

Appendix

Appendix A: Analytical Interview Manual

Prop. Fam.	Question
A	Is the know-how of exploitative players a lot of times consulted by explorative units when it comes to decisions regarding radical innovations?
A	What measures/actions do you do before deciding to invest into a radical innovation?
A	What measures/actions would you do if you were in an explorative unit or did you do when you were in a explorative unit in regard to make the right decision about a radical innovation?
A	Who do you contact in order to discuss newly to purchase radical technology within the company?
A	By whom are you being contacted from when someone acquired a new radical technology and asked for advice or inputs?
A	About what do you talk usually when meeting a colleague who has knowledge about certain processes of the appliance of an existing technology?
A	Do you get advice from exploitative player roles that have experience with the old technology when having to make a decision about incremental innovation?
A	Are you being asked for advice from explorative players when they have to decide whether to buy or not a radical innovation?
B	Is the know-how of explorative players sometimes consulted by exploitative units when it comes to decisions regarding incremental innovations?
B	What measures/actions do you do before deciding to invest into a radical innovation?
B	What measures/actions would you do if you were in an exploitative unit or did you do when you were in an exploitative unit in regard to make the right decision about an incremental innovation?
B	Who do you contact in order to discuss newly to purchased radical technology within the company?

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Prop. Fam.	Question
B	By whom are you being contacted from when someone acquired a new radical technology and asked for advice or inputs?
B	Do you get advice from explorative player roles who have experience with the new radical technology or a similar one when having to make a decision about radical innovation?
B	Are you being asked for advice from exploitative players when they have to decide whether to buy or not an incremental innovation?
C	Are there some key players roles or persons that support the integration of explorative units?
C	Are there some key players roles or persons that mitigate the integration of explorative units?
C	What key players roles would support the integration of explorative units?
C	What key players roles would mitigate the integration of explorative units?
C	Who besides the senior management supports the integration of explorative unit through daily common actions?
C	Who could support the integration of an explorative unit?
D	Do the interactions between different key players roles in explorative and exploitative units have positive spillover effects in regard to the implementation of technological innovation?
D	What effect do the interactions between different key players roles in explorative and exploitative units have in regard to the implementation of technological innovation?
D	Are there positive spillover effects because of the interactions between explorative and exploitative players in regard to technological innovation?
D	What does support the implementation of technological innovation in regard to interhuman activities?
E	Do key player roles support the integration of explorative units through informal information exchange between themselves?
E	How do you think do key player roles support the integration of explorative units through informal information exchange between themselves?
E	Does informal exchange of key player roles support the integration of explorative units?
E	How much informal exchange between key player roles is important for the company?
E	How does the contact key players in explorative and exploitative units have support the latter reintegration of themselves?

Source: Author

Appendix B: Practical Interview Manual

Each interview will begin with an introduction where the following will be discussed and explained:

No cell phone shall be left on during the interview in order to “dive” into the topic without being interrupted

The goal of the interview is explained and if necessary discussed

Information that all data will be handled according the NDA (Non Disclosure Agreement).

Legend:

“r” = Questions posed only to explorative unit key players/roles

“i” = Questions posed only to exploitative unit key players/roles

“cogn” = Cognitive questions

“ladd” = ladder questions

“crea” = creative questions

“proj” = projective questions

No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
Personal questions					
1	Can you tell me about your position/ function in your current unit/Company?	–	Warm-up/Longitud. relevance	Cogn	Open answer
2	For how long are you in this function?	1, 2	Warm-up	Cogn	Open answer
3	How does your daily work look like?	3, 4, 5	Warm-up	Cogn	Open answer
4	What function did you have before that and in what company?	1, 2, 3, 4, 5	Warm-up/Longitud. relevance	Cogn	Open answer
II. UNIT: Virtual Centre Model (Comprehension/Explorative Unit)					
5-r	Can you tell me a little bit more about the new explorative activity? Characteristics Duration Persons involved Technology Financing Status	1, 3, 4, 5	Longitud. relevance	Cogn	Open answer

(continued)

No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
5-i	Can you tell me a little bit more about the operative unit or team you are working in? Characteristics Duration Persons involved Technology Financing Status	2, 3, 4, 5	Longitud. relevance	Cogn	Open answer
6-r	What is your role in that new explorative activity?	1, 3, 4, 5	Longitud. relevance	Cogn	The person is somehow in a position with certain responsibility and power to guide the unit and make impactful decisions
7-i	What is your role in the operative unit or team?	2, 3, 4, 5		Cogn	The person is somehow in a position with certain responsibility and power to guide the unit and make impactful decisions
8	What are other organizational key players you are working with? Name and allocate them How are decisions being taken? How are the interactions in general? What is the content/issue/topic? How do you communicate? Where do you communicate? How often do you communicate with them? What functions did they have before this assignment?	1, 2, 3	Illustrate organizational key players with map: (the farther away) The bigger, the higher in hierarchy, The bolder, the more influence, The more grey the longer in the company/Longitud. Relevance	Cogn	Key players they work with are as well in positions with certain responsibilities and power. They work within the same team or lead teams in different departments within skyguide. Decisions are being taken after they have talked to each other and made up their mind in a informal way. Interactions are formal but as well informal while at lunch, doing sport etc. They were as well in responsible positions, either in an exploitative or explorative unit.

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No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
Role (key player roles)					
9	What kind of key players are supporting the integration of this explorative activities and its results into the company? (Work with post-its)	3, 5		Cogn	Key players of every sort within the company, but mainly some with certain specific knowledge, which others want to fetch are supporting the integration of a new unit.
10	What kind of key players do mitigate the integration of the new explorative activities or its results into the company? (Work with post-its)	3, 5		Cogn	Open answer
Sub-chapter of role: Decisions					
11	How do you inform yourself about new technological developments?	1, 2, 3		Ladd	Through formal and informal interactions with other key players or with phone call, Emails etc.
12-r	What do you do before deciding to invest into an innovative technology within such explorative activities and in general?	1, 2, 3, 4	And why do you benefit from doing that... to what purpose did you do that...	Ladd	They talk to key players who have certain knowledge in the specific area, even though their knowledge it not exactly about the innovative technology (because it is new and rarely known) but familiar with the specificities.
12-i	What do you do before deciding to invest into an innovative technology?	1, 2, 3, 4	And why do you benefit from doing that... to what purpose did you do that...	Ladd	They talk to key players who have certain knowledge in the specific area, even though their knowledge it not exactly about the innovative technology (because it is

(continued)

No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
					new and rarely known) but familiar with the specificities.
13	Who did you ask for advice in order to make the right decisions about an innovative technology and why?	1, 2, 3, 4		Cogn	Key players who are familiar with the specificities of the specific knowledge or knowledgeable about the forefather technology which accounted for results before the new technology.
14-i	What kind of advice do you get from key players that have experience with the appliance of the new technology?	1, 2		Cogn	Advice how this new technology could be implemented within the exploitative unit as a matter of production factor or efficiency gain.
14-r	What kind of advice do you get from key players that have experience with the appliance of the old technology?	3		Cogn	Advice what is possible with the old technology and what the results on outcomes were with it. They also can help understand what the new technology is able to deliver in regard to output quality of the new technology. They are also aware of critical chains within the old technology which a lot of times also apply to the new technology. So to say, they now where "to put the finger on".
15	How helpful is the advice you get?	1, 2, 3		Ladd	Really helpful since they are the peers with the technology. It is especially helpful because they are

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No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
					so familiar with the inhouse processes and the appliance of the former technology. They know what the input is and they know what the output of the technology should be. With certain understanding or imagination, they will be able to make of what the new technology is able to and to what not.
Interaction (Boundary activities)					
15-i	By whom are you being contacted from, when someone acquires an innovative technology and asked for advice or inputs?	1		Proj	By roles from the explorative unit
15-r	By whom are you being contacted from, when someone acquires an innovative technology and asked for advice or inputs?	2		Proj	By roles from the exploitative units
16-r	When are you being asked for advice from key players from people involved in exploitative activities when they have to decide whether to invest into an innovative technology or not?	1	Only ask if not suitable answered by question 15	Proj	Ahead of a decision to make
16-i	When are you being asked for advice from key players from people involved in the new explorative activities when they have to	2	Only ask if not suitable answered by question 15	Proj	Ahead of a decision to make

(continued)

No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
	decide whether to invest into an innovative technology or not?				
17-r	About what are you being asked for advice from key players from people involved in exploitative activities when they have to decide whether to invest or not an innovative technology?	1	Only ask if not suitable answered by question 15	Proj	About specific knowledge and insight into the to be acquired technology. About the own experience with the appliance of the old technology or any experience with the new technology.
17-i	About what are you being asked for advice from key players involved in explorative activities when they have to decide whether to invest or not into an innovative technology?	1	Only ask if not suitable answered by question 15	Proj	About specific knowledge and insight into the to be acquired technology. About the own experience with the appliance of the old technology or any experience with the new technology.
18	How does such communication take place?	2	And where?	Cogn	During normal business days, on the phone within meetings, on unofficial events such like having lunch together, doing sports or sharing spare time together.
Subchapter of interaction: Implementation of new technology					
19	How does your company handle the implementation of innovative technology?	3, 4, 5		Cogn/ Ladd	They analyze the market opportunities, make up their mind with the inputs of knowledge players and decide between choices. Once bought, it is integrated into daily business as soon a convenient.

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No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
20	How often do you interact with other units when it comes to the implementation of innovative technologies?	1, 2		Cogn	They talk about innovations and the “newest” movements in the market regularly. In regard to implementations, we share information on a regular basis in order to inform the other units about new capabilities.
21	What does support the implementation of technological innovation in regard to interhuman activities?	1, 2		Cogn/ Ladd	The fact that we talk to each other regularly, as well outside business hours, on unofficial events and gatherings.
22	What are the benefit of interacting with other units in regard to the implementation of innovative technology?	1, 2		Cogn	The benefits are that all involved employees are informed about the new capabilities.
23	What hindering factors did you experience when interacting with other units during the implementation of innovative technologies?	3		Cogn	None, maybe that they were not supporting the implementation through information exchange
24	What are spillover effects resulting from the interaction (positive/negative/none)?	4, 5		Cogn	Spillover effects are that we were forced to work close together through information exchange. So we ended up having a better understanding of the technology and of the others handling with the innovation. We connected and finally became more familiar with each other.

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No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
Organization					
25	How are the outcomes of explorative activities, being transferred into daily business?	–		Proj	Through a new business, a new technology, a new market, a development of a new product, a project.
26	How does a project, focused on exploration, integrate into daily business?	1, 2, 3, 4, 5		Proj	The process: Information about a change—Building of the new unit with the according personnel—Exchange of information through integration of it—Acceptance by the other units—Performance together.
27	How does a project focused on exploration terminate?	–		Proj	Through the integration into the rest of the company as a independent unit or through the overtake from an existing unit or through the official statement that the project phase has terminated and that it is going over into daily business.
28	How does the initiation of an explorative activity in particular happen?	1, 2		Cogn	Through de decision of senior management at a specific time in the life cycle of the yet to be founded unit.
29	How does the organizational reintegration of an such explorative activity in particular happen?	3, 4, 5		Cogn	Through the decision of senior management at a specific time in the life cycle of the existing unit.
30	In general, what does support the integration of explorative	3	Name factors with the help of post-it's (Illustrate)	Proj	The active management through senior managers, the formal interaction

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No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
	activity teams into daily business?				between the units and the informal interaction between roles of explorative and exploitative units.
31	In general, what does mitigate the integration of explorative activity teams into daily business?	3	Factors with the help of post-it's (Illustrate)	Proj	Non-cooperative interactions between roles within the units (hidden agendas).
32	In particular, which key player actions support the integration of explorative activity teams into daily business?	4, 5		Ladd	Formal gatherings and discussions. Official integrations mechanisms. The information of each other's issues (formal and informal).
33	In particular, which key player actions mitigate the integration of explorative activity teams into daily business?	3, 4, 5		Ladd	Absenteeism and not passing relevant information.
34	How do acquainted key players in explorative activity teams facilitate the reintegration of the explorative activity team members into the organization?	2, 3, 4, 5		Cogn	Through having a long and trustful relationship with other roles in the exploitative units which support the integration. Through acceptance of themselves.
35	How do acquainted key players in daily business facilitate the reintegration of the explorative activity team members into the organization?	1, 3, 4, 5		Cogn	Through having a long and trustful relationship with other roles in the explorative units which support the integration. Through acceptance of themselves.
36	What influence does informal exchange between key players have on the integration of explorative activity team members and how does it take place?	4, 5		Cogn	A big influence.

(continued)

No.	Question	Prop. Fam.	Ad. Info	Technique	Possible answer
Knowledge transfer					
37	How is explorative knowledge transferred into daily business	4, 5		Cogn	There is no formal process, it happens by personal interaction between explorative and exploitative key players
38	How is it assured that the daily business can take advantage of the new knowledge (technology)	4, 5		Cogn	–
Outlook					
37	What do you think will change within the next year in regard to the organization?	–	Longitud. relevance	Proj	The information about the new units will spread top-down and broaden the acceptance of it within the whole company.
38	What do you think will change within the next five years in regard to the organization?	–	Longitud. relevance	Proj	The explorative unit will be part of daily business and a leading unit when it comes to market relevance.
Phase out of interview					
39	If you had been the interviewer during this interview, what questions would you have asked me as well?	–		Proj	–
40	Is there anything unsaid that needs to be said?	–		Proj	–
41	How did you feel during the interview and how do you feel now?	–		Cogn	Good

Source: Author

Appendix C: Anonymized Interview List

Case study	Interview no.	Anonymized name	Location
1	1	A01	Dübendorf, ZH
1	2	A02	Dübendorf, ZH
1	3	A03	Dübendorf, ZH
1	4	A04	Dübendorf, ZH
1	5	A05	Dübendorf, ZH
1	6	A06	Dübendorf, ZH
1	7	A07	Dübendorf, ZH
1	8	A08	Dübendorf, ZH
1	9	A09	Dübendorf, ZH
1	10	A10	-
1	11	A11	Dübendorf, ZH
1	12	A12	Dübendorf, ZH
1	13	A13	Dübendorf, ZH
1	14	A14	Dübendorf, ZH
1	15	A15	Dübendorf, ZH
2	1	B01	Kloten, ZH
2	2	B02	Kloten, ZH
2	3	B03	Kloten, ZH
2	4	B04	Kloten, ZH
2	5	B05	Kloten, ZH
2	6	B06	Kloten, ZH
2	7	B07	Kloten, ZH
2	8	B08	Kloten, ZH
2	9	B09	Kloten, ZH
2	10	B10	Kloten, ZH
2	11	B11	Kloten, ZH

Source: Author

All interviews took place between April 2014 and September 2014 whereas the dates and exact locations are not mentioned for anonymity reasons.

Appendix D: Focus Group Manual

D.1 Process of the Focus Group

1. The whole group is always being addressed, not a single person
2. I give topics to discuss about, no precise propositions

3. I am generic by purpose, you should be specific and give explanations
4. I only intervene if the group doesn't "turn" it into their topic or when the group concludes on reasons, circumstances and behavior
5. Storytelling is wished from your side
6. Imminent questions to the same topic from my side is a sign of "hitting it"
7. Add-on questions follow after reaching the peak of discussing topics
8. Last action of a topic is me dissolving/verifying detected divergence of opinions

D.2 Rules of Behavior in the Focus Group

1. Every opinion is respected, don't criticize, evolve instead
2. State how's and why's
3. Co-develop in the group if possible
4. One person is speaking
5. No side conversations
6. I try to avoid any confirmation or evaluation of inputs (neutral/not influencing)
7. I do intervene when I heard enough of a relevant topic or when the discussion leads towards themes outside the focus of the study
8. If the question is unclear please state: "Would you explain that further?"

D.3 Focus Group Question Guidance

Proposition No.	Topic/Question
1	When are the exploitative players consulted?
1	What are the reasons that exploitative players have such an influence when informally making decisions?
1	What are decisive reasons that explorative players take over exploitative functions once they implemented an innovation?
1	Why are side changers better suited to implement innovation?
2	How are the information that exploitative players get from explorative players usable in regard to decisions to be taken?
2	How do exploitative players use knowledge about radical innovations in their daily job?
2	Do they do incremental innovation with a radical innovation?
2	How can explorative players improve their acceptance so that they are a reference for exploitative players?
2	How can they support the successful implementation of an innovation?

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Proposition No.	Topic/Question
3	What kind of key players support or mitigate/hinder the integration of explorative activities into exploitative activities?
3	How do side changers influence the implementation of explorative activities into exploitative ones (and why)?
3	How do opinion leaders influence a successful implementation of an innovation?
3	What influence does have lobbying?
4	What are the positive effects and prerequisites if there are any?
4	Why is it so important that the explorative players exchange information with the exploitative players in an innovation implementation?
4	What are the reasons that the exploitative players need to be integrated when implementing an innovation with mainly explorative players?
4	What is the influence of trust in the interaction between explorative and exploitative players?
5	What are the reasons that informal information exchange (pos. or neg.) has such an important influence when implementing an innovation?
5	How can it be improved/assured that formal and informal information are aligned?
5	What happens if there is a gap between formal and informal information?
5	How do you judge/evaluate the difference between the two?

Source: Author

Table D.1 Focus group back-up questions

Back-up questions	
	What are explanations that contextual ambidexterity is that high?
	Why can it have also an acceleration effect (positive or negative) when they exchange information?
	Since decisions are mainly built informal (information exchange) but decided formal, how can informal communication be influenced?
	When does the informal information exchange support the integration?

Source: Author

Following the discussion about the topics above, the current analysis of the interviews will be presented and several thereof derived models and figures discussed regarding their validity among the focus group participants.

Appendix E: Anonymized Focus Group List

Case study	No. of participants	Anonymized name	Location
1	5	A21, A22, A23, A24, A25	Dübendorf, ZH
2	3	B21, B22, B23	Kloten, ZH

Source: Author

Both focus groups took place in April 2015 whereas the participants were elected beforehand out of the interviews partners. In order to further anonymize the participants and make traceability of expressions impossible, new anonymized names were used.

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