Writing your Final Thesis with the 'Innovation and Organization Design' Group

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There are two ways to write your final thesis with members of the 'Innovation and Organization Design' group. First, we sometimes advertise topics on the website of the Entrepreneurship Research Institute (ERI, see https://www.ie.mgt.tum.de/en/ent >> Teaching >> Final Thesis). Second, you may apply directly with us to write on your own topic (if you are not 100% sure who would be the right advisor, please write **one** email to the central thesis contact person specified on the ERI website)

This document lays out how you apply to write your thesis with us in either case, as well as the process following which we will assist you in completing your thesis.

Application
For any final theses, we expect you to submit an application including a cover letter indicating your motivation to write your thesis (1) on the specific topic and (2) with us. In addition, we expect a current CV, including an up-to-date academic record. If you apply to a topic we have offered, in case we have more than one application per topic, we will select students based on (1) successful completion of core courses of your degree program, in particular if with us, (2) successful completion of courses qualifying you to conduct academic work, (3) motivation and further qualifications, and (4) personal circumstances. In case you apply with your own topic, we will further need to determine whether we still have capacity to advise students, and if your topic of choice is within our area of expertise.

Early in the process, you will need you to submit a proposal—in case you want to suggest a topic on your own, this is a requirement for us to consider your application; in case you apply to one of our topics, it will be the first thing you will do once you have been assigned the topic.

You will find instructions as to how to write a proposal toward the end of this document. At the very least, we will expect a **short proposal** from you: a **short** proposal should be about ½-1 page (single-spaced), and clearly specify (1) your research question, (2) how this research question ties into an ongoing academic debate, (3) how, for this debate, your question is at least to some degree novel, interesting, and relevant, and (4) how you plan to answer your research question. Accordingly, we expect to see substantial engagement with academic literature already in the proposal, including (but not limited to) a list of key references. We will then (see 'procedure' below) work with you to advance the short proposal into a long one: a **long** proposal may be up to two pages. You may also choose to skip the short proposal, and go directly to working out a long one.

Please be advised that **we do not accept proposals that focus on practice-only topics**—still, we **strongly approve of theses that are written together with companies**. The reason for this is simple: university education should qualify you to see general patterns in specific problems. Thus, merely solving a specific problem from practice should not be much of a challenge to you. However, scrutinizing a specific problem to understand how it is representative of a **general class of problems**, and how solving this one problem enriches our understanding of solving any instance of this class of problems means that you have the potential to contribute to an academic debate. In more 'practical' terms: imagine you wanted to start a consulting company on 'your' class of problems, what competitive advantage will your thesis give you?

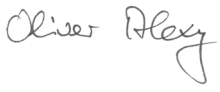
Procedure
Following your application, we will first scrutinize your documents for completeness, and then for fulfillment of our selection criteria (see above). In case of a positive evaluation, we will provide brief written feedback on your (usually: short) proposal, and ask you to extend it. We expect you to take this initial feedback to heart, and include it into a revised an extended thesis plan (the long proposal) that sketches a first complete outline of your thesis as well as how you intend to complete it. Given sufficient progress, we will discuss this document with you in a first in-person meeting, however, please note that we will begin this meeting by us registering your thesis—coming for this meeting means you have to write your thesis with us.

Over the course of your thesis, we will provide feedback on a case-by-case basis. Specifically, the Bavarian State Government calculates with us spending (everything included, even grading!) about 2.5h on a B.Sc. thesis and about 5h on a Master's thesis. We strongly advise you that you **use this time wisely**. That means that, for each thesis, we will have at least one progress meeting on top of the feedback meeting. For empirical work, we suggest you plan for time to receive feedback on core documents (interview guidelines, surveys, etc.). In addition, we offer each student the opportunity for a feedback meeting after the completion of their thesis. While our job is of course to advise you, we will take strict note of the amount of advice we provide and its importance to your successful thesis completion. Should we realize that it is in fact us who are writing your thesis, this will negatively reflect on your grade. For example, we will not "double-check" a final draft. Of course, we will make sure to signal the emergence of such a situation well in advance, so when in doubt, do not hesitate to get in touch with us.

Regarding the language of your thesis, if not said explicitly otherwise in topics advertised by us, you are free to either complete them in English or German. Furthermore, we would like to point out that we will adhere to TUM's rules of good academic practice to the utmost degree. In this vein, we will for example also automatically have each thesis scanned for plagiarism.

Grading
For us, your refined thesis outline (the long proposal, including our comments on it; usually the outcome of the second meeting) represents some sort of contract—given you put an adequate amount of work into the thesis at this point, we guarantee that if you have composed a strong plan and execute it well, that you will receive an excellent mark. We strongly advise that you refrain from significantly departing from an outline we have signed off, or at the very least to get in touch with us if you feel a change is necessary. At the same time, you see how you will need to put a significant amount of work and thinking into the thesis **at the beginning** to provide an outline sufficiently deep to ensure it can be a solid foundation of your thesis.

Importantly, we grade each thesis individually, focusing on the output you produced, and only against our own standards. Simply put, we expect that an excellent Bachelor's thesis contains the core of what could become an academic paper in a good academic journal. An excellent Master's thesis means that only minor additional work is required so that the thesis could directly be submitted to a good academic journal. By "good," we mean journals of the quality of at least "Industrial and Corporate Change," "European Management Review," or "Small Business Economics." On request, we will offer every student who completes an excellent thesis additional advice and support of how to turn it into an academic paper or how to embark on an academic career.



Oliver Alexy, Professor of Innovation and Organization Design

How to Think about Writing a Good Proposal

Writing a good proposal is not easy, and takes time. But once you have devised a clean proposal around a good research question, you know what actually needs to be done to complete your final thesis.

Below, you will find a list of questions, going through which you will gather all the information necessary to write a good proposal. Put differently, to write a thesis that is successful from an academic (and, in our view, also insightful from a practical perspective), you will need to answer those questions (see "Step 1" etc. below).

In turn, you can then translate the answers to these questions into a proposal, by drawing on the structure below (see also the example for a proposal attached in the end). In a **short proposal**, you would write one sentence per item in the list below; in an actual long **proposal**, it should be a paragraph per item, but no more than 2 pages, 12pt Times New Roman (or another "standard" font), single-space, 1'' margins, in total:

Title >> Question 3.7
Principal Topic
Sentence/Paragraph 1: Theoretical background—take your answers to questions 1.4, 1.5
Sentence/Paragraph 2: Specific conversation—question 2.1 (make sure to explain just Sentence/what current literature can say about your question)
Sentence/Paragraph 3: Research gap & question—questions 2.2, 2.3

Method
Make sure you know the answer to question 1.3!
Sentence/Paragraph 4: Research design & population —questions 3.1, 3.3
Sentence/Paragraph 5: Sample, methods, & variables—question 3.2 *(make sure you know the answer to question 3.5!)*

Results and Implications
Sentence/Paragraph 6: Theoretical implications—how do you think answering 2.2/2.3 will impact 2.1, conditional upon your answer to question 3.4?
Sentence/Paragraph 7: Practical Implications—how do you think answering 2.2/2.3 will impact 1.2/3.6?

Step 1: Identifying your conversation

1.1 Name a problem or question that you find interesting and that you consider suitable as a starting point for your Master's Thesis.

1.2 Why is this question interesting to you? What would answering it allow you to do?

1.3 What exactly is it that you want to study, i.e., what is your unit of analysis?
E.g., decision-making in people's heads, a process over time, the influence of variables on firm or industry performance, etc.

1.4 What theoretical perspective could you use to start tackling this question?
E.g., which of the theoretical frameworks (from the field of business administration) that you learned about in class or before seems most applicable? Try to name the perspective and state in 1-2 sentences what it is about (What does it describe? When/why is it useful?).

1.5 Who are the original authors of this perspective? What are the core references?
Try to provide 3-5 (no more, no less) academic references. These must be in the proposal, too.

Step 2: Finding a new, interesting, and relevant research question

2.1 In the above theoretical perspective, who do you want to talk to?
Try to provide 3-5 *additional* academic references (no more, no less). These authors/papers should be (a) extensions of the theory identified above, (b) somehow related to the unit of analysis you want to study (see above), (c) representative of the state-of-the-art (i.e., no more novel papers exist that are more suitable to your address you problem class), and (d) ideally, high-quality (e.g., from a high-quality academic journal).

2.2 How would you phrase your question so that it is new, interesting, and relevant to the authors/ papers you want to talk to?
Only state the question here, but make sure that question 1.3 is taken into account.

2.3 What makes this question, to the identified conversation partners (or even to the theoretical perspective at large):

- **new?** (no one of these academics has asked the same question for the same reason)
- **interesting?** (your question is not trivial; that means your academic conversation partners **jointly** should not be able to come up with an answer, in particular not the same answer, immediately)
- **relevant?** (the question should matter to those academics)

Step 3: Getting started—next steps

3.1 Generally, what type of research method would you think is appropriate for your research question? Why?
The 'what' is one word (e.g., qualitative, quantitative, experimental, or conceptual) then the why (*keep question 1.3 in mind, throughout!)*

3.2 How would you go about starting your thesis? What is the first thing you did/would need to do?

3.3 If you plan to collect data, what sort of data do you need? How would you get it?

3.4 What would you need to do to be able to show that you have exhaustively answered your question?
Here, 'exhaustively' means that (a) the answered you provide to your question, by itself, makes sense, and (b) you can rule our alternative explanations exist that would be just as good an answer, or even better.

3.5 Are there any problems that you would expect?

- In gathering your data
- In analyzing your data
- In answering your question (exhaustively)

3.6 How can you ensure that the answer to the academic research question really helps <u>you</u>?

3.7 What would be a nice, succinct title for your thesis?

A ‘Long Proposal’ Example from Research

Note: The following **long** proposal should just serve **illustrative purposes, only**: this is what a fully-developed proposal would look like that incorporates almost all of the things said above. This is an actual research proposal we submitted at some point in time to an academic conference. Your proposal need not be as well-developed, and may still be of excellent quality. Note that the list of references (or “**bibliography**”) is not included here, you would also need to provide that for the proposal already.

The best of both worlds: The benefits of specialized-brokered and diverse-closed syndication networks for new venture success

Principal Topic

In arguing how new ventures benefit from social capital, the vast majority of studies have relied on arguments of network structure (e.g., Hoang and Antoncic, 2003; Hochberg, Ljungqvist, and Lu, 2007). In essence, it is argued that brokering a relation between two actors that would otherwise be unconnected yields information advantages in terms of access to unique, novel information (Burt, 2004). At the same time, however, being embedded in closed rather than brokered network structures facilitates the exchange of in-depth information through frequent, trust-based interactions among interconnected actors (e.g., Uzzi, 1996). In recent decades, there has been a long-lasting debate in the broader network literature whether brokerage or closure yields greater information advantages (e.g. Ahuja, 2000; Burt, 2005).

Despite increasing insights into the conditions under which brokered or closed network structures may be more beneficial (e.g., Baum, McEvily, and Rowley, 2010), we maintain that the tension between these largely contrasting views cannot be fully resolved without recourse to explanations of actor diversity. To do so, we rely on a second stream of network research that adopts a different logic in defining informational network advantages by looking at characteristics of the actors in the network (e.g., Reagans and McEvily, 2003; Tortoriello, Reagans, and McEvily, 2012), where actors that are similar to each other provide access to in-depth, specialist information, whereas being embedded in networks of dissimilar actors yields access to diverse information.

Our core argument rests on merging these two streams of literature, and postulating substitutive relationships between the informational advantages attainable from simultaneously aiming for diversity and brokerage, or for specialization and closure. We question whether relatively weakly linked actors may be able to effectively recombine, largely unrelated information. Rather, effective brokers may span structural holes to combine information from actors holding similar information. Likewise, it is assumed that closed network relations exist predominantly amongst actors holding a limited range of information. In contrast, we argue that closed network relationships may equally exist amongst actors that have diverse information, providing higher information advantages in closed networks. By contrast, we maintain that having a specialized-closed network corresponds to a situation of overembeddedness (Uzzi, 1997). Similarly, we argue that diverse-brokered networks represent a situation of overloading, where an excessive range of diverse information is of little value as it lacks a core of specialist information to which it can be associated.

Accordingly, we expect that start-ups will benefit most from the syndication networks of their VCs when the latter display closed structures and focus on a diverse set of technologies (diverse-closed) or if they can draw broad information from networks rich in structural holes yet a focused on a narrow set of technologies

(specialized-brokered). These balanced representations of VC social capital allow the venture to simultaneously reap in-depth and broad information from their VCs' syndication networks.

Method

We follow Sorensen and Stuart's (2001) approach in constructing the social network through VC syndication. Our unit of observation is the syndication network constructed through first-round investments in a venture. Here, we measure how the social capital of the VCs that make up this syndicate impacts the likelihood of it receiving a second round of funding and the speed of doing so using survival analysis.

For our operationalization, we rely on CrunchBase data that covers all venture capital investments in the US Information Technology Industry between 2005 and 2010 (Block and Sandner, 2009). Controlling for the quality of the venture through the first-round investment received, patent applications, and trademarks, we find strong support for our core prediction: specialized-brokered and diverse-closed network outperform other possible configurations, including a balanced-balanced one.

Results and Implications

Our study makes several contributions to the literature on social capital, networks, and entrepreneurship. In particular, we employ this setting to highlight the interplay between elements of network structure and the diversity of its actors. We bring together the largely contradictory and often disconnected arguments on the benefits of brokerage-closure (Burt, 1992; Coleman, 1990) and specialization-diversity (Reagans and McEvily, 2003) by showing how advantages related to network structure are contingent on the diversity of actors in the network. It matters whether opportunities arising from brokerage or closure are among specialized or diverse actors. These insights further allow us to elaborate on Uzzi's (1996; 1997) work on overembeddedness. We show how overembeddedness is a two-dimensional construct that is generated by actors relying on closed networks of low diversity. In addition, we propose the notion of overloading to describe the problems of knowledge integration that lead brokerage networks of high diversity to exhibit lower levels of performance than other configurations. Finally, for the entrepreneurship literature, our findings extend current understanding on the configuration of VC syndication networks and its relationship to new venture survival and performance.

For practice, our findings provide suggestions on entrepreneurs for which kind of investors to look to maximize their chances of survival. We suggest that, for example, boutique investors that have dense collaboration networks with firms specializing in the same area, may not be as good an investor selection as densely connected boutique firms that are part of syndication networks spreading many different industries.