Aalto University
School of Science

Strategy Fieldwork

Setting up and executing the study

Use discussion board actively for any general questions about the course!

Sign and submit NDA using MyCourses by Mon Jan 24th!

Phase	Week	Teacher feedback	Student deliverables
PROJECT PLAN	1	Tue 11.1. - Intro session 1	
	2	Tue 18.1. - Intro session 2	
	3		Mon 24.1. - NDA signed
	4		Fri 4.2. - Company & topic agreed
	6		Sun 13.2. - Draft project plan
	7	Tue 15.2. - Feedback session 1	Sun 20.2. - Final project plan for peer-review
	8	EXAM WEEK	
DATA COLLECTION	9		Sun 6.3. - Peer-review
	10		Sun 13.3. - Draft report v1 (incl. data collection
	11	Tue 15.3. - Feedback session 2	
ANALYSIS	12		
	13		Sun 3.4. - Draft report v2 (incl. analysis)
	14	Tue 5.4. - Feedback session 3	Sun 10.4. - Revised report for peer-review
	15	EXAM WEEK (Easter)	
RECOMMEN-DATIONS	16		Sun 24.4. - Peer-review
	17	Wappu	
	18		Sun 8.5. - Draft report v3 (incl. recommendation
	19	Tue 10.5. - Feedback session 4	
	20		
	21	Tue 24.5. - Final presentations	Sun 29.5. - Final report for grading
	22	EXAM WEEK	

Is everybody assigned to a group?

Slight change in the process for confirming the firm, topic, and instructor

- Once you have agreed with a firm that your project group will do the project for them, please send immediately an email to Kimmo and Kaarlo so that we can remove that firm from the available topics
  - This way we prevent other teams from unnecessarily contacting the unavailable firm
- Please do this at latest by Feb 4th
- At the same time we will assign an instructor for you
  - Instead of assigning instructor based on alphabets, we may make some adjustments
- Project group, firm/topic and instructor will be recorded into the table in Project Groups section at MyCourses

What is the status of each group in finding a firm / topic?

- A: confirmed
- B: confirm
- C: tentatively confirmed
- D: confirmed
- E: confirmed
- F: confirmed
- G: discussions going on
- H: confirmed
- I: confirmed
- J: confirmed
- K: discussion on going
- L: confirmed
- M: confirmed
- N: confirmed
- O: confirmed
- P: confirmed
- Q: confirmed

Setting up and executing the study

- This document contains essential information about designing and executing your study
  - Consider them “best practices”
- Your project plan provides an overview of how you address all these
- In case of questions, interrupt at any point or post them to the chat
  - Or, after the lecture, please post them to the discussion board

Agenda for today

- Defining the business problem, formulating the research question, and setting scope
- Using and choosing frameworks and theories
- Designing the study
- Sampling and collecting data
- Data protection and transparency
- Data analysis
- Drawing conclusions
- Writing the project plan and report

I.

Defining the problem, formulating the question, and setting scope

The business problem

- The starting point for the study is a “business problem” that needs a solution

- Some typical business problems:
  - Demand for product X is below expectations, so we need to find ways to increase demand
  - We want to increase the attractiveness of our product to our existing customers
  - Our service should be attractive to customers in market X, Y and Z, but we don’t know which is the most potential of these
  - There is a new technology, and we want to better understand the possible applications and which of these is the most interesting
  - Companies have started to do X, and some seem to be quite successful. Should we also do X, and if so, how do we get started?

- It is not clear what the solution to the problem is (lack of knowledge)
  - So there’s a need to study the problem, to collect and analyze information, and to come up with recommendations that help solve the problem

Conceptual analysis of the business problem

- Break down the problem
  - Example problem: too few customers buy my product
    - Customers don't think it's a good product: quality problem
    - Customers think other products are better: competition problem
    - Customers don't know the product exists: awareness problem
- Identify critical issue(s) which, when addressed, potentially solves (or at least substantially helps solving) the overall problem
  - Example
    - We know or assume the product is good enough, or there's nothing we can do about product quality: leave quality problem out of scope
    - But we know or assume that there is an awareness problem

Translating the business problem into a (set of) research question(s)

- There are alternative ways to set up a study that helps solve the business problem
  - What insights are likely to be the most helpful? Why?
  - What is already known? (but keep in mind that people often don't "really" know what they think they "know")
- What do we need to know but don't yet know?
  - Example problem: too few customers buy my product
    - Who are our customers? What type of customers are there?
    - What are the quality or performance criteria that are important to our customers?
    - What are their alternatives? (=who are our competitors?)
    - How does our product compare against the alternatives?
  - Each of these could be a research question, which would then imply a certain study setup

This can be done for any kind of "practical business problem"

Business problem	Possible research question
Demand for product X is below expectations, so we need to find ways to increase demand	Who is and is not buying product X, and why are they (not) buying? What are alternatives (competitors) and how does our product compare to alternatives?
We want to increase the attractiveness of our product to our existing customers	What are the quality or performance criteria that are important to our customers, and how does our product currently compare against these criteria?
Our service should be attractive to customers in market X, Y and Z, but we don't know which is the most potential of these	Which of the markets X, Y and Z is the most attractive for our products? What potential types of customers for our product are there in markets X, Y and Z?
There is a new technology, and we want to better understand the possible applications and which of these is the most interesting	What specific problems does the new technology solve? How does the new technology compare to existing ways of solving these problems?
Companies have started to do X, and some seem to be quite successful. Should we also do X, and if so, how do we get started?	Which companies are doing X, and why are they doing X? What are the drivers for successfully doing X?

Exercise

Business problem:

AVP (Aalto Ventures Program) is a program that, through a set of courses (organized as minor), teaches entrepreneurial skills to students that aspire to become entrepreneurs. The university would like more students to go through the AVP program, i.e., participation in AVP is not as high as desired.

What would be a research question to address this business problem?

Scope

- You need to be specific about what is included and what is excluded in the scope of your study
- It is important that you set the scope of your study to be neither too narrow nor too wide
- Your research question already provides an indication of scope, but there's additional factors
  - E.g., markets or countries covered, one- or two-stage design, …

From business problem to project plan

- Be sure that you really understand the company's business problem and needs
- After having translated it into a research questions, you need to set up a systematic study that answers your question. This involves consideration of:
  - what frameworks and theories may help structure your thinking and inform your analysis (relevant literature)?
  - who can provide you relevant insights and how can they be approached (sampling)?
  - what kind of information and insights will be useful (needed data)?
  - what is the best way to acquire this information (data collection, e.g., interviews or survey)?
  - what is the best way to analyze and draw conclusions from the information (data analysis)?

II.

Using and choosing frameworks and theories

How frameworks and theories could be helpful

- Setting up the study
  - Get focus – what specific aspect to study
  - Point to sample – whom to ask
  - Point to needed information – what to ask
  - Example: using the business model canvas to pinpoint key aspects of problem (or “issues”)

- Structuring the analysis and drawing conclusions
  - Link findings to context and broader issues
  - Get more holistic perspective on the problem
  - Example: using customer journey to map findings to customers’ decision process

- The same framework or theory could be used for both

Tools for analysis and thinking I
Concepts

- Concepts are fundamental elements or building blocks in thinking about a situation
- Concepts are useful when trying to understand the situation a company is in or the reasons why it has high or low performance
- They have assumptions behind them and are often tied to theories or frameworks

- Examples of concepts: competitive advantage, strategic capability, business model, economies of scale, two-sided platform, synergies

Tools for analysis and thinking II
Theories

- A theory connects concepts
- A theory provides a reason for why one thing leads to another
  - generally, a theory is a statement about what causes what and why
- Theories relate actions to outcomes (doing X will lead to Y) and can therefore be a basis for a decision or course of action
- There are important boundary conditions for any theory!

- Examples:
  - winner-takes-all effect (when network effects are strong one or only a few companies or platforms will eventually dominate the industry)
  - related diversification (companies that can exploit synergies across businesses or customer segments will have higher performance)

Tools for analysis and thinking III
Frameworks

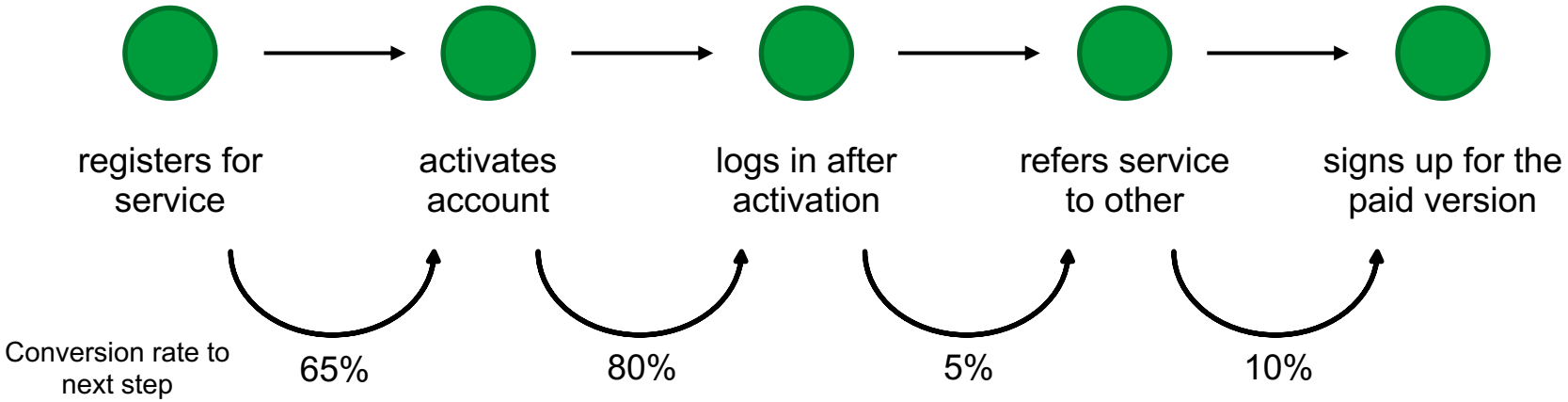
- A framework is a guide to thinking about a typical business situation
- Frameworks point to aspects that are important in a situation and that one needs to account for if one wants to understand the situation
- Limitations of frameworks:
  - they only point to certain aspects of a situation but potentially overlook important other aspects (so they could *oversimplify* the situation)
  - they are useful for certain types of situations but not others (so they could be *misapplied*)
  - they still require any analyst to use their own head in drawing conclusions (so they are in themselves *insufficient* to reach conclusions)

Overview of frameworks

- Customer analysis and experience design
  - Customer lifetime value, Customer journey mapping, value proposition canvas, personas
- Business model analysis
  - Four elements of business model, Business model canvas, Value chain (Porter), Activity systems
- Industry/ecosystem analysis
  - Five Forces, Value net, stakeholder map
- Competitor analysis and competitive advantage
  - Blue Ocean / value canvas, Generic advantages, VRIN/VRIO
- Business portfolio analysis
  - Ansoff matrix, BCG matrix, Three horizons framework
- Internationalization and market entry
  - Yip's globalization framework, Integration-responsiveness framework, Porter's diamond
- Analyzing dynamics and change
  - PESTEL, Scenario analysis, Industry lifecycle

One example framework: Customer journey mapping

Example of customer journey in an online service



Each step in the customer journey can be measured to identify bottlenecks, which can then be removed

III.

Designing the study

Research design: How we go about answering the research question

- We need a systematic approach to answer our research question
- This involves deciding on:
  - Sampling (whom to ask) and data collection (how to generate the data you need)
  - Analysis method (how to analyze and draw conclusions from the generated data)
  - These are interrelated and their choice is driven by the research question
    - Different data collection methods are suitable for different types of questions
    - They generate different types of data that require different analysis methods
    - They have implications on sampling, i.e., how many and what type of persons can be included, and on the breadth and depth of inquiry

Interviews and surveys are the most typical methods for data collection

- Interviews: typically smaller numbers
- Surveys: typically larger numbers
- Interviews and a survey can be usefully combined
  - Interviews first to develop survey
  - Interviews after survey to get deeper insights into key issues

- Qualitative data: text
  - Interviews typically result in qualitative data, but surveys can be used to generate qualitative data as well
- Quantitative data: numbers
  - Surveys generate quantitative data, but interviews can also be used for quantitative data generation (e.g., ask interviewee for number scores)
  - Text can be quantified (e.g., no. of occurrences of words)

Exercise

Based on analyzing and structuring the business problem of too little participation in AVP the hypothesis is that many students in Aalto University that would be in the core target group are not aware of AVP.

Research question: How can we increase the awareness of AVP among Aalto University students?

How should a study be designed that answers this research question?

A two-stage research design allows for learning and depth

- Two typical two-stage designs
  - Interviews and/or desktop study based on secondary data to identify key issues and then follow up with a survey or a broader set of interviews
  - Survey to generate quantitative data followed up by interviews to examine key issues identified in depth
- Option to leave open second stage initially and only decide based on results from first stage
  - Decision criteria need to be clear
  - Options for second stage need to be formulated
  - Example: study 3 countries for market potential in first stage, select one of them for second stage analysis based on market potential and ease of entry…
- Two-stage designs are likely to lead to better results but can be more difficult to manage

IV.

Sampling and data collection

The Literary Digest poll for the 1936 USA presidential election

- **Alfred Landon,** the Republican governor of Kansas vs. incumbent president, **Franklin D. Roosevelt**

- **Create a list of 10 million voters based on:**
  - Telephone directory in the USA
  - Lists of magazines subscribers
  - Rosters of clubs and associations
- **Sent a mail**
- **2.4 million responses**

Source: http://www.math.upenn.edu/~deturck/m170/wk4/lecture/case1.html

The poll vs. the results of the election

- Poll:
  - **Landon 57%**
  - Roosevelt 43%
- Results:
  - Landon 38%
  - **Roosevelt 62%**
- What went wrong?

Source: http://www.math.upenn.edu/~deturck/m170/wk4/lecture/case1.html

So what went wrong?

- Sample bias
  - Slant towards middle and upper-class voters (telephone was a luxury at that time). Will they be more Republican or Democratic?
- Non-response bias
  - 24% answers. The people that did not respond seemed to have been democratic…why?
- Other problems in survey?
  - Questions

At the same time…

George Gallup carried out a survey

- Sample: 50,000 people
- Predicted winner of Roosevelt

Lessons learned:

- A badly chosen big sample is much worse than a well-chosen small sample
- Watch out for selection bias and non-response bias

Source: http://www.math.upenn.edu/~deturck/m170/wk4/lecture/case1.html

Issues in sampling

- Bias from small samples
  - Quantitative: need to have at least 20 responses on the same question
  - Qualitative: triangulation to get at least two perspectives on an issue
- Bias from non-representativeness
  - Respondents are not representative of the population that you want to study, which leads to false conclusions if you don't notice it
    - Selection bias
    - Non-response bias
  - Avoid unwanted bias
  - Diagnose and correct for such biases
  - But often you want to have a bias! Selective sampling
    - You select respondents or interviewees based on your research question and your initial hypothesis and assumptions of how the problem can be solved
      - E.g., choose interviewee with certain experience because you believe he can give you detailed insights ("wisdom"), but you need to acknowledge that his views may still not be representative
      - Or survey "early adopters", but you need to acknowledge that an assumption is that the rest of the market will follow, which may not be true (you implicitly assume a "typical" customer adoption lifecycle)
  - You need to justify the selection of your sample!

Account for (or avoid) potential biases when setting up your study

- Make sure to identify the right target group and go beyond the target group given by the company
  - Think about who should be approached, don't just go with what the company suggests or provides
- Make sure you will have enough respondents
  - Better have too many than too few (in the end there will typically be fewer than you expect or hope in the beginning)
  - Consider the response rate, or likelihood that you will get them to answer or talk to you
    - survey response rates are often 5-10%, and the chances to get an interview with somebody (especially based on a cold call) are often quite low
    - The response rate will typically be the lower the higher up in the hierarchy the respondents, but higher for respondents selected by the company
- Make sure you get diversity but also commonality
  - Respondents / interviewees should exhibit some differences so you can distinguish based on observable characteristics
  - But there also needs to be commonality among them
    - Averages for quantitative studies require commonality but also a minimum sample size
    - For qualitative studies you can ideally verify respondents' answers by getting at least 2 views on the same issue from different people

Be careful about drawing conclusions from the answers you get

- Respondents do not tell what they really think or believe
  - Answer reflects personal goals
  - They tell you what they think you want to hear
- What respondents say they want to or will do (intentions) is not what they necessarily will do in reality (behavior)
  - Lack of imagination
  - Norms or rules or other factors that prevent them from certain behavior even though they may want
- Take these into account when setting up the study (before collecting data)
  - E.g., make sure to ask the “right” questions, or follow up when in doubt

Issues in interviewing

- Signing up interviewees
  - If not nominated by company you need to sell (why should the person spend his/her time to talk to you?)
  - Snowballing (asking interviewee who else should be interviewed)
- Scheduling interviews
  - Be clear about purpose and time needed
  - Propose several dates, make it as easy as possible for them
- Preparation
  - Interview outline (see next slide)
- Execution
  - One or two interviewers (not more), one interviewee at a time
  - Flexibility (e.g., digging deeper into an issue raised by an interviewee)
  - Note taking and recording
    - If recording (preferred) ask for permission and make sure audio quality is good
    - If not recording make sure to make detailed notes
  - You may want to or need to return later to an interviewee for follow-up questions

Interview outline

- Question types: structured vs. semi-structured
  - Structured: question with answer options given
    - "Do you perceive changes as very good, good or bad?"
  - Semi-structured: question with open-ended answer
    - "Your company has been going through a number of changes. Could you tell me what you think about these changes?"

- Following the outline: Make sure to stay on track but allow for some flexibility in asking questions
  - Cover all topics you want to cover
  - Go deeper on "interesting" issues, ask follow-up questions
  - Make sure that you can cover these all within the time available from the interviewee

Issues in running a survey

- Choosing a channel
  - Web: for large samples
  - Phone: more time consuming, so smaller sample size
  - Part of (face to face or phone) interview
- Getting a high response rate
  - Attraction: Interesting topic; formulation of cover letter / introduction; incentive (e.g., gift card)
  - Reminders
  - Questionnaire design
- Avoiding or addressing response biases
  - See next slide and data analysis slide
- Questionnaire design
  - See next slide

Questionnaire design

- Think about what you need to know
- Do not include too many questions
  - Avoid incomplete questionnaires
- Include background questions
  - E.g., demographics like age or gender; industry; or position in company
- It is important to pre-test questions and the questionnaire
  - Test on a few representative persons before sending it out

Questionnaire design

- Each question should
  - measure what it claims to measure (high validity)
  - be easily understood
  - be interpreted in the intended way
  - be interpreted in the same way by all
  - not overlap with other questions
- Only this way you get accurate, meaningful and clear responses that can be analyzed and lead to valid and reliable results

Before sending a questionnaire or start doing interviews, send the list of questions to your instructor for comments!

V.

Data protection and transparency

Personal data and data protection

- **Personal data and their processing is subject to data protection regulations**
- All data related to an identified or identifiable person are personal data
  - Examples: E-mail address, telephone number, ID number, car registration number, IP address, patient records
- What are not personal data
  - Public data (e.g., business ID)
  - Anonymized data
- Pseudonymised personal data
  - personal data can no longer be attributed to a specific person without the use of additional information
  - They are still personal data and their processing is subject to data protection regulations!
- See https://tietosuoja.fi/en/what-is-personal-data for more information

Dealing with personal data

- General Data Protection Regulation (GDPR) applies when dealing with personal data
- In GDPR personal data is defined as any information relating to an identified or identifiable **natural person**
- Research subjects must be informed about how their data will be handled and stored (principle of transparency)
- You also need to plan what to do with the data after the end of the study (store or delete)
- See https://tietosuoja.fi/en/inform-data-subjects-about-processing

Informing potential respondents

- When you approach potential respondents (for interviews and surveys), be clear about the following
  - Overview/description of the study
  - Purpose of the study
  - Organization or funder behind the study
  - How data will be processed and analyzed
    - E.g. anonymization
  - Contact information

- Before sending a message to potential respondents check with your instructor!

VI.

Data analysis

Typical approaches to data analysis

- Process analysis
  - Identify and describe different stages in a process (e.g., customer decision-making)
- Ranking or scoring
  - Identify a list of candidates and evaluate them according to common criteria (e.g., identify most potential markets to enter)
- Framework
  - Use or build a framework with interrelated issues (e.g., map how product relates to customers using value proposition canvas)
- List of topics or issues
  - Identify the relevant topics or issues and analyze them one by one

Identifying issues for the study

- Issues are the domains about which you want to get information
- Source of issues
  - Given by the business problem and research question
  - From frameworks or theory
  - Based on insights from interviews (company representatives, experts)
- These issues should then feature in the design (questions in questionnaire and interview)
- The issues can then be used to structure the reporting of results

Identifying meaningful differences

- To get deeper insights you want to identify meaningful differences
  - Tells you what something ”depends on”
  - E.g., what makes a customer a ”high potential”, that is how to distinguish different types of customers based on observable features
    - One very typical feature that makes a difference is ”industry”
- How to identify meaningful differences
  - Need diversity in data, e.g., interviewees or survey respondents representing different backgrounds
  - Need to consider what those differences might be when designing the study (ask the right questions, identify e.g., through background questions)

On using quantitative methods in this course

- Descriptive (and graphical) analysis is enough
  - Interpretation is important: what does it mean?
  - More advanced analysis can be a plus

- Excel is enough (no need to use statistical software)

- Overall insights generated and the link to the research question is more important than sophisticated use of statistical methods

VII.

Drawing conclusions

Reliability and validity

- Validity: Did we measure what we intended to measure?
- Reliability: Would we get the same results if we would replicate the study? (or someone else would do the study)

- How to ensure validity and reliability throughout the process?
  - Problem definition: make sure to focus on key aspects
  - Avoiding biases: sampling
  - Addressing biases: analysis
  - Multiple perspectives: address and rule out potential alternative solutions
- So you need to keep these in mind from the start!

Your conclusions should…

- Connect back to the original research question and the business problem and synthesize your findings (answer the “so what” question)
- Include an argument that links the research question and the business problem with the facts you gather and analyze (answer the “why” question)
- Go beyond the obvious, be impossible to shoot down based on intuition or what comes to mind quickly, and combine insight and creativity (you want to leave your mark)

VIII.

Writing the project plan

Follow the instructions

- Instructions and outlines are on the course website. Please read them in detail and stick to them.

- The project plan is based on answering questions that cover the topics of this session. The slides can be used to guide your answers to these questions.

Content of project plan and report

1. Business problem, research question and scope
   A. Description of the business problem
   B. Research question(s)
   C. Scope of the project
2. Study design
   A. Overview of the study design
   B. Sampling and data collection
   C. Data analysis
   D. Overview of relevant literature and/or frameworks (if applicable)
3. Results

   Use subsections (numbered A, B, ...) based on what makes sense for you
4. Conclusions and Recommendations
   A. Recommendations
   B. Limitations and further studies

Your project plan addresses 1. and 2. and you need to think about 3. as well (what you expect as results)

Get the company view and support for your project plan

- You need to consult the company concerning your approach (there should be at least one iteration with the company, but you may ask more questions for clarification). Here key questions are:
  - does the company think that your approach will help solve the business problem?
  - do they think that your approach is both appropriate and feasible?
  - how can the company concretely help you (e.g., provide list and names of people to interview or survey; arrange interviews with employees to better prepare for interviews or survey design)?

Assess the risks

- What are the risks that are likely to have an impact on your ability to carry out the study and get valid results?
  - Project management related (e.g., time management)
  - Company-related (e.g., company support)
  - Study-related (e.g., getting sufficient no. of respondents)

- How to make sure you either avoid these from materializing, or be able to deal with them when they happen?

Questions?