience indicate that a lack learning can contribute to successes not being repeated.

For both respondent groups, this is the first time that a lack of learning is indicated to be debit to successes not being repeated. This could either mean that planning is more dependent on learning than the other aspects are, or that it is easier to recognize a lack of learning for the planning aspect than it is for the other aspects.

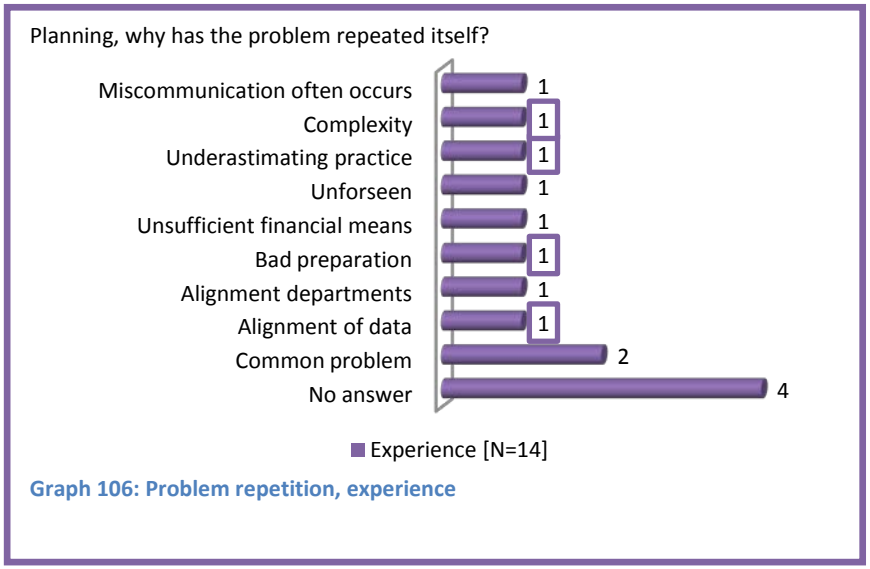


Graph 104: No success repetition, experience

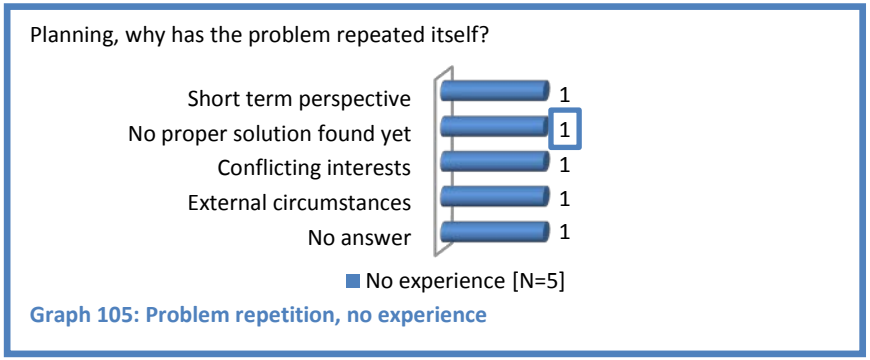


Graph 103: No success repetition, experience

The same applies for the repetition of problems, the respondents with experience indicate, for the first time, that aspects concerning to insufficient learning could contribute to problem repetition. Factors such as 'the project being too complex' or 'underestimating the practice', 'bad preparation' and 'no alignment of the data' (information), indicate that there is room for learning. The count of the respondents with no experience remains small, and therefore no real conclusions can be drawn from the given answers.



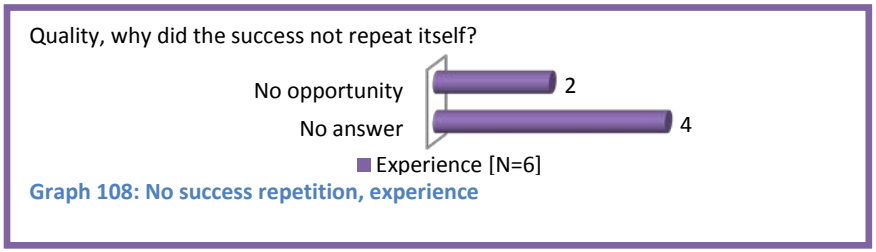
Graph 106: Problem repetition, experience



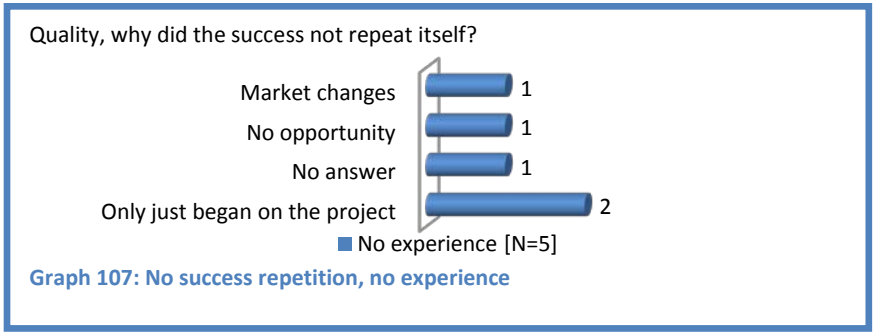
Graph 105: Problem repetition, no experience

In terms of percentages the amount of successes *not* repeated is smallest for the aspect of quality. Unfortunately the respondents did not provide clarifying answers when it comes to finding out what caused this, relatively, small amount of not repeated successes.

This could indicate that learning occurred for the other half, where successes were repeated, and that it is less evident what remaining lessons still can be learned.

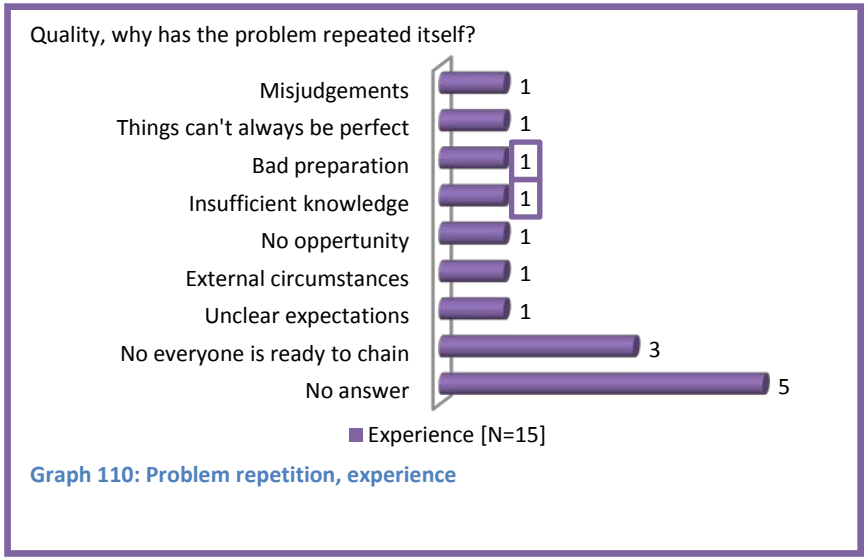


Graph 108: No success repetition, experience

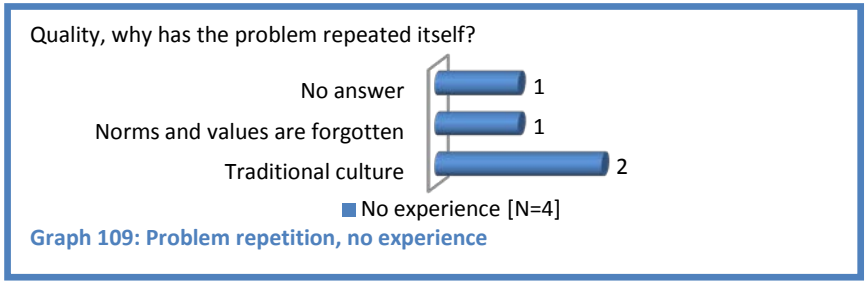


Graph 107: No success repetition, no experience

When it comes to problem repetition the outcome of the respondents with experience is comparable to the other aspects (except finance). Even though some respondents indicate that insufficient learning could contribute to problem repetition, the majority of the answers are related to organizational or circumstantial factors.



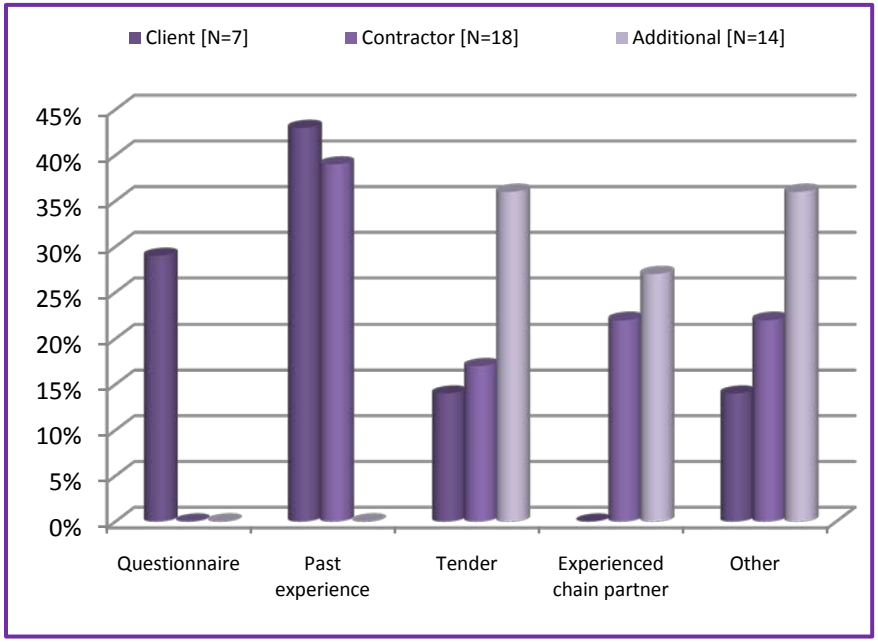
Graph 110: Problem repetition, experience



Graph 109: Problem repetition, no experience

8.7. Questionnaire outcome others

Regarding your last project, how did the procurement take place?



Other is: word of mouth / 'plak en pak dag' / design and build project.

Do you think that the relation between client and contractor improves by working in chain collaboration?

The question regards the respondents who indicated that the selection was conducted on the basis of good experience.

	Yes		No	
Client	0	0%	1	100%
Contractor	8	89%	1	11%
Additional	5	83%	1	17%

If yes, why?

Only the respondents with experience in chain integration indicated to be selected on a basis of good experience

Graph 111: Procurement based on good experience, respondents with experience

If not, why not? [N=2]

"A relation with a client requires much more", and "Can't say yet, project is not finished"

What did you like about the answers?[N=2]

This question regards the respondents who indicated that the procurement took place by means of a questionnaire. "Good comprehensive answers, not only expressing intentions, but arguing them. Also the experience in supply chain management" (Client, 2010a). "Questions involved in chain and BIM experience. What I liked was when they gave at a well motivated answer" (Client, 2010a).

Do you think that the procurement method affect the course of the project?

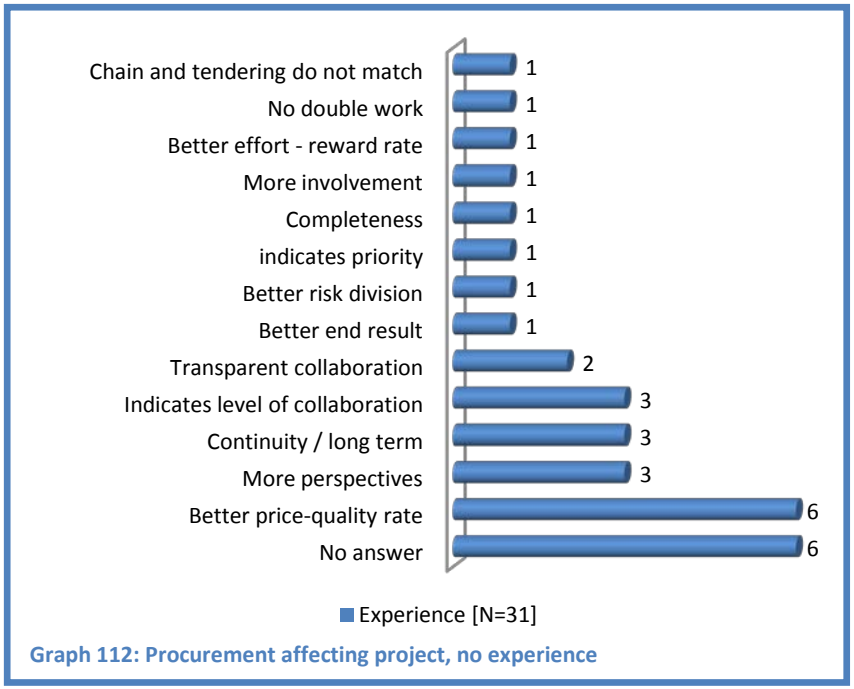
	Experience		No experience	
	Yes %	No %	Yes %	No %
Client	100	0	100	0
Contractor	100	0	100	0
Additional	73	27	100	0

	Experience		No experience	
Count (nr.)	25	3	11	0
Total	89%	11%	100%	0%

Table 65: Affect of procurement method

If yes, why?

Graph 113: Procurement affecting project, experience



Graph 112: Procurement affecting project, no experience

If not, why not? [N=3]

"Method of selection is just a consequence of attitude not a cause" (Additional, 2010a). "The manner of selection is not that important but the ultimate goal. There you will have to select the appropriate and most optimal way for the client" (Additional, 2010a). "You only select the right parties" (Additional, 2010a).

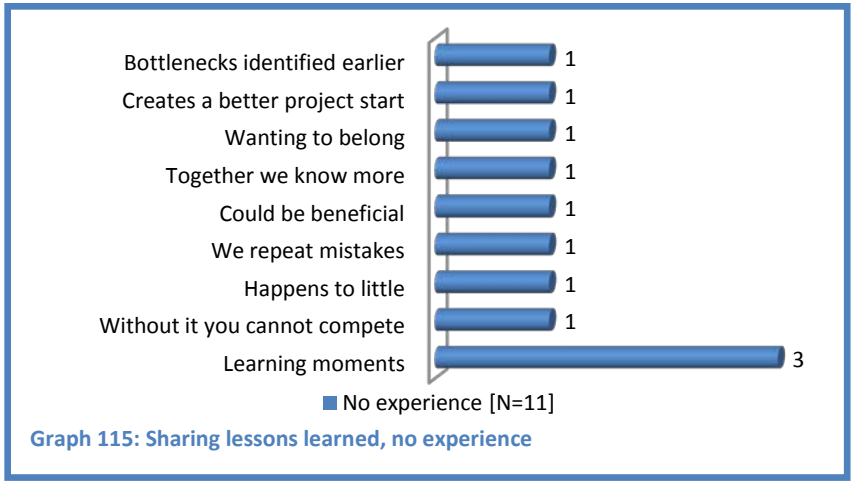
Do you think that it is rewarding to share lessons learned regarding information and communication within the chain organization?

	Experience		No experience	
	Yes %	No %	Yes %	No %
Client	100	0	100	0
Contractor	100	0	80	20
Additional	100	0	100	0

	Experience		No experience	
Count (nr.)	28	0	10	1
Total	100%	0%	91%	9%

Table 66: Sharing lessons learned

If yes, why?



Graph 115: Sharing lessons learned, no experience

Graph 114: Sharing lessons learned, experience

If not, why not? [N=1]

"The world of contractors is a real men's World, and other laws apply there. Sometimes you encounter people who might have the proper characteristics, in those cases it might be applicable." (Contractor, 2010b).

Where do you think unnecessary expenses in are your field?

Graph 116: Unnecessary costs, experience

“Too much chitchat and too little motivated decisions.” (Client, 2010a), “Many discussions and too little decisiveness” (Client, 2010b). "Losses from poor preparation and tuning information and, through many changes during the process” (Contractor, 2010a).

Do you think that it is rewarding to share lessons learned within the chain organization regarding finance?

	Experience		No experience	
	Yes %	No %	Yes %	No %
Client	100	0	67	33
Contractor	85	15	60	40
Additional	82	18	100	0

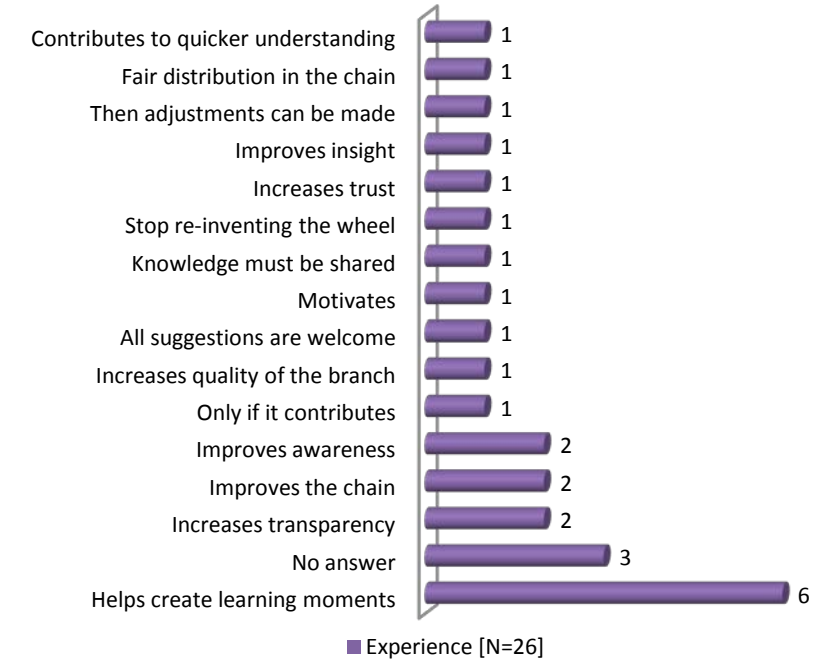
	Experience		No experience	
Count (nr.)	23	4	7	3
Total	85%	15%	70%	30%

Table 67: Financial problem repetition

If so, why?

Graph 117: Spreading financial learning moments, no experience

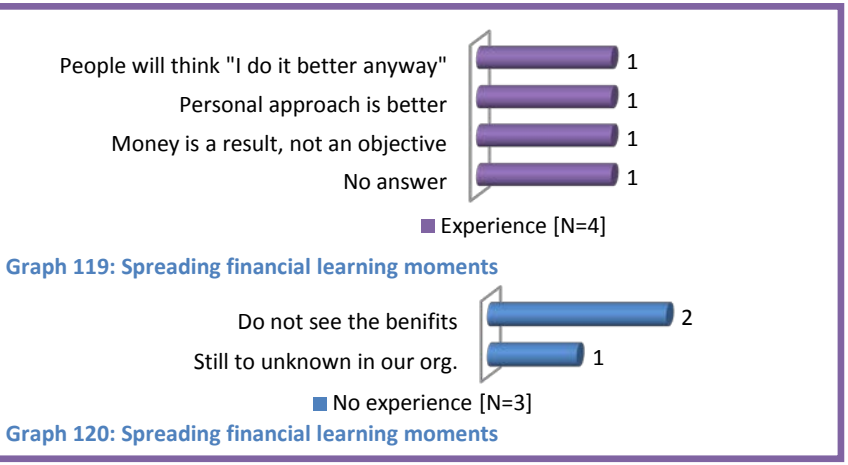
'Het is maatschappelijk geld en zijn geen echte concurrenten vanelkaar dus kennis en informatie uitwisselen!!(Client, 2010b).



Graph 118: Spreading financial learning moments, experience

Er binnen de ketenorgenisatie weinig daadwerkelijke kennis bestaat omternt de financiele bedrijfvoering bij de aannemers(Contractor, 2010a)

If not, why not??[N=5 < 7]

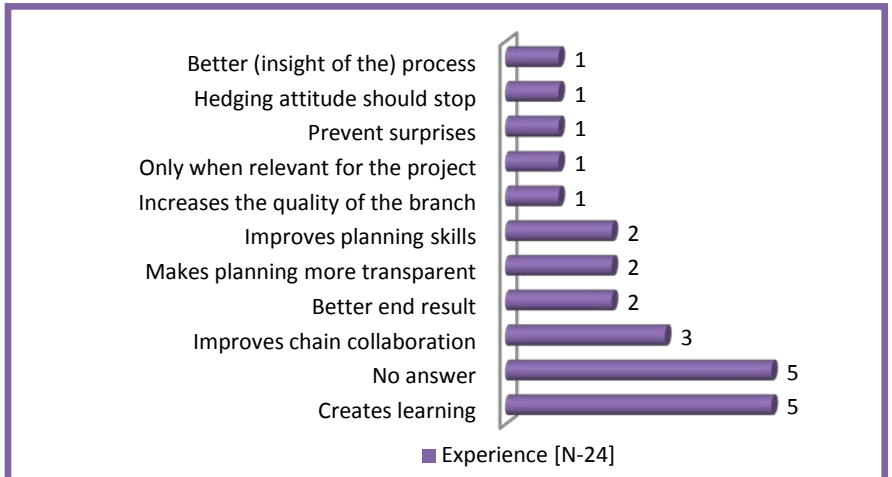


Graph 119: Spreading financial learning moments

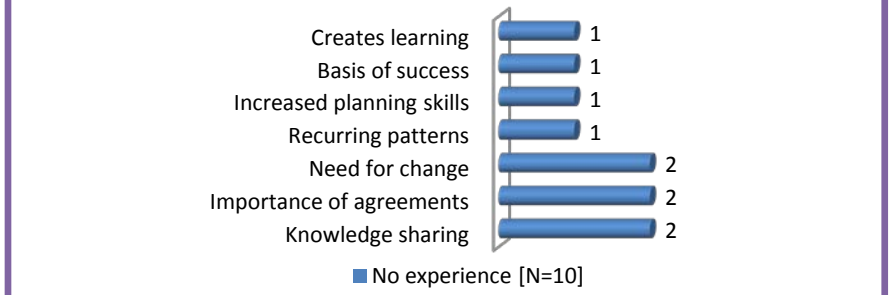
Graph 120: Spreading financial learning moments

Do you think that it is rewarding to share lessons learned within the chain organization regarding planning?

If so, why?



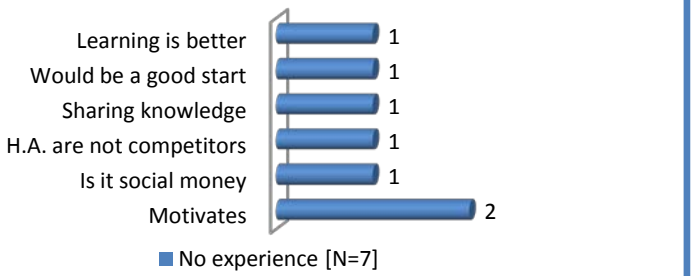
Graph 121: Sharing lessons learned, experience



Graph 122: sharing lessons learned, no experience

"Het nivo in de bouwkolom hoger moet" (Contractor, 2010a), "we uit tradioneel denken moeten treden" (Additional, 2010b), "het indekken van personen of organisaties moet voorkomen worden" (Contractor, 2010a). "bepaalde pricipes gelden voor elk project en kunnen het succes maken of breken" (Contractor, 2010b)

If not, why not? [N=3]



Graph 124: Spreading financial learning moments, no experience

"We zijn nog niet zover" het niet gaat om het kunnen plannen maar om de fenomenen waar de planning betrekking op heeft.

Do you think that it is rewarding to share lessons learned within the chain organization regarding quality?

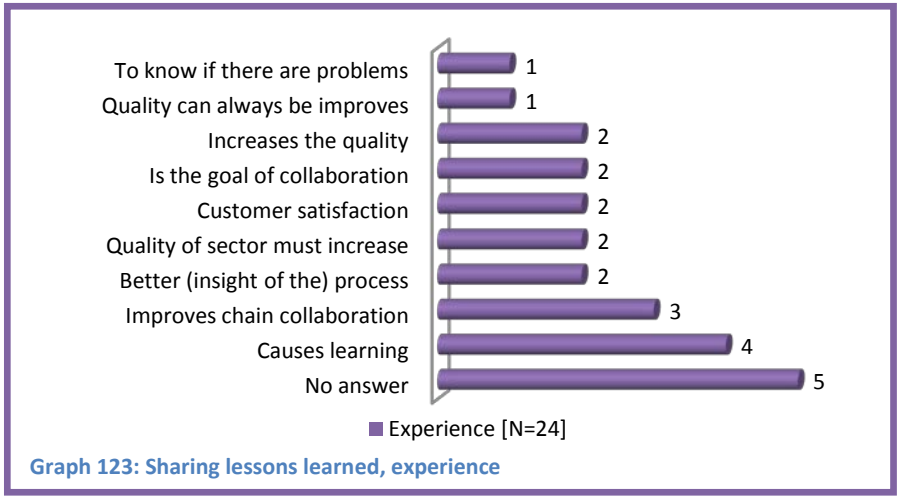
	Experience		No experience	
	Yes %	No %	Yes %	No %
Client	100	0	67	33
Contractor	92	8	100	0
Additional	100	0	100	0

	Experience		No experience	
Count (nr.)	24	1	9	1
Total	96%	4%	90%	10%

Table 68: Sharing lessons learned

If so, why?

"We kunnen leren dat kwaliteit op een veel prettiger manier kan worden gerealiseerd" (Contractor, 2010b). "We betalen voor kwaliteit en omdat de eindgebruiker (huurder) recht heeft op goede kwaliteit" (Client, 2010a). "Dan kan worden voorkomen dat de klant het gevoel bekruipt dat hij niet krijgt wat gevraagd is, waarbij het geleverde wel voldoet aan de behoefte "(Contractor, 2010a). "Dit ook het imago van de bouw negatief beinvloedt"(Contractor, 2010a). "Ik wil wel een horen of er problemen zijn" (Additional, 2010a).



Graph 123: Sharing lessons learned, experience

Graph 125: Sharing lessons learned, no experience

If not, why not? [N=1 < 2]

"we zijn nog niet zover" (Client, 2010b)

Case study description

9. Case study description

This paragraph describes the criteria which the case study projects had to meet in order to be included in this research, followed by the description of each of the case studies describing the specifics, project selection and the parties involved.

Case study criteria

The following criteria were used to select the cases for this research:

- All projects should meet the principle of chain integration;
- Observing case study(s) should take place in the months September – November;
- The participation project should be completed before the end of the graduation project;
- In all case study projects, traditional tender procedures should be ruled out;
- All parties involved should be motivated into working in a integrated supply chain integration, (instead of it being imposed on to them);
- The entire project should be observable, and not just a phase of the project.

Case study description Sarphatistraat

This paragraph describes the specifics of the first, observing, project. It will address the content of the project, the parties involved and why it was selected according to the case study criteria.

Specifics

The Sarphatistraat building is one of the two buildings of the Stadgenoot campus. The building used to be the national magazine for medicine (rijksmagazijn voor geneesmiddelen). In the year 1991 there were plans to demolish the building, and build a eighty meter high tower[2]. In the year 1992 several interest groups managed to cancel the plans. Since then the building had become a national monument. In that same year housing association 'Het Oosten' inhabited the building.
In the year 2000 the monumental building was expanded with the 'pavilion', designed by Steven Holl architects. The (old) building was renovated in the same year.

Project selection

The Sarphatistraat project meets the criteria on, almost, every point.

- The criteria state that the project should take place in the months September – November. The project started in March and finished in early November. This meant that I could not monitor the entire project, but I was able to monitor the execution phase and both the interim and end evaluation.
- There was no traditional tendering procedure in this project. The procurement took place by means of a question list. These questions were composed by the manager of the maintenance department of Stadgenoot. The supplier was selected by assessing the given answers.
- Stadgenoot selected the participants for the tender procedure based on their score on the annual contractor assessment. The selected party indicated high motivation for supply chain integration.
- The last point of the criteria states that the entire project should be observable. This was not entirely the case for this project. As mentioned before, the project started before I got involved. However, from the document study and from interviews and observing the meetings, I believe that I could oversee the entire project.
- I was not able to observe the entire project. The project started in March, and I got involved in August.

> "Before the first meeting I had to Google what 'Chain integration was".
> Project manager client, Sarphatistraat project.

- The first point of the criteria might be a bit tricky. "All projects should meet the principles of chain integration". The project was a pilot project, commenced in chain integration. The budgets were openly discussed, and the communication was "very good" according to the project participants. This would make it sufficient according to the criteria. However, because it was a pilot, it might not have reached the full length of a supply chain integration. For one, one of the participants mentioned that he had to 'Google' what chain integration was, before attending the first meeting.

All combined the project met / sufficed all of the criteria, and is therefore included in the research.

Maintenance works 2010

The internal services department of Stadgenoot (client), indicated that maintenance works were required. The tasks were to involve;

- Repainting the window and door frames both inside and outside, incl. eventual partial replacement;
- Repainting the metal inside and outside;
- HR-sanitation inside and outside;
- Constructive works inside;

[2] www.buurtenboek.nl

- Partial / element replacement.

Parties involved

The parties involved in the Sarphatistraat project were:

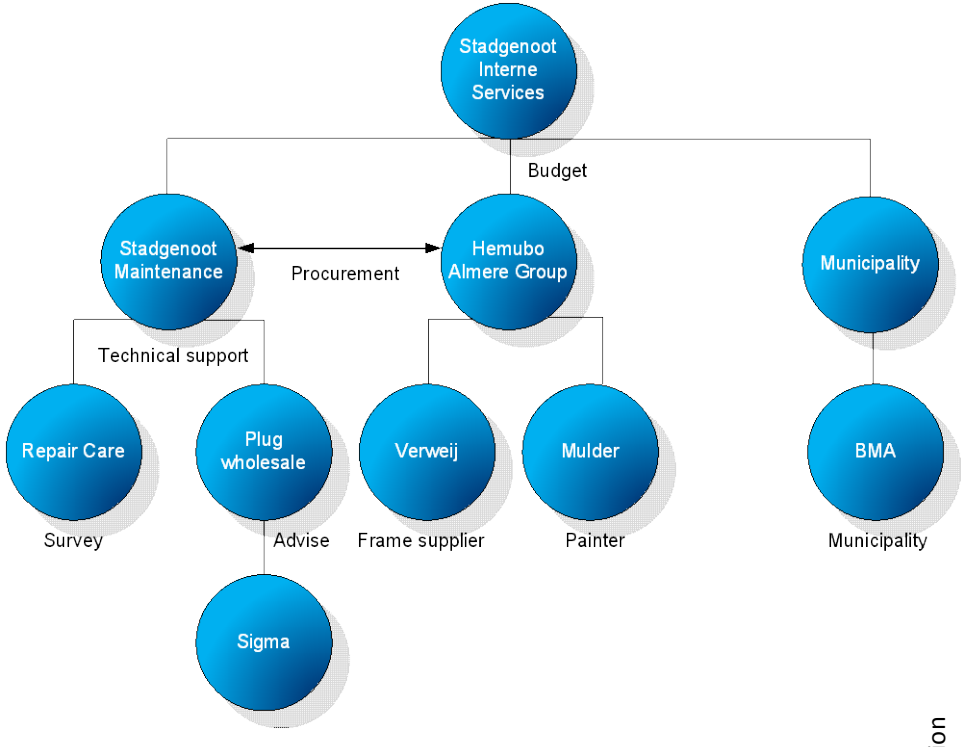
- Stadgenoot interne services (client)
- Stadgenoot Planmatig Onderhoud (maintenance – project manager)
- Repair care (advise on technical condition)
- Hemubo Almere (main contractor)
- Mulder schilders (daughter org. of Hemubo – painter)
- Plug, paint whole sale, as supplier on behalf of Sigma coatings (colouring advise)
- Verweij (carpenter – timber supplier)
- BMA (bureau monumental care and archaeology)
- Municipality, Centre district

The client in this case was Stadgenoot internal services, the department which facilitates the office and its supplies. For technical support the long term maintenance department was involved to manage the project.
Repair Care was taken on to assess the technical condition of the entire building, before the contractors were invited. This had to do with the limited time frame of the project. They performed a so-called '100% intake' to prevent any unforeseen issues from occurring.

Plug, on behalf of Sigma, was involved regarding the colouring and material advise. They were also contacted before the contractor selection.

Hemubo Almere was selected from the three contractors that were approached to participate in a supply chain integration project. For the procurement a set of questions were composed, combined with an amount of required certificates. Mulder schilders is sub-department of the Hemubo Almere group. Verweij, produced and supplied the frames that needed to be replaced.

The municipality was involved in the project because the building has a monumental state.



ription

Case study description Solebaystraat

This paragraph gives the description of the second, observing, project. It will address the content of the project, the parties involved and why it was selected according to the case study criteria.

Specifics

The Solebaystraat project is built in 1952 and consists of 3 building blocks which include 144 dwellings and 8 duplex houses. The buildings are located in Amsterdam West and received a municipal monumental state in 2009. One of the special features of this building, is that it has a paddling pool (which will not be included in the renovation works) in its courtyard, which opened in 1954.

Project selection

- The criteria state that the project should take place in the months September – November. The project started in August 2010, because it is a renovation project the duration will exceed the time span. However, because I could not observe the initiation, design or preparation phase of the Sarphatistraat project, this could give a good perspective on how the starting phases of a supply chain integration project take place.
- The project start-up of the Solebaystraat was commenced by Stadgenoot in a more or less traditional manner, however, soon the project was selected to become a chain integration pilot. And so there was no traditional tendering procedure in this project. The contractor was selected from the contractor assessment list. A prerequisite was that they had to be familiar with such an approach (Stadgenoot, 2010g), and that they were willing to invest in knowledge sharing. The parties signed an "agreement of intent for good cooperation" (Stadgenoot, 2010g).
- The selected contractor was involved because of their experience with supply chain integration.
- The project started in August, and the start of execution is not yet determined. This item of the criteria cannot be met.
- The first point of the criteria might be a bit tricky. "All projects should meet the principles of chain integration". The Solebaystraat project is also a supply chain integration pilot project.

This would make it sufficient according to the criteria. However, because it was a pilot, it might not have reached the full length of a supply chain integration.
The Solebaystraat does not meet all the criteria points. Nonetheless it is included as a case study because it complements the other case study projects.

Renovation works 2011

The project is still in its design phase. Because the rent can be influenced by the amount and type of work, the residents have to be included in determining which type of tasks will and will not be performed. Currently the parties involved examine what the different activities cost and how they fit in with the other activities (for instance, placing a complete heating installation, without insulating the dwelling will be highly insufficient).
Activities that are currently being analysed are:

- Window frames. The window frames should be renewed, but because the building has a monumental state, the old features have to be maintained. This could impede with placing double glazing.
- Energy label. The type of installation – central heating, solar panels, ventilation, etc- in combination with the type of structural adjustments.
- Changing the entry, by expanding the overhang.

Parties involved

The parties involved in the Solebaystraat project are:
Internal

- Area management

tion

- Real estate improvement (vastgoed verbetering)
- Planned maintenance
- Real Estate policy advisor

External

- Mens-Zeist Bouw (main contractor)
- Rappange & Partners (architect)
- Nieman Adviesbureau (engineers for safety, quality and building physics)
- Bonarius (installation)
- BMA (bureau monumental care and archaeology)
- Municipality, West district

Case study description Louis Couperusstraat.

This paragraph gives the description of the third, observing, project. It will address the content of the project, the parties involved and why it was selected according to the case study criteria.

Specifics

The housing block on the Louis Couperusstraat is located in Amsterdam Slotermeer and it was built in 1953. It includes 136 dwellings and 10 retail stores, divided over the Louis Couperusstraat, Herman Robberstraat and the Nico van Suchtelenhof.

Project selection

The Louis Couperusstraat project does not meet all the criteria points. Nonetheless it is included as a case study because it complements the other case study projects.

- The criteria state that the project should take place in the months September – November. The project started in August 2010, because it is a renovation project the duration will exceed the time span. However, because I could not observe the initiation, design or preparation phase of the Sarphatistraat project, this could give a good perspective on how the starting phases of a supply chain integration project take place.
- There was no traditional tendering procedure in this project. The contractor was selected from the contractor assessment list. A prerequisite was that they had to be familiar with such an approach (Stadgenoot, 2010g), and that they were willing to invest in knowledge sharing. The parties signed an “agreement of intent for good cooperation”(Stadgenoot, 2010g).
- The selected contractor was involved because of their experience with supply chain integration.
- The project started in August, and the start of execution is not yet determined. This item of the criteria cannot be met.
- The first point of the criteria states that “all projects should meet the principles of chain integration”. The Louis Couperusstraat is a chain integration pilot project. This would make it sufficient according to the criteria.

However, because it was a pilot, it might not have reached the full length of a supply chain integration.

Renovation works 2013

The feasibility study indicated that renovation is necessary, however the extend of the activities is still subject of research. Therefore three variants are being analyzed. The first is the basic variant, which would extend the exploitation period with 15 years.

Basic variant.

In this variant the dwellings are made safer by replacing the ‘open combustion unit’ for central heating. The indoor climate will be improved by applying mechanical ventilation. Also the asbestos which is present in the dwellings at the site of the ventilation ducts will be removed. The ‘stand pipe’ are of such a mediate quality that they need to be completely replaced. The roofing is also being replaced and measures for fire safety will be conducted. Also the cracks in the façade are being treated.

Optimal variant.

The optimal variant will have an exploitation period of 25 years. The activities will be the same as the basic variant, complemented with more energetic measures, conducted by insulation the outer walls and the storage ceilings. Also the entrances

will be replaces, and for the storage on the rear side measures will be made to improve safety.

Optimal variant +.

It has come to notice that future perspective of the retail stores, is not optimistic. There is a lot of vacancy and the rents have to be lowered, in order to attract new tenants. The third variant explores the option of changing the retail into dwellings.

Bim pilot

The Louis Couperusstraat is selected as a pilot project for BIM (Building Information Model). The objectives for BIM and 3D modeling for this project are;

- Rapid decision making for alternative approaches.
- Understanding of current situation and new possibilities.
- Rapid reporting of necessary approach.
- Clear insight in revenues and materials used.
- Reduce failure costs by good information transferring.
- Registration of facilities and card catalog information..
- Alternative for 2 D maps and aligned calculation program.
- Reducing preparation costs by reducing amount of drawing and audit work.
- Epa calculation regarding energy labels and information about rental prices after any changes.
- Adapting elements in case of change after project completion.
- Link to other programs of Stadgenoot.

Parties involved

Internal

- Real Estate improvement (vastgoed beheer)
- Area management (area development)
- Area control (social control of the area)
- Housing
- Concern control
- CMV (Cultureel maatschappelijk vastgoed)
- Planned Maintenance
- Strategy and Policy

External

- End users
- Government, for permits and support.
- Loghies (main contractor)
- Architect, Hooyschuur
- Vibes (virtual building engineers)
- Patina
- Metapart (installation)

Case study description Vogelbuurt Block 1

This paragraph gives the description of the fourth, participating, project. It will address the content of the project, the parties involved and why it was selected according to the case study criteria.

Specifics

The Vogelbuurt area is build in the period between 1909-1936. The Vogelbuurt and the adjacent 'Vogeldorp' are part of the Amsterdam north conservation area[3].Because of the time frame, this research will address building block 1, which is located on the 'Spreeuwenpark','Nachtegaalstraat', 'Leeuwenrikstraat' and 'Sperwerlaan'.

[3] Beschermd stadgezicht.

Project selection

- The participating project should be finished before the end of the graduation project. Initially the plan was to start preparations in November / early December, and to start execution in January. This planning is slightly altered, and the execution phase has yet to be determined.
- For the fourth project there was also no traditional tendering procedure. The contractor was selected from the contractor assessment list. One of the prerequisites was that the contractor had to be familiar with either chain of lean working.
- The selected contractor for this project invited Stadgenoot to jointly participate in a lean session in order to stimulate the relation and project start-up.
- As stated before the execution date is not yet determined. However the amount of work per dwelling is rather limited. Maybe partial delivery can be observed.
- The plans for the entire Vogelbuurt area are still under development. The intention of Stadgenoot is to develop this entire area in a supply chain integration. The plans for block 1 are therefore renamed to 'lean' instead of chain, because it does not contribute to the long term and project exceeding character. The involved participants (for now only van Wijk and Accent) are used to working according to the lean principle. When selecting the Vogelbuurt project it sufficed the case study criteria. However, due to changes in plan and planning, the criteria currently does deviate from the criteria. Nonetheless, because of the information gained in the intermediate period, the project is included in the case study criteria.

Mutation sale preparation activity 2011

The activities include restoring the historical image as much as possible. The goal is to expand the sales possibilities, in order to have quick sales which will rapidly help differentiate the population of the area. The policy is to sell 49%, of which the current tenants will be offered to buy their home. All dwellings which currently have a temporary leas contract will be put to sale. If technical and financial possible, they will become 'starters dwellings' for which we only have to conduct a basic works, such as insulation and asbestos.

Parties involved

The parties involved in the Louis Couperusstraat project were:

- Stadgenoot real estate improvement
- Planmatig onderhoud
- Verkoop (CMV)
- Gebiedsbeheer
- Gebiedsregie
- Van Wijk
- Accent
- Innax (splitsingsdocumenten)
- Gemeente (niet binnen de keten)

By constantly asking ourselves if we did not forget anything, we just in time remembered to involve monumental care.

(Hemubo, 2010a)


Case study outcome

10. Case study outcome

10.1. Communication

This paragraph addresses the successes and problems regarding communication between the participants for the four case study projects. They are not clearly divided, as they were in the previous chapter (questionnaire) because the problems and successes can be interlinked in the same issue.

Successes and problems.

In the questionnaire, the respondents with chain experience indicated that their biggest successes were transparency and good communication, document sharing, clarity simplicity and so on. They also indicated that trust and transparency were the most common causes of the successes.

In the questionnaire the majority of the respondents, with chain experience, indicated that the biggest problems and causes were 'bad communication' and 'unclear goals and expectations'.

Frequency

In order to achieve a higher level of communication, the participants of the Sarphatistraat project, chose to have two weekly meetings during the execution phase. These meetings would have a multilateral setting. In addition the project manager of the client would visit the project every other day, which would have a more bilateral setting. This partially also because it was a pilot project, and maintenance work on the head office of Stadgenoot.

Also during the preparation phase, the participants "gathered about eight times" (Hemubo, 2010a). During these meetings, the leading question was "did we forget anything?". Because of these sessions, the participants realized just in time to involve monumental care..

According to the contractor of the Sarphatistraat project these sessions have really affected the pace of the project. "The frequency of the meetings was sufficient", according to the project manager of Stadgenoot. "And", he continues "we always knew where to find each other".

For the Solebaystraat the frequency of the meetings was also every other week, in a multilateral setting. During these meetings, which focused on designing and preparing the project, all relevant participants were invited, meaning that not all participants needed to be present for every meeting. They followed a structured 'to do list' (agenda) coordinated by the project manager of Stadgenoot. Besides these meetings, there was of course communication via mail and telephone. The same goes for the Louis Couperusstraat, except that the meetings were reduced to once every four weeks, this because the execution phase has been postponed to 2013.

The Vogelbuurt project is currently far most relying on internal communication (Area management, sales, finance etc.). The only external party is the contractor 'van Wijk', which works together with Accent whom advice on lean. Since the project commenced in November 2010, Stadgenoot and van Wijk participated in a lean simulation and conducted a follow up meeting. Until this point there is no frequency in meeting, because the phase it is in does not require such.

Trust

According to literature and the questionnaire respondents, trust in each other is an important factor for effective collaboration and knowledge sharing. This goes for explicit knowledge, but far more for tacit knowledge.
Spekman(2002) explained trust to be,

- The believe that one's partner will act in a predictable manner
- Will keep his word
- Will behave in a way that will not negatively affect the other.

The project manager of the Sarphatistraat project acknowledges the importance of thrust when he said "collaboration and trust are very important factors. It leads to better communication and you become more involved, this is different from a traditional process, where no news, is good news" (Stadgenoot, 2010d). Hemubo (2010b) noted that "when you receive the trust to manage a project in a one on one situation, in which you as a contractor are responsible for the entire chain, it is eminent that the goals and desires of the client are clear and that you are allowed to be critical towards these demands".

For the Solebaystraat participants it took a little while to get adjusted to each other. They worked together, but there was no group feeling. However, after a few weeks, the setting changed, and the participants became more and more aligned with each other.

For the Louis Couperusstraat, trust was represented by means of equality. For instance the architect presented three design options and asked the participant for their opinion. All participants gave their perspective, and in return the contractor asked the architect what his favourite was. This created a setting which enthused all participants.

For the Vogelbuurt project, one of the objectives of the lean simulation was to create a level of trust between the participants. However, because the intentions of the project were not yet clear (lean or chain, one block or entire area etc.) the two parties did not yet have a common goal.

Transparency

According to the project manager of the Sarphatistraat, not being transparent would be the same as performing a traditional project with aspects of chain integration "this just wouldn't function" (Stadgenoot, 2010d). The importance of transparency for the Solebaystraat, comes from the difficulty level in aligning the various aspects. The following example to illustrate;

> The majority of the residents have an 'open combustion unit', and some of them do not want to change it for central heating. For the thermal bridge, from single glazing and walls, Stadgenoot is opting to insulate the building, but this could become a risk in combination with the 'open combustion unit'. Accordingly the option of mechanical ventilation is opted. But because the building has a monumental state, the roof has to stay clear of large installations… and so on.

Meaning that every solution created another challenge.

Information exchange and knowledge sharing

Sharing knowledge and information, both on a personal level and on a technical level, is also one of the topics that the respondents of the questionnaire indicated to be important.

Information and knowledge exchange can be split in to intra-organizational (internal) and inter-organizational (external) exchange. Especially regarding the exploratory nature of the four pilot projects regarding chain integration, intra-organizational information exchange is very important.

Within Stadgenoot, the development department first applied the concept of chain integration on a large scale development area in 2009. Despite the project being postponed, the information on how to start up supply chain integration is available with the participants.

Accordingly the real estate management departments started several pilot projects (as described in the case study description). The managers of these departments (e.g. maintenance and real estate improvement) used the existing process description, in order to formulate their own procedure.

However, in practice there is only little exchange between the employees (project managers) of the (sub) departments. Recall that one of them had to Google, to find out what chain integration is really about. The only communication was one bilateral meeting between the project manager of the Sarphatistraat project, and the project manager of the Solebaystraat project on what the principles of chain integration are. The third project manager (Vogelbuurt) said "to be honest, I never talked to anyone about it, that would have been a good idea. I get more and more the idea that people also don't really know what to do with this chain integration, and maybe that makes it more difficult to exchange information"[4].
According to one of the project managers "the requirements of Stadgenoot are still fluctuating too much, which leads to constantly drastically changing plans" (Stadgenoot, 2010c).

An example of insufficient intra-organization information exchange comes from the Vogelbuurt project;

> In 2007, a feasibility study was conducted in order to estimate the quality of the building and its options for further exploitation. Part of this study was a foundation analysis, which was performed by an external company. The plans were however postponed until 2010. A new feasibility study was conducted, and (without being aware of the existing foundation analysis) a new foundation research was conducted.

The Louis Couperusstraat project is experimenting with BIM and 3D modelling, in order to increase the efficiency of the information exchange. Vibes, the virtual building engineers, collects all the data from the other participants (architect, contractor, advisors etc) and assembles it in one program. However, the other participants do not have access to the files, nor can they log-in into the system. The information is distributed by Vibes, who also sometimes gives a presentation to the project team. Logchies, the main contractor, stays in close contact with the other participants and remains informed of all the participants activities and research outcomes. Other information is exchanged via multilateral settings and via communication over email or telephone.

The participants of the Solebaystraat project perform knowledge sharing via the two weekly meetings, in which new information is presented to the entire team, and debated jointly. This created that the architect and the contractor are on the same wavelength, regarding detailing, design and realization, which in turn led to a shared

[4] Email correspondence with the project manager of the Vogelbuurt project, dd 14-02-2011.

perspective of "it is best if we debate as efficient as possible, in order to prevent that we keep each other occupied for the next year"[5].
Another example is that the architect presented his design and indicated a small problem. Because of the open setting of exchanging information, the building physics advisor made a suggestion which solved the problem. The participants are involved in the process and dare to be critical on each other's work.

Procurement

Of the questionnaire respondents[6] 92% indicated to think that the procurement method can affect the course of the project. Giving the 'price to quality rate' and 'process over price' as most common affects.

Some of the employees of Stadgenoot (whom do not have experience in supply chain integration) have the presumption that procuring on a one on one basis (especially combined with long term agreements) will prevent contractors to make an effort and to be innovative. Hemubo replies by saying that despite traditional tendering will most likely always be part of the procurement policy, it is the duty of the contractor to indicate that they are capable of handling very complex processes, and that they can manage the chain. "We have to keep making that extra effort and keep innovating, because procurement will no longer be on the lowest price, but on capabilities and commitment" (Hemubo, 2010b).

In all four cases the contractor was selected from the pre-set contractor list, which includes past experience and annual evaluations. Only the Sarphatistraat project did not procure in a one on one situation. For this project the manager created a questionnaire and invited three contractors (from the pre-set list) to fill in this questionnaire. The final selection was based on the completeness of the requested certificates, the clarity in presenting and explaining the project phasing (which was very important for that project) and the explanation of the benefits of supply chain integration.

"The requirements of Stadgenoot still fluctuate too much"
(Stadgenoot, 2010c).

The idea of chain integration, according to Veerman (2010a), is transparency, trust and courage. This seems to be contradicting with the following precautions which are included in the contractor's assignment (Stadgenoot, 2010f);

- General terms and conditions
- Special terms and conditions
- Warranties
- Discount for late delivery

As a response to this assignment, the contractor's offer also showed some hedging aspects when referring to the UAV and other provisions, also terms such as "if" or "this only applies when" and "extra's" were applied. Of course this can be explained by means that the project was still a pilot project, and some form of spreading risk and appointing responsibilities will have to be maintained.

For the Solebaystraat and the Louis Couperusstraat project the contracts have not been signed yet, several minutes (months after commencing) stated "the supply chain contract still has to be changed by Stadgenoot" (Stadgenoot, 2010e).

Evaluation

Project evaluation was not indicated, by the questionnaire respondent, to be a cause for success repetition or for preventing problem repetition. Also, the literature on chain integration only slightly addresses this matter.

This is remarkable because through evaluating a project, its successes and problems can be identified. And so, contribute to lessons learned. The Sarphatistraat project is the only project which is finished, and so the only project which can address the matter of evaluation. As Hemubo (2010b) stated "Don't evaluate for evaluation sake". An important aspect of evaluating has to do with "learning organizations, and the extent to which lessons are learned from faults and successes. If this is not secured in the entire process, nothing happens with it" (Hemubo, 2010b)

Because of the exploratory nature (pilot) of the project, several monitoring indicators were established, such as (Veerman, 2010b):

- During the execution, we have to check whether or not the desired result is achieved or where the ambitions need to be analyzed and revised;
- The entire process should be studied;
- We review a project from the past, and un going projects;
- We have to analyze the current method, what is good and what can be improved?
- Directly respond to improvement.

Questions that immediately came to mind are "when and how did this happen?" What are the conclusions? What have they done with these results? How do they intent to implement this? Et cetera. These questions were proposed to the project manager, who did not know, and to the contractor who did not answer.

[5] Project meeting dd 03.02.2011, between participants Solebaystraat project.
[6] Included in the appendix

During the execution phase of the Sarphatistraat project there was an intermediate evaluation, in which all participants were invited to a multilateral meeting. The documentation of this evaluation consists of ½ an A4, which concluded the following.

- I tried my very best to create an 'us feeling. I am extremely positive about the collaboration and communication. However I did not do my work any different then I normally do. (Project manager Stadgenoot)
- It seems to me, it is good to compile knowledge in advance. I am very positive about the collaboration. Our failure costs are as I like them to be. (Verwij)
- I experience the collaboration as very pleasant. There were short lines, and there was a lot of clarity. In the preparation we worked together a lot in order to better align the project. (Hemubo)
- The chain is relatively small. The client was to soon in setting up the technical report. We understand that this is a result from the limited amount of time. However, the collaboration does have its comparison to a regular building team. (Hemubo)
- I sensed that in the beginning the communication needed to get going. For us, it was not clear at all what our role was, and I got the feeling that we became the boogieman. We were hardly involved in the project. (Repair care).

During an interview with the project manager, I asked him about the last remark (from repair care). He stated that this was not entirely true, "we did indicate what their role was. We said that we wanted more than just a report, we want involvement. We told them to 'be involved in your own product, come and take a look every now and then'. This is why I did not address the matter during the evaluation, according to me trust is also respect" (Stadgenoot, 2010d).

Another remark from the evaluation was that according to the contractor, there was no structure, no agenda. "We were really searching in the beginning, we had to reinvent everything" (Hemubo, 2010a). "In the future" he continued "we would have to make some sort of a start document, in which we include items like; how do we manage this, what are the risks, how do we share the work, what are the expectations etc.. This would make things much more clear, which in its turn will strongly reduce the preparation time" (Hemubo, 2010a).
The end valuation of the Sarphatistraat project was first planned in December accordingly moved to January (26th) and then it was moved again to the 16th of February. The outcome of the evaluation was not included in a minute, the participants were asked if they would all put on paper how the experienced the pilot project. Up to this point only the colouring advice company responded.

The outcome of the evaluation is;

- The participants complimented each other about their quality of work and about their participation in solving problems.
- All participants agreed that conducting the inventories before hand, did not benefit the process, perhaps it even slowed it down.
- In this project, no real problems occurred, and those that did occur were manageable.
- If problems were to occur, good communication is considered to be essential to come to a good solution.
- All in all, the participants considered the Sarphatistraat to be a successful project.

Common goal

According to the questionnaire respondents, having a common goal is both a success factor and a cause of success. The project manager of the Sarphatistraat acknowledges this when he said "I see a pattern when goals are not clearly formulated and acknowledged by all participants. Because if you don't, you start asking for things that might not even be possible" (Stadgenoot, 2010c).

The project manager of both the Solebaystraat and Louis Couperusstraat noticed that at the beginning of the projects, the self interest of the participants comes first. But the project manager of the Sarphatistraat also remembers that the goals and assumptions of Stadgenoot "fluctuate far too much, resulting in drastic changing plans" (Stadgenoot, 2010c).

Sub conclusion

The different aspects will each be summarized in their own sub-conclusion. These sub-conclusions will be described by using prerequisites, which are derived from the literature study.

Prerequisites

What is the quality level of the received information? (Dainty et al., 2001)
In the Sarphatistraat project there were some issues with the inventory report that was conducted beforehand, which lead to some insufficiencies in the process. But because of the intensive collaboration between the chain partners, these issues were solved.

The Solebaystraat and Louis Couperusstraat projects are still in their preparatory phase in which the participants are still working on determining the interpretation of

the project. This is a process of going back and forth with information, in which the quality of the presented information did not cause a problem

Because the Vogelbuurt project only recently received an accord to proceed, there is little to no information exchange.

Access to knowledge is not denied to others in the network (Peterson, 2002). The project manager of the Solebaystraat said that at first he was reluctant to share the information about budgets and other sensitive information, because he was not accustomed to this way of doing business. But, that after a little while, he recognized the relevance of transparency and changed his way of thinking.

In general for all cases none of the participants were denied access to information or knowledge.

Integral information technology and inter firm knowledge transfer (Dainty et al., 2001, Dyer and Nobeoka, 2000). For the Louis Couperusstraat project, the participants are experimenting with Building Information Modelling (BIM). However, only the BIM advisor has direct access to the data, and it therefore has no integral function between the other chain partners. The other projects did not have any form of integral information technology. Inter firm knowledge transfer for the Vogelbuurt project is still in a very early stage, because the project is still in an early stage.

Regarding the Sarphatistraat project, the participants indicated that there were some insufficiencies in communication and knowledge exchange, remember the timber frame factory, monumental care and repair care. However, it appeared that these insufficiencies were more related to the fact that this was a pilot and therefore first time project, so-called unconsciously incompetence, instead of unwillingness.

The Solebaystraat and Louis Couperusstraat projects are both still in their preparatory phases and the pace of the projects is rather slow, which makes the knowledge exchange a little less challenging. Nonetheless, so far there has been no remarkable insufficiency in the inter firm knowledge transfer.

The ability to convert tacit knowledge into explicit knowledge and vice versa. (Peterson, 2002). As stated in the literature study, this requires four aspects; socialize, externalize, internalize and combine.

The BIM pilot of the Louis Couperusstraat contributes to the latter two aspects, but the participants are not (yet) granted direct access to the data and therefore do not fully achieve this goal. For all other projects there does not seem to be a strict policy for integrating the aspects of internalizing and combining.

The lean simulation course of the Vogelbuurt project is a start of parties 'socializing', but because the course was not specifically attributed to the project it did not really address the tacit knowledge. For the other projects the multilateral and bilateral settings were the only means to share the knowledge and information.

There were no procedures for externalizing knowledge, nonetheless it could have occurred unknowingly.

10.2. Finance

This paragraph indicates the successes and problems regarding the financial aspect for the four case study projects.

Successes and problems

The respondents of the questionnaire with experience indicated that cleaner budgets, a better price-quality rate, honest wages and better returns and no or less additional work are the most common differences with a traditional process. For respondents with no experience, the expectation is that better risk division and process optimization should be the most common difference.

However, the cause of successes are, according to the majority, contributed to the 'softer characteristics', such as trust and involvement, transparent communication and good collaboration and preparation. The most common problems from the 17 different answers (factors) are according to the questionnaire exceeding the budget and no process control. According to both respondents groups, inadequate knowledge and skills are the most important causes for financial problems.

Because three of the four case study projects are in their preliminary phase, these cases do not provide information about failure costs, additional work and so on. The financial aspect of these projects is limited to whether or not the involved participants work together on creating the budget and how they are rewarded for their effort. The Sarphatistraat project does provide in more information about the budget and failure costs. However, because the final evaluation did not exceed the level of collaboration "we worked well together", the final details remain unknown.

Cleaner budgets

According to the contractor of the Sarphatistraat project, it is important that they assist in creating the budget "this would provide a pure budget" (Hemubo, 2010a). Because of the contributed expertise, he explains, there would be no 'over and under

runs'. "Because if you have overruns, then something went wrong in estimating the budget, but also if you have under runs things were miscalculated" (Hemubo, 2010a). One of the managers did have his reservations on joint preparation of the budget. In all four cases the contractors talk about (or included it in their offer) provisional estimates[7]. "These estimates remain an uncertainty, and that is what we are trying to prevent with supply chain integration" (Bosch, 2011).

Failure costs

According to the project manager of the Sarphatistraat project, failure costs can be reduced because of better communication. One of the goals for the Sarphatistraat project was to completely eliminate failure costs. However, according to the contractor this was not completely achieved. They wrote;

> "An encountered point of critique was the already performed inspection of one of the suppliers, which was a mandatory document for the executing parties. This inspection turned out to be incorrect on some points, and so resulting in failure costs. These costs, however, were mutually resolved by the chain partners, and so resulting in Stadgenoot not experiencing the consequences" (Wagenmakers and Bergmans T, 2010).

One can wonder if the latter action was contributed to risk distribution or can be seen as a marketing strategy of the executing parties.

Another matter that occurred was that one of the stained glasses was broken which was not part of the maintenance works. The very first question that was asked was "how are we going to deal with this financially?" I noticed this, because it strongly reminded me of the traditional process, where financial security prevails.

Profit and risk.

During a workshop on becoming more lean, the participants of the Vogelbuurt project, informally, discussed the structure of bids. One of the executives of Stadgenoot suggested that a 10% profit and risk rate was unacceptable in these times, and so suggested that these could be lowered. The contractor replied that contracting parties also have to earn their money, and that they also have to deal with responsibilities that require a certain profit and risk rate. "In a traditional setting, the client can demand to lower our profit and risk rates. What we do in those situations, is that we just place these costs somewhere else. This should not be a method that we should want to maintain in a supply chain integration process!"

[7] Stelpost

Sub conclusion

The different aspects will each be summarized in their own sub-conclusion. These sub-conclusions will be described by using prerequisites, which are derived from the literature study.

Prerequisites

Procurement method throughout the entire chain (Dainty et al., 2001).
For all projects the main contractor was selected from a preset contractor list. Expect for the Sarphatistraat project, the contractors were selected on a one on one basis, the Sarphatistraat project procured via a questionnaire.

For the Vogelbuurt project only the main contractor is selected, other parties that need to be involved for the execution are yet to be determined.

For the Sarphatistraat project part of the involved parties were selected by Stadgenoot on a one on one basis, the other parties were either connected to the contractor or were adduced by the contractor. For the Louis Couperus and Solebaystraat projects, the contractor was selected on a one on one basis. Stadgenoot and the contractor(s) jointly decided which other participants would be selected to take part in the chain.

In none of the cases selection on lowest price occurred.

Fair distribution of returns to all participants (Peterson, 2002).
From the perspective of Stadgenoot this is clear. They stated to have a certain budget, and indicated that there is no room for exceeding these budgets. Regarding the contractors this is more ambiguous. They presented a bid including building costs, provisional sums and fee's (staartkosten), meaning that they get paid for the work they perform. But it is still somewhat unclear what the exact divisions are regarding long term agreements, profit sharing etc.

The financial aspects of the other participants are not included in this research.

Partners ascribe to and support a win-win orientation (Spekman et al., 2002).
Spekman indicated three items regarding the win – win orientation,

- Willingness to help when problems occur.
- Understanding of the partners business, and proactive help in improving each other's business.
- When making changes in ones organization, take other chain partners into account.

The ambiguities regarding information in the Sarphatistraat project, created unforeseen and additional work. In order to prevent additional costs for Stadgenoot, the contractor and other parties jointly solved this issue, so Stadgenoot did not have to pay extra. This seems to be contributed to Spekman's first point, willingness to help when problems occur. However this could also be part of an acquisition strategy, because long term agreements were not yet made.

In the other projects, these kind of problems did not occur, so it is difficult to indicate whether or not this would be the case. Supply chain integration projects within Stadgenoot are still in a exploratory phase, and it is too early to say whether or not the other two aspects would be the case.

10.3. Planning

This paragraph indicates the successes and problems regarding the planning aspect for the four case study projects. Because the Solebaystraat, Louis Couperusstraat and Vogelbuurt projects are still in their preliminary phases, the planning related field research will mostly address the Sarphatistraat project.

Successes and problems

According to the questionnaire respondents a shorter, better aligned and jointly assembled planning are the most common differences between a traditional and a supply chain integration process, regarding to the planning.

Both respondent groups indicate that planning related successes are caused by efficient planning, good teams, good preparation and sticking to agreements. Logically, problems are in its turn caused by bad preparation and poor communication. Sticking to agreements seems to have less impact on problem creation, but external circumstances do.

The planning is often an important aspect of a project, for the Sarphatistraat project even more. Because of internal relocations of the Stadgenoot employees, there was a strict deadline. Stadgenoot was aware of this and implemented the requests to continue working during the summer break in their procurement. Also, they performed and 100% quality level intake on the frameworks, in the preparation phase (before addressing the contractors) in order to deal with the tight time frame.

The project manager of the Sarphatistraat project recognizes that the softer characteristics provide a large contribution to the success factor of the planning as he stated "it was because of this good communication, that the planning was met, and that everything went satisfactory" (Stadgenoot, 2010c). Nonetheless, the planning had to be adjusted in the first week. The initial plan was that the inner and outer frames would be performed at the same time, however, this turned out not to be completely possible.

Logistically this lead to some challenges, especially when the frame factory (Verweij) was not informed about these changes. Due to flexibility and involvement, the participants managed to solve these issues, and managed to finish the project two weeks before the deadline. According to the contractor "we reduced the planning with two weeks, because we discussed the planning with all involved parties" (Hemubo, 2010a). Also the 'just in time' arrangements with the frame factory "worked like a charm" (Hemubo, 2010a).

The contractor also points out the importance of a flexible planning "we do not control the weather, so if it rained more people had to work inside. And then when the weather cleared up, more people were working outside" (Hemubo, 2010a).

As noted before, the other cases are still in the preliminary phases, and the planning schedules still have to be assembled. And as mentioned earlier, the planning of the Louis Couperusstraat is postponed with give or take one year.

Nonetheless, the participants of the Solebaystraat and Louis Couperusstraat are working together in assembling what needs to be done, and how this will affect them. This all depends on the decision of the management of Stadgenoot on what activities will be performed.

Sub conclusion

The different aspects will each be summarized in their own sub-conclusion. These sub-conclusions will be described by using prerequisites, which are derived from the literature study.

Prerequisites

Regarding the aspect of planning, the literature most commonly addresses the outcome (shorter planning, more aligned, etc), therefore the questionnaire outcome will be uses in order to set the prerequisites.

Joint planning (Dainty et al., 2001)
As stated before, the Vogelbuurt, Solebaystraat and Louis Couperusstraat projects are still in their preparatory phases, and therefore the planning is yet to be determined. It is expected that they will be composed jointly.

The planning for the Sarphatistraat was crucial, because there was an important deadline. In order to win more time, the project manager started with inventorial activities, while the contractor selection was ongoing.

The execution planning was created by the contractor, which they consulted with their own subsidiary[8] and with the wooden frame factory. However, when changes in the planning occurred, the communication could have been better.

Planning aligned to every discipline (questionnaire)
Because the planning is yet to be determined for the three earlier mentioned projects, this prerequisite cannon be answered.
The only arrangement that had to be made, were with the wooden frame factory. All the executing parties came from within the main contractor, and so the planning was aligned.

Collaboration starts early in the process (questionnaire)
Both the Sarphatistraat and the Solebaystraat projects commenced with project activities before the chain was complete / created, and in both projects, this created some friction, making it valuable learning moments for all participants.

In the Vogelbuurt project and the Louis Couperusstraat the collaboration started early in the process.

10.4. Quality

This paragraph indicates the successes and problems regarding the quality aspect for the four case study projects.

Successes and problems

According to the questionnaire respondents, the difference in product quality lies in and improved price – quality rate, a better end result, more (technical) alternatives and quality according to agreement. Accordingly, the respondents with experience in supply chain integration indicate that satisfied clients and end users are two of the most common successes.

Similar to the aspects of finance and planning, the causes of success are contributed to transparent collaboration, good communication, enthusiasm and a good preparation. The respondents with experience indicate that problems, such as being unable to deliver the quality and conflicting demand, are caused by insufficient knowledge, poor alignment and external circumstances. The respondents with no experience allocate problems to 'no sense of responsibility'.

Product quality

The Vogelbuurt project uses the BIM and 3D modelling pilot to achieve a better product for the same price. Because all the information from all the different participants is assembled in one system, the design can be aligned and the errors can be detected earlier on in the process.

According to the contractor of the Sarphatistraat project the level of quality should be clearly defined, as he explained that it is not about what needs to be done, it is about the level of quality that needs to be achieved, and the extent to which the project should be exploited. "If you don't define these issues very carefully you end up with less quality" (Hemubo, 2010b).

But, even when defining the requirements clearly, unforeseen issues can occur. For the Sarphatistraat project, the client tried to prepare itself by having a company conduct an analysis for the condition of the window and door frames. This 100% inventory was performed in order to coop with the small time frame and to avoid unforeseen issues. The company who conducted the analysis "indicated that the quantities are 100% correct, and together with the contractor guaranteed that no additional work will arise on the basis of the amount of rotten wood"(Stadgenoot, 2010a). The contractor tested the intake and "expressed their trust in the inventory, that they indicated that the warranty of the analyst will not be necessary" (Stadgenoot, 2010a).

End user focus

In order to involve the end users in the process, the participants of the Solebaystraat held a information evening in which they presented the plans. All involved parties, internal and external, were present and created their own stand. Meaning, one for the architect with his designs, one for the contractor which explained what the extent of the activities were, a employee of Stadgenoot who explained what the effect on the rent would be, etc.

Another matter concerning end user focus is the demands of the customers that have to be considered. For instance, the residents of the Solebaystraat demanded a specific type of double glazing.

Also the participants of the Sarphatistraat project incorporated an end user focus in their plans, as they stated "all attention is paid to minimizing the inconvenience" (Stadgenoot, 2010b). However, during the intermediate evaluation, one of the

[8] Dochteronderneming

representatives of the employees noted that the employees (thus end users) reported nuisance coming from the scaffolding[9]. This turned in to a 'yes or no' debate, from which you could concluded that the contracting parties have a different perspective on matters than the end users do.

The contractor of the Sarphatistraat project also noticed that the team could have performed a more thorough inventory regarding the end user demands. "What happened now was that several little requests, such as making a window rotate better, turned out to ad up in a lot of work" (Hemubo, 2010b).

Sub conclusion

The different aspects will each be summarized in their own sub-conclusion. These sub-conclusions will be described by using prerequisites, which are derived from the literature study.

Prerequisites

Contribution to innovation (Hippel E. von, 1988)
Being innovative was not one of the (main) priorities for the Sarphatistraat project, it had to be done quickly, it had to be done good and within budget. The innovation in this project lies in the collaboration method, and not in product innovation.

For the Vogelbuurt, the boundaries still have to be determined, so it is still unclear whether or not innovations will be made for this project. But, because the intention for this project is to perform mild renovation activities and have a quick sell, being innovative will most likely not the one of the priorities.

Both the Louis Couperusstraat and the Solebaystraat are still being designed. Innovations have not been made yet, but because of the interlinking 'challenges' it could very well be that the participants come up with innovative solutions to coop with the difficulties.

Pursuing goals that are end user focussed (Spekman et al., 2002)
Stadgenoot is a social housing association, which means that they have a responsibility towards their customers to create or deliver a qualitatively good and lasting product or service.

Again the Vogelbuurt project is still too premature to be able to say anything about the end user focus. Regarding the Sarphatistraat, both the client and the end users were employees of Stadgenoot. Therefore it was somewhat impossible not to be end user focussed.

For the projects of the Solebaystraat and Louis Couperusstraat the amount of activities that can be performed is largely dependent on the end users. These tenants have to decide whether or not they are willing to pay extra for the activities that Stadgenoot is planning to conduct.

10.5. Organization

This paragraph indicates the successes and problems regarding the organizational aspect for the four case study projects.

Successes and problems

The structure of the questionnaire regarding the quality of the organization was different than those of the other chapters. The case studies will be described by using the same topics as the questionnaire, being culture, commitment, trust and win-win orientation (learning encouragement and communication are included in their own paragraph (6.4 & 6.9))

Culture

The outcome of the questionnaire regarding the respondents with experience, presented a wide range of opinions when they were asked whether or not there was a common culture between the chain participants.

Regarding the Sarphatistraat case, the project manager confirmed that having a shared culture is "the intention of supply chain integration" (Stadgenoot, 2010d). "However", he continues "this was not the case in the beginning, but as the project proceeded the sense of a common culture increased" (Stadgenoot, 2010d). But according to Hemubo (2010b) culture is the last thing that can be changed "you can change the systems, but that does not change the attitude people, this happens at a later stage" (Hemubo, 2010b). Nonetheless he acknowledges that it is important to be aware of each other's culture, and stated that "when you first start working together it is important that the strategic framework, the culture and the method of collaboration are officially documented" (Hemubo, 2010b).

When asked whether or not there was a shared vision about the meaning of chain integration, the project manager of the Sarphatistraat project indicated "I got on blank, as I stated before I had to Google what chain integration was, we were on the demanding side, and we had no idea our selves" (Stadgenoot, 2010d). Also the project manager of the Louis Couperusstraat and the Solebaystraat said that he did

[9] Steigers

not know what to expect, and mentioned that he noticed that “the parties involved were also searching” (Koert, 2011a).

Commitment

The indicator of commitment is two folded. First, the commitment of the chain partners to each other and the project, and second the commitment of the people internally.

Regarding the commitment of the chain partners, the project manager of the Sarphatistraat project noticed that “especially in the beginning a bit of self interest seemed to have the upper hand for most of the participants” (Stadgenoot, 2010d).

The project manager of the Louis Couperusstraat and the Solebaystraat says to be surprised about the level of commitment of the participants “the way they interact with each other and complement each other’s work is remarkable”(Koert, 2011a). Also the project manager of the Sarphatistraat project said that “thanks to the commitment of the participants, the project became a success” (Stadgenoot, 2010d)

The contractor of the Sarphatistraat project realized that “he who pays, is he who says”(Hemubo, 2010b). He continues that “if we don’t do our best, if we don’t distinguish ourselves from our ‘concolleagues’, we will surely be out passed” (Hemubo, 2010b).

Equality is also an important aspect, because if you are treated as an equal, you are most likely to show more commitment. And perhaps expressing equality is not per se limited to the project participants, but to the whole company. As an example, the contractor of the Sarphatistraat project was under no circumstance allowed to present any advertisement. “This means that no billboard may be put out on the street. Also no scaffolding advertising should be hung. And any scaffolding fabric must be neutral” (Stadgenoot, 2010b).

With respect to the inter-organizational commitment, there could be a difference between the management who decided to work with chain, and the project managers who have to work with it. The manager of ‘planned maintenance department’ gave a presentation to his employees about supply chain integration. When the presentation was finished, the employees discussed among themselves whether or not this supply chain integration would work, and most of them were sceptical “I don’t believe that it will really work, we only present the contractors with a very luxurious position”. It is not clear whether or not the management picked this up, and how they will manage this.

Perhaps this is also related to how the management selected the project managers for the pilot projects. They could be specially selected, or this could have just been random. According to the project managers of the case study projects, the latter was the case.

Trust

The indicator of trust is somewhat related to the cultural indicator, because as seen in the literature study, the culture in the construction industry is one of distrust. In order to increase the level of trust between the chain partners, the lean simulation course of the Vogelbuurt project, placed the participants of the project together in a informal setting in order to ‘get to know each other a little better’.

The two project managers of the other three projects indicated that especially in the beginning the level of trust and transparency was too little “because we are all not used to work like this”. Trust seems to be something that has to grow, and is a product of time.

Win win

The contractor of the Sarphatistraat project explained that “in the middle ages there was one architect who was responsible for the entire building. And everybody involved in the process was accountable to the architect. But nowadays the responsibility of a building is divided over many different parties, which lead to hedging behaviour” (Hemubo, 2010b).

The project manager of the Solebay and Louis Couperusstraat recognizes this when he mentioned that in the beginning of one of the projects, the participants said “just tell us what to do”(Koert, 2011a). The expectations of the client are that the contractor becomes more involved, and that he is even willing to get lower profits in return for long term agreements. As Veeman stated (2010a) "if the contractor lies, cheats, or otherwise betrays the trust, then the relationship will be terminate immediately . If the contractor performs good, then there will be a (financial) rewarded. If the performance is poor, this behaviour will be discussed and agreements on how to improve, will be made. If this leads to improvement, the relation will be perpetuated. If it does not improve, then the relationship will be terminated.”

Sub conclusion

The different aspects will each be summarized in their own sub-conclusion. These sub-conclusions will be described by using prerequisites, which are derived from the literature study.

Prerequisites

Everyone is integral part of the team (Dainty et al., 2001).
Because in both the Sarphatistraat and the Solebaystraat project, activities started before the chain was composed, there was some friction as to whether or not everyone was an integral part of the team.

Also because this was a new method to work with for some of the participants, the beginning of the projects required some adjusting. Nonetheless all project managers believe that it is important to involve everyone on the team.

Shared decision making (Peterson, 2002, Spekman et al., 2002).
This was still something that the participants had to learn. For instance in the Solebaystraat project, which started before the chain was assembled, several decisions were made before hand. Same goes for the Sarphatistraat project. The project managers, however, indicated to have learned from this and acknowledge the importance of involving the experts in decision making.

Existence of common goals and objectives (Frankel et al., 2002).
Because there was no clear understanding what chain integration meant, and no manual how to conduct such a process, the participants were still kind of struggling. The joint agreements that were made were along the lines of "finishing on time, finishing within the budget and working together on 'our project". So far for none of the four pilot projects, common goals and objectives were pronounced.

Willingness to innovate and change (Frankel et al., 2002).
Changing the usual ,traditional, method to supply chain integration shows both a willingness to innovate and change. However, being willing to change, and having changed are of course two different things, for change does not happen overnight. But the initiative of the participants to be transparent, give trust and communicate with one another shows that the first step is set.

Type of relation (Spekman et al., 2002).
Because the contractors were selected from a preset list of contractors whom Stadgenoot has worked with over the past years, the chain partners are no strangers to the project managers of Stadgenoot. This makes it easier to shift from a formal to an informal type of relation, than if they were to work with strangers.

Understanding of each other's needs / business (Dainty et al., 2001, Frankel et al., 2002). The participants recognize that the other party is no charity organization, and that they are here in order to urn some money. Also some of the participants indicated to want to learn a bit more about the others organization. However, to state that the participants already are fully aware what makes the other company tick, is maybe still a bridge to far.

10.6. Learning

On February the twenty fourth I conducted a final interview with the project managers of the four case studies. For the first time since the departments started experimenting with supply chain integration, the participants were assembled. The goal of the meeting was to reflect on the past months, and ask the project managers what they have learned from their experience with supply chain integration.

The participants were asked four different questions;

- What is the essential difference between a supply chain integration and a traditional process?
- What went well in the project?
    - What aspects will you take to another project?
    - How are you going to ensure that you learn from this?
- What will you do differently the next time, because you have this experience?
    - How are you going to ensure that this will be better the next time?
- What are the lessons you learned from this project?

What is the essential difference between supply chain integration and a traditional process?

Vermeulen (2011a) thinks that "we are going back to the old days, around the fifties where people shared responsibilities. This is different from how we operate now, where everyone only performs his own work" (Vermeulen, 2011a).

Unawekla (2011a) said that this is a bit difficult to outline, because almost all element of a project can also occur in a traditional project. "If I reflect on the four aspects that we appointed; communication, courage, trust and act, I realize that these aspect could also be applied in a traditional project. I think that the key factor is focusing on these issues". Vermeulen thinks that "all together it is not a different manner of working, it's just a matter of trust and changing you mindset" (Vermeulen, 2011a)

Unawekla continues that "the difference is that in a traditional process, you don't think, you just do" (Unawekla, 2011a). Vermeulen (2011a) recognizes this when he stated that "the difference is honesty, transparency and openness". Unawekla (2011a) complemented that besides transparency there should also be trust "In the beginning there was no trust, this really had to grow".

Van Koert (2011a) underlines that there is not yet a clear distinction between the two, when he indicated that a building team collaboration does emphasis the principles, “only in a supply chain integration you go further, because of the openness and transparency”. Vermeulen (2011a) says that the there is hartly a comparison between supply chain integration and a building team collaboration “the only difference between a building team and a traditional process is that the contractor helps finding solutions for problems, but otherwise everything remains traditional” (Vermeulen, 2011a).

According to Vermeulen (2011a) the point is that in the end no one can say ‘I have done my part’. “This almost makes it an obligation to become involved” (Vermeulen, 2011a). Another difference that Unawekla (2011a) mentions is that in a traditional process there usually are specifications, “to my experience, everything that is not exactly included in these specifications, or where there is room for interpretation, becomes additional work” (Unawekla, 2011a).

What went well in the project?

Communication

Unawekla explained to be very enthusiastic about how the communication took place “it is essential that everyone throughout the entire chain is 100% honest and sincere” (Unawekla, 2011a). Van Koert was a bit more skeptical, and said that it also depends on the companies you work with “I worked with two different teams (two different projects), one of them really got the hang of it. But the other team remained to act traditionally a lot longer”(Koert, 2011a).

But, van Koert recognized that communication can contribute to these issues “because when I expressed this to the team, there was a shift in participants” (Koert, 2011a). According to Vermeulen this all makes sense “the moment you pronounce what is bothering you, or you say in advance what you want and that it is not about ‘who is to blame’, then suddenly all parties will become aligned” (Vermeulen, 2011a).

Involvement

Van koert was pleasantly surprised that after a while the participant really interacted with one another, “people start looking beyond their own scope and start looking critical to other peoples work ‘perhaps you can try this..’”

“Also because people start looking beyond their own scope, and start working together, smart solutions and innovations start to emerge” (Koert, 2011a).

What aspects will you take to another project?

Start with one partner

All three participants agreed that it is better to start with one chain partner with whom you can shape the project and accordingly together select other chain partners. Unawekla explains that “together with the main contractor we determine the project scope, than based on the necessities we decide how big the chain must become” (Unawekla, 2011a). Vermeulen (2011a) explains that this should not necessarily be the contractor, in a more extensive project, this could also be the architect or a consultancy agency.

No matter how small.

Unawekla explained that it is important to include every company in the chain “no matter how small their part is in the team, they are a vital part of the chain” (Unawekla, 2011a).

Emphasizing and expressing

According to Unawekla it is important to emphasize to the team that you are serious about this supply chain integration. “I noticed that not everyone could or would be completely transparent or honest, so I told the team ‘this is our project, not mine, and we have to make it work together’, this really helped” (Unawekla, 2011a). Another aspect Unawekla noticed was that it is very relevant to express the assumptions and goals of the project “everyone should know what the assumptions are and how they are related to the budget” (Unawekla, 2011a).

Admitting mistakes

Because Unawekla is the only participant who has finished the supply chain integration process, he explains to the others that everyone should “try to look with an open mind and just dare to admit mistakes, because mistakes are bound to happen. By admitting that mistakes are made, you can solve the problem together.” (Unawekla, 2011a).

How are you going to ensure that you learn from this?

Checklist

The contractor of the Sarphatistraat project introduced a chain integration checklist. This checklist includes project specifics (project name, number of dwellings etc) project components (roofing, masonry etc), principles and strategies (target group, exploitation plans etc) and other aspects “that capture the most elementary data”(Unawekla, 2011a). Unawekla worked with this checklist in the Sarphatistraat

project, and was very enthusiastic, so much that he adopted the list and implemented it in his next project.

Unawekla is convinced that working with this model is beneficial, and explains that "when you see how the checklist looks now, not even six months later, there is definitely an amazing improvement" (Unawekla, 2011a).

According to Unawekla the checklist helps in specifying the project specifics, which in their turn help in clarifying the price – quality ratio. "Together with the contractor I visited the building, because we composed the checklist together the budget is clear and we both know what to look for. When the inventory is finished, we can deepen the preset specifics in order to determine the quality level" (Unawekla, 2011a).

What will you do differently the next time, because you have this experience?

Chain definition

Van Koert (2011a) wondered if the other participants knew what they were getting in to. Unwekla (2011a) answered that he had to Google to find out what chain integration was, to which van Koert (2011a) replied that "in fact we were 'thrown in at the deep end" he continues "we had to tell our chain partners that we want to conduct a chain process, but we didn't know ourselves what in meant" (Koert, 2011a).

Vermeulen notices that this is not all that strange "it all is very difficult because everyone has their own perspective on what supply chain integration means, I don't think there is even a common definition"(Vermeulen, 2011a). All participants agreed that not having a joint definition of supply chain integration contributed to a bad project startup.

Start with all parties

Unawekla said that the Sarphatistraat project, where the commenced with inventories before the contractor was selected, was a big eye opener "I will never again work this way around. I made that choice in order to gain time, but at the end it only cost us more time" (Unawekla, 2011a). Van Koert agrees that all parties should be involved from the beginning "we already had one of the project plans almost ready, before including the chain partners, this created friction and a more difficult project start up" (Koert, 2011a). "The next time" he continues "I would involve the people, partners much earlier on".

Transparency

Van Koert (2011a) explained that being transparent and open was very unusual to him, "especially in the beginning I struggled with this new method, because I have never worked like this before, and to be transparent and trusting out of the blue felt unnatural to me".

How are you going to ensure that this will be better the next time?

Preparation

Unawekla explains that through supply chain integration he acknowledged the importance of good preparation, "I have definitely seen the benefits of a good preparation, it saves so much time in the execution phase" (Unawekla, 2011a). Van Koert agrees, "I think that by conducting a good preparation, you can solve so many problems" (Koert, 2011a). Nonetheless, Unawekla does state that conducting a good preparation should not depend on whether or not the project is executed in supply chain integration or a traditional process "it should not make a difference" (Unawekla, 2011a).

Project kick off

Van Koert opts that perhaps each project should start with some sort of project kick off. "I think it would be beneficial to start a project with discussing what this supply chain integration really means, and to come up with one common definition or understanding" (Koert, 2011a). According to van Koert, this will help create an 'us' feeling "ask the chain partners 'how would you handle this' or 'what is your opinion on this matter', instead of what I did now, what was more in the direction of 'this is what I want". He continues that the next time he will "be even more transparent" (Koert, 2011a).

Learn about each other's company

Unawekla emphasizes that in order to become fully integrated, is it important to "have a look at each other's shop". In this perspective, Vermeulen participated in a lean session with his contractor. However, he noticed that this was perhaps a bit to soon "there wasn't even a project decision yet, and we already started with this lean simulation. Perhaps we should have waited a bit, until the board gave their approval. But it does strengthen the bond between the parties"(Vermeulen, 2011a).

What are the lessons you learned from this project?

At the end of the Sarphatistraat project, Unawekla asked himself "did I work this way because it was a pilot and I wanted to make it work?" And he concluded that "I will

adopt this way of working into my other projects, I just learned so much" (Unawekla, 2011a).

When asked what these lessons were, he answered "that no matter how small a parties role is, they are part of the chain. And also the willingness and involvement of the participants was inspiring" (Unawekla, 2011a). Van Koert replied to this question that he thinks that "the pitfalls and risks will be decreased by working with this collaboration method, because of the openness and transparency"(Koert, 2011a).

Finally Vermeulen explains that he is not quite shore what he has learned. "But I do know that if you are clear and transparent, the other parties will also become more transparent. And I think that this is what everybody wants"(Vermeulen, 2011a)

Things that remained unclear.

All participants were enthusiastic about supply chain integration, but they all still have questions and uncertainties on how to deal with some aspects.

How to begin

Van Koert (2011a) mentioned that they all were thrown in at the deep end. Unawekla (2011a) continues that this is not all that strange, because there is no manual on 'how to set up a supply chain integration'. "It is learning by doing" he continued. Van Koert complements this by mentioning that also the chain partners do not exactly what it all means "all parties are searching and puzzling".

Vermeulen (2011a) thinks that supply chain integration arose from a cry for more transparency, and wonders "shouldn't we just start with communicating with one another?

When to start

Vermeulen is still a bit unclear on when to start with the supply chain integration, "should I start with supply chain integration during the initiative or the feasibility study or perhaps even wait until the preparation phase?". He says that this is rather difficult, "if I include the contractor in one of the early stages, we don't even know if the project will even be executed. But if we wait until we are sure that the project has a 'go' it might be too late"(Vermeulen, 2011a).

Van Koert addresses to his own experience, from the project where the parties were involved when the scope for the plan was already determined, and explains that this is not desirable, "all things were set, and then the chain partners presented their ideas. All of these plans would only cost more money at this stage, we really had to puzzle and struggle in order to include these ideas"(Koert, 2011a). This is very different from the other project van Koert managed (Louis Couperusstraat), "in the other project, the chain partners helped in the feasibility study, the plan is water tight" (Koert, 2011a).

Integrity

Vermeulen also addresses the integrity issue, "why use this contractor and not the next?"(Vermeulen, 2011a). Van Koert explains that eventually the plans is to appoint a specific contractor to a specific area, and have that contractor perform all activities in that area. "This makes it all the more important that you select the right partner"(Koert, 2011a).

Van Koert mentioned that he preferred the procurement procedure that was applied in the Sarphatistraat project over the one on one basis selection method. Vermeulen says that they have also applied this procurement method in a new project.

Responsibilities

Unawekla says that the matter of responsibility is still unclear, "we talked about to what extend chain partners are responsible. You can decide to make the main contractor responsible, but what about the liabilities of the other chain partners?". Vermeulen is also a bit torn about this subject, because on the one hand he says that "as long as you talk about responsibilities and liabilities, you remain pointing fingers, and the problems will not be solved". But on the other hand he says "if you start sharing responsibilities, there is also the possibility to share profits" (Vermeulen, 2011a).

More for less

Unawekla mentioned that colleagues from his department say that chain integration is 'more work for less money', but Unawekla thinks that this is just a slogan. Van Koert says that this is one of the intentions of chain integration, and that it would be nice if it happens, "but I think that most profit is gained in the preparation phase" (Koert, 2011a).

Both van Koert en Vermeulen doubt if there will really be a financial difference between traditional and supply chain integration. The difference would be that there are no additional costs and that "you know where you stand" (Vermeulen, 2011a).

Sub conclusion

The participants have come to see that the difference between supply chain integration and a traditional process are the improved communication and a better organization by means of trust and transparency. Nonetheless the participants indicate that there are still issues that leave room for improvement.

One of these issues is that the principle of chain integration has not yet 'sunk in' everywhere. Participants from either side of the chain are still exploring what this new method means, and how they can transform it into something that suits them. This is a valuable learning moment, but, one that made it difficult for the project managers of the case study projects to fully perform their job and get the most out of the pilot.

Because there was no clear definition or understanding, the participants indicated that it would have been nice and helpful to have received some more motivation from higher up the ladder. The director of Stadgenoot is an avid supporter of supply chain integration, perhaps he could have invested an hour or so, to help the project managers understand more why this new method is implemented and how they can coop with it.

Another remarkable point is that this was the first time that the project managers who all experimented with supply chain integration, gathered to exchange their perspective and experience. On the management level, this happens more frequent, and therefore procedures, such as the procurement procedure, are exchanged.

11. Totaal overzicht

Method / Questions	Literature study	Questionnaire	Case studies	Conclusions	Recommendations
1. What is the difference between supply chain integration and a traditional process according to the experts?	• Trust and transparent • Long term agreements • Common goal in entire chain	• Transparent and equal • Common goal • Cleaner / honest budget • Shorter / aligned planning • Price – quality ratio	• Transparent • Early collaboration • Involvement and interaction	Several interpretations, besides transparency no clear definition, this depends on the importance of the different individuals.	Create one definition for your company and / or supply chain team.
1.1. Does this differ from the expectations of the 'experts with no experience in s.c.i.?		• Transparent and equal • Better / earlier collaboration • Process optimization • Shorter / aligned planning • Better collaboration	• More reluctant and sceptical	This group does expect differences, but seems to focus more on outcome optimization. They do not seem to fully comprehend the meaning of supply chain integration.	Educate and motivate participants with no experience in s.c.i. that a better end result can only be an outcome of the process is optimized.
2. Which successes and problems do the experts experience regarding FLOTIQ?	+ Lowest costs; + Shortest amount of time. + Best quality; – Insufficient info on how it works, – Bad quality of received info, – No learning effect, – No long term relations, – No yet the entire chain.	+ Sharing documents / information + Lower (failure) costs + Shorter execution phase + Satisfied end user / client – Bad communication – Unclear goals and expectations – Not meeting the planning – Personal gain first	+ Better comm. / info exchange + Solved other people's problems + Contractor selection + Learned a lot – Thrown in at the deep end, – Traditional behaviour – No evaluation / monitoring – No colleague interaction (other teams)	The successes of all three sources are much in line with the expectations of s.c.i. The problems partially originate from s.c.i. being a 'new' collaboration method and the traditional culture.	Focus on methods of knowledge and experience exchange. Keep monitoring the s.c.i. projects, and share the outcome and experiences.
2.1. Do these differ from the successes and problems that the 'experts with no experience in s.c.i.' experience?	– Culture – Organization malfunction	+ Shared designing / deciding + Focus on the process + Finished on time + No delivery problems – No communication – High costs, little profit – Conflicting interests		The successes are similar to the successes of the respondents with experience and stem from good communication and organization. Problems are related to the individualistic nature of traditional processes and are comparable to the experienced group.	Regarding successes and problems, s.c.i. has not yet distinguished itself enough. The combination of time, and intensive monitoring and management should contribute to this growth.

Method / Questions	Literature study	Questionnaire	Case studies	Conclusions	Recommendations
3. What do the experts indicate to be the cause of these successes and problems?	+ Common goal; + Long term agreements; + Learning; + Mutual openness- trust-transparency + Throughout the entire chain. – No sense of responsibility – Lack of trust, attitude of mistrust – Inadequate ´knowledge management´ – Myopic control – No information technology integration	+ Transparent communication + Trust + Good preparation + Sticking to agreements + Learning from mistakes – Unclear goals / expectation – Bad preparation – Ill communication – Bad relation – Insufficient knowledge	+ Different mindset + More transparency + Increased involvement + Early collaboration – Late involvement – Unclear definitions / expectations / goals – Lack of evaluating and monitoring.	There is not one cause for the successes, this could mean that success are depended on many different factors, or that it difficult to identify the cause of a success which leaves room for interpretation, all related to communication, organization and learning. The problem causes also differentiate from each other, many of them are related to a traditional culture and communication.	Focus on improving communication, organization and learning. • Create a common goal-dif. of s.c.i. per project team. • Instruct and motivate employees, via horizontal and vertical colleague interaction. • Secure each other's interest by making the chain more important than individual interests. • Create realistic and manageable indicators, and evaluate the project.
3.4. Does this differ from the causes of successes and problems that the 'experts with no experience in s.c.i.' experience?		Successes are repeated between 60% and 76% for the FLOTIQ aspects. Problems are repeated between 33% and 60% for the FLOTIQ aspects.		Some of the causes of successes are more practical, others are related to s.c.i. characteristics and are comparable to the causes of the experienced group. Problem causes are similar to the experts with experience and are related to traditional culture and methods.	Companies and supply chain integration teams should increase their focus on the characteristics of supply chain integration.
4. Do the experts consider these successes and problems to be repetitive?		Successes are repeated between 60% and 76% for the FLOTIQ aspects. Problems are repeated between 33% and 60% for the FLOTIQ aspects.		Many successes are being repeated, but nonetheless 24% - 40% of the successes are not repeated. Problems are often repeated (30%-60%). The extent differentiates per aspect.	Monitor the successes and problems per aspect, and become aware of their causes. Spread the outcome throughout the entire company.
4.4. Can the repetition of successes and problems be influences, according to the experts?		+ Organization + Learning + Communication + Personal aspects + Supply chain integration characteristics – External circumstances – Cultural – Organizational		Both successes and problems are repeated often, the extent differentiates per aspect.	Focus on improving communication, organization, learning and personal aspects. • Clearly express intentions and expectations in advance, • Monitor and evaluate the project via, realistic, preset indicators,. • Alternate between informal and formal communication. • Trust and be trusted.

Method / Questions	Literature study	Questionnaire	Case studies	Conclusions	Recommendations
4.2 If so, does that differ from what the 'experts with no experience in s.c.i.' experience?		Successes are repeated between 50% and 60% for the FLOTIQ aspects. Problems are repeated between 40% and 50% for the FLOTIQ aspects. + Organization + Learning + Communication + External circumstances – External circumstances – Cultural – Organizational – Insufficient learning		Positive repetition can be influenced by several different factors. Factors differentiate per aspect. Negative repetition is influenced by less manageable factors.	Increase the focus on supply chain integration characteristics.
5. In what extend can the successes and problems be subscribed to supply chain integration?		No clear distinction between causes for successes, problems and their repetition between the two respondent groups.	• Pilot project start up problems vs. chain malfunction. • Problem and solution. • Willingness to help vs. acquisition strategy	No clear differences between respondent groups. No clear it is ware s.c.i. or pilot projects.	Requires further research

Table 71: Complete oversight

Proces voor Stadgenoot

12. Proces diagram voor Stadgenoot

Stappen plan voor ketensamenwerking

Opstarten van de keten

- Selectie 1e partij
    - Selectie via aanbestedingsprocedure (bijv. enquête), niet op basis van prijs maar kwaliteit en inzet.
    - Overige partijen met samen met eerste partij selecteren
    - Zorg dat alle benodigde partijen van start af aan betrokken zijn, en niet later toegevoegd worden.
- Houd een informele kick-off om de relatie tussen de partijen te versterken
    - Dit zal bijdragen aan het veranderen van de onderlinge culturen,
    - Dit zal bijdragen aan het verbeteren van de transparantie, communicatie en het vertrouwen binnen het team.
- Stel met het team (een) gezamenlijke doelstelling, definitie, verwachtingen en belangen op.
- Bewaak elkaars belangen, door de keten belangrijker te maken dan de individuele belangen.
    - Dit kan gedaan worden door het uitspreken van het belang van alle betrokken partijen (gelijkwaardigheid),
    - door transparant te zijn over de mogelijkheden van het project (geen valse hoop opwekken),
    - door enthousiast te zijn (positieve mind-set).
- Gebruik verbeterpunten / ervaringen van een vorig project
- Zorg dat er een goed(e) plan(ning) komt, waarin voor iedereen duidelijk is wat zijn plichten en verwachtingen zijn
- Focus op het verbeteren van communicatie, organisatie, leren en persoonlijke aspecten
    - Vertrouw en wees te vertrouwen
    - Zorg dat iedereen zich als gelijkwaardig en belangrijk onderdeel van het team / de keten voelt.
- Formuleer van programma van eisen (functioneel en technisch)
    - Deze moet eenduidig en volledig van opzet zijn
- Vastleggen van afspraken/intenties
- Opstellen van het budget
    - Open en eerlijk zijn over het budget en de opbrengsten.

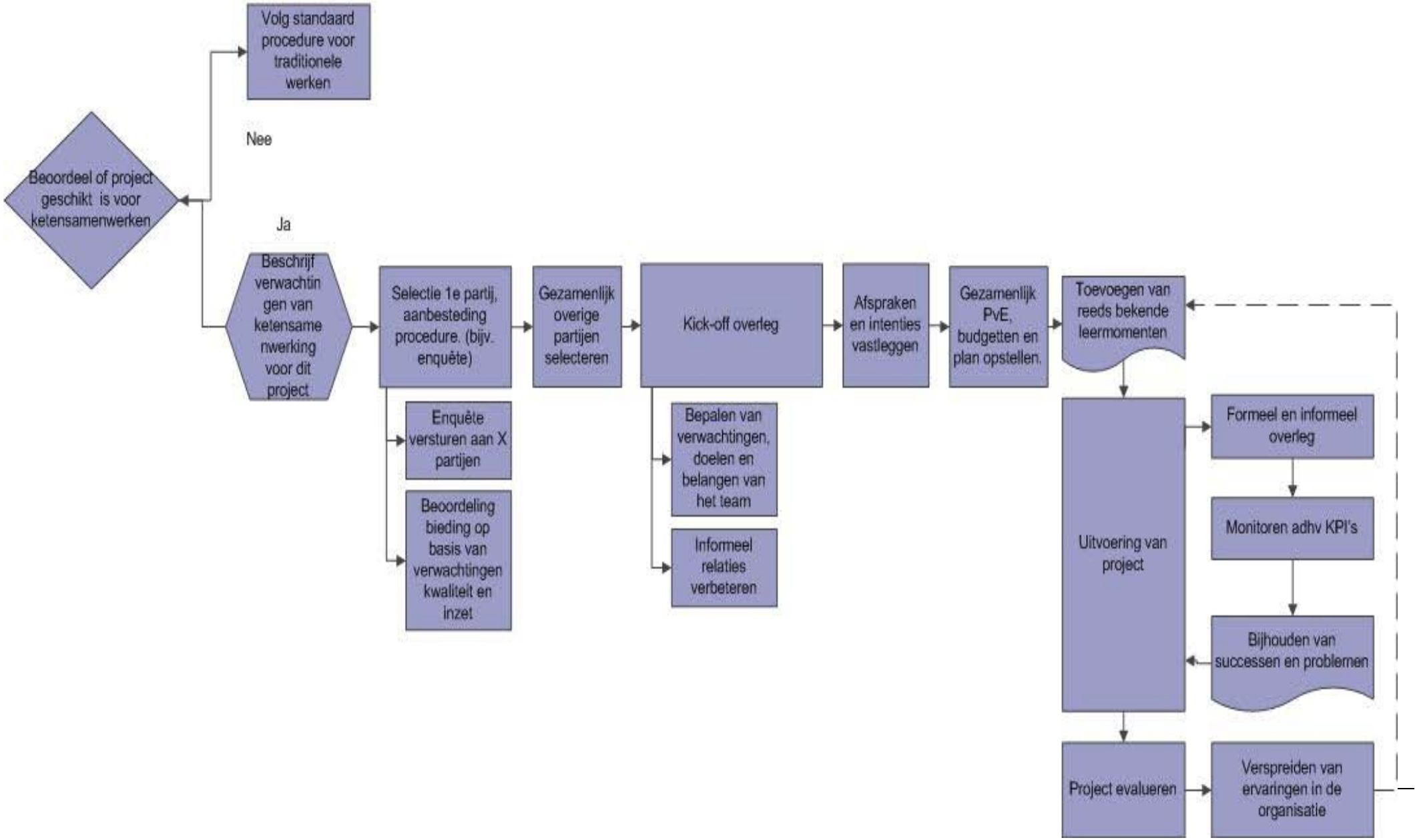
Uitvoering van de werkzaamheden

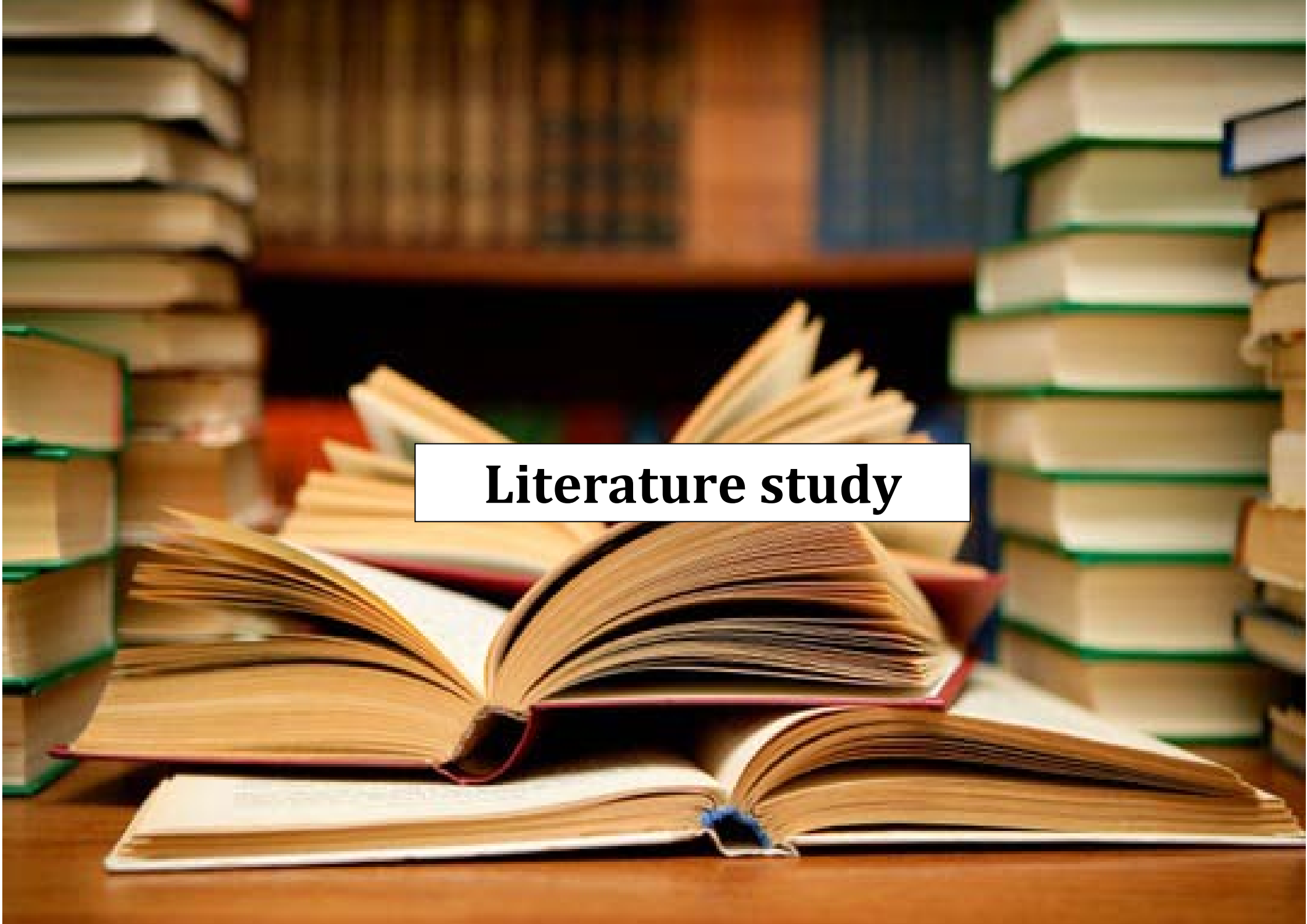
- Monitoren + feedback
    - Gedurende de samenwerking blijven meten van de resultaten,
    - Maak gebruik van de opgestelde KPI's
        - Waar nodig kunnen deze aan het project aangepast worden
        - Monitor de successen en problemen per aspect, en word je bewust van de oorzaken
    - Zorg dat alle betrokken partijen hierbij betrokken zijn
- Overleg
    - Wissel af tussen formeel en informeel overleg,
    - Wissel af tussen bilateraal en multilateraal overleg
    - Bewaar korte lijnen,
        - Stuur teamleden niet het bos in van de eigen organisatie

Afsluiting

- Evalueer
    - Baseer de evaluatie op de KPI's
    - Maak gebruik van de monitor verslagen
    - Zorg dat alle betrokken partijen hierbij betrokken zijn
    - Maak een bruikbare puntsgewijze lijst van de uitkomsten
        - Goede en slechte punten
    - Zorg voor verspreiding van deze uitkomsten

Proces diagram voor Stadgenoot




Literature study

13. Literature

ADDITIONAL 2010a. Questionnaire outcome, anonymous participation. Additional with experience in chain collaboration.

ADDITIONAL 2010b. Questionnaire outcome, anonymous participation. Additional with no experience in chain collaboration.

BORN, K. 2010. *Corporaties moeten terug naar de basis* [Online]. Available: http://www.between-us.nl/582/corporaties-moeten-terug-naar-basis.htm [Accessed 06-07-2011 2011].

BOSCH, N. T. 2011. *RE: Overleg over implementeren ketensamenwerking en lean in de vogelbuurt dd. 03-02-2011.* Type to ACCENT, V. W. V.

BRABANT, W. W. 2010. *Bouwen aan samen-werken, ketenintegratie in perspectief*.

CLIENT 2010a. Questionnaire outcome, anonymous participation. Housing association with experience in chain collaboration

CLIENT 2010b. Questionnaire outcome, anonymous participation. Housing association with no experience in chain collaboration

CONTRACTOR 2010a. Questionnaire outcome, anonymous participation. Contractor with experience in chain collaboration.

CONTRACTOR. 2010b. *RE: Questionnaire outcome, anonymous participation. Contractor with no experience in chain collaboration.*

DAINTY, A., MILLETT, S. & BRISCOE, G. 2001. New perspective on construction supply chain integration. *Supply Chain Management: An international Journal,* 6**,** 163-173.

DYER, H. & NOBEOKA, K. 2000. Creating and managing a high performance knowledge-sharing network: the toyota case. *Strategic Management Journal,* 21**,** 345-367.

FRANKEL, R., GOLDSBY, T. & WHIPPLE, J. 2002. Grocery industry collaboration in the wake of ECR. *International Journal of Logistics Management,* 13**,** 57-72.

HEMUBO 2010a. Interview with D. Wagenmakers sales director at Hemubo.

HEMUBO. 13.13.2010 2010b. *RE: Interview with T. Bergmans, adviseur real estate maintenance.*

HIPPEL E. VON 1988. The sources of innovation. *Oxford university press, New York*.

JONKER, B. 2011. *Ketensamenwerking in de woningbouw, voorwaarden voor een succesvolle start met ketensamenwerking.* MRE, Amsterdam School of Real Estate.

KOERT, J., VAN. 2011.02.24 2011a. *RE: Final interview, case study research. Project manager Solebaystraat - Louis Couperusstraat project. .*

KOERT, J., VAN. 08-06-2011 2011b. *RE: Social vs commercial.* Type to STADGENOOT.

MENSINGA, S. 2008. *Procedures in de nazorgfase.* Hogeschool van Amsterdam.

PETERSON, C. H. 2002. The learning supply chain; Pipeline or pipedream? *Wiley Blackwell, Agricultural & Applied Economics Association***,** 1329-1336.

SPEKMAN, R., SPEAR J & KAMAUFF J 2002. Supply chain competency: learning as a key component. *Supply Chain Management: An international Journal,* 7**,** 41 - 55.

STADGENOOT 2010a. 1e notule vergader overleg, Sarphatistraat project.

STADGENOOT 2010b. 4e notule vergader overleg, Sarphatistraat project.

STADGENOOT. 13-10-2010 2010c. *RE: Intervies with J. Unawekla, projectmanager Stadgenoot.*

STADGENOOT. 13-10-2010 2010d. *RE: Interview with J. Unawekla, projectmanager Stadgenoot.*

STADGENOOT 2010e. Notulen 04.10, team overleg Louis Couperusstraat.

STADGENOOT 2010f. Opdrachtverstrekking, schilderwerkzaamheden aan Sarphatistraat 410.

STADGENOOT 2010g. Projecten in ketensamenwerking.

UNAWEKLA, J. 2011.02.24 2011a. *RE: Final interview, case study research. Project manager Sarphatistraat project. .*

UNAWEKLA, J. 08-06-2011 2011b. *RE: Social vs commercial.* Type to STADGENOOT.

VEERMAN, J. 2010a. Gezamenlijke projectontwikkeling op basis van ketenintegratie.

VEERMAN, J. 2010b. Ketenintegratiepilot voor Sarphatistraat. *In:* STADGENOOT (ed.).

VEERMAN, J. 08-06-2011 2011. *RE: Social vs commercial.* Type to STADGENOOT.

VERMEULEN, A. 2011.02.24 2011a. *RE: Final interview, case study research. Project manager Vogelbuurt project. .*

VERMEULEN, A. 08-06-2011 2011b. *RE: Social vs commercial.* Type to STADGENOOT.

WAGENMAKERS, D. & BERGMANS T 2010. Communicatie plan: Pilot "ketenintegratie onderhoud Sarphatistraat". *In:* HEMUBO (ed.). Almere.

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