



DATA-DRIVEN INNOVATION SCOUTING

DESIGNING A COLLABORATIVE PLATFORM
FOR CORPORATE VENTURE CAPITAL

DATA-DRIVEN INNOVATION SCOUTING

DESIGNING A COLLABORATIVE PLATFORM FOR CORPORATE VENTURE CAPITAL

Master thesis

MSc. Strategic Product Design
Industrial Design Engineering
Delft University of Technology
August 2017

TU Delft supervisors

Chair: Prof. dr. H.J. Hultink
Mentor: Dr. ir. E.A. van den Hende

Company

Venture IQ
Koen van Engelen, founder

By

Taco Deurvorst
4030737
tacodeurvorst@gmail.com

All rights reserved. No part of this report may be reproduced or transmitted in any form or by any means, electronically or mechanically, including photocopying, recording or by any other information storage and retrieval system without written permission from the author.

PREFACE

Before I embarked on this journey, corporate venture capital and innovation scouting was very new to me. My curiosity about corporate-startup collaborations goes back to an earlier internship in a corporate accelerator, where I discovered the potential of collaborations between large firms and agile young companies. This is also when I learned about Venture IQ, a company that is right in the middle of this dynamic environment. Open innovation has become a topic that has gained my interest over the past years, and I was eager to catch this opportunity to learn more about how corporations open their boundaries to external innovation. This graduation project has been a chance for me to dive into corporate-startup collaborations as an innovation strategy, and to build on previous experiences within the domain of Strategic Product Design.

In the spirit of open innovation this project has many contributors. I would like to start by thanking my supervisory team. Ellis, thank you for the time you took for our open discussions and asking questions about things that I hadn't even considered until then. Thank you Erik-Jan for the depth of your feedback on mid-terms and encouragement during our incidental meetings at the supermarket. Thank you both for setting hard deadlines, I know I need that, and for telling me to take some extra time for the final phase.

Thank you, Koen and Alex for your guidance, trust and giving me the chance to do my graduation project at Venture IQ, even though your company was only a year old when I started, I can image you had a lot of things on your mind. If this report is even remotely as valuable to you as the experiences at Venture IQ have been for me I consider it a success.

Nienke and Lucia, thank you for involving me in a wide range of projects and taking me along to clients already in my early days, I have learned so much from you. Your curiosity about my project and your openness to discussion have been such a great help. Additionally I would like to thank all the other analysts and the development team for helping me collect data and thinking along during brainstorming and open discussions.

And last but not least, thanks to all my friends and family for your feedback, your support for the times I was stressing out and for the moments you helped to take my mind off things.

I am proud to present you my discoveries, enjoy!

Taco

EXECUTIVE SUMMARY

Large established corporations are increasingly seeking ways to open their boundaries to innovation from outside. One domain within the phenomenon of Open Innovation is corporate venture capital, where large firms seek to invest in, and partner with, young ventures that have the rapid innovation capabilities. Investments in young ventures offer financial gains but are increasingly made for strategic benefits. Through partnerships, large firms can gain access to new markets and technologies, and are able to explore domains that are outside of their traditional activities. To find the right young ventures to partner with, large firms are turning to intermediaries who offer specialized innovation scouting services.

This thesis studies the strategic motivations for large firms to engage in partnerships with young ventures, and aims to design a service model for an intermediary that puts the needs of the large firm at the core. This project was commissioned by, and executed in collaboration with Venture IQ, an innovation scouting company founded in August 2015. Venture IQ develops a software platform (named Catalyst) to collect data on companies and share the results of their search efforts with their corporate clients. For every search project Venture IQ carries out the same approach, that spans three phases: Kick-off, Search, and Deep Dive. This approach does not embed client needs or provide structure to its team of analysts.

With the goal of this assignment to redesign Venture IQ's service model with a focus on client needs, the assignment was formulated as follows:

To develop a service proposition for an open innovation intermediary to aid large firms in the early stages of their search for strategic partnerships with young ventures.

Through a phase of discovery including review of literature, explorative interviews with industry experts, analysis of the context and Venture IQ itself, two main research questions are formulated.

1. How can Venture IQ's service model be designed to better serve individual projects?
2. What role can Catalyst fulfill in the future of Venture IQ's services?

The discovery phase provided insights into a variety of strategic motives that large firms have for searching for an innovation partner. To better understand the differences

between individual projects and find answers to the research questions a conceptual typology of three search project types is constructed:

- Market search projects - The large firm intends to gain access to new or adjacent markets to leverage their current technologies, products or services
- Technology search projects - The large firm intends to gain access to novel technologies that can increase value of the firm's current market
- Explorative search projects - The large firm intends to gain access to, or knowledge about unfamiliar markets and the technologies, products or services that are shaping them

The research questions and the conceptual typology form the foundation for the next phase of in-depth research, during which nine search projects carried out by Venture IQ are investigated through case studies. The data for the case studies was collected through observations of client meetings and discussions, and analysis of correspondence and presentation documents. The nine case study projects were augmented with a survey among the analysts working on those projects to document their experiences. Follow-up interviews were held with analysts to clarify responses where needed.

In addition to the goal of obtaining insights into Venture IQ's process and client needs, the case studies form a method to learn about how the software platform is currently being used and how it can add more value to the search process. As a result from the case studies three platform user types were defined: Analysts: Venture IQ analysts that execute searches provide clients with results, Client lead users: people at the client firm who lead search projects and have experience in the field of corporate venture capital, and Project-based users: employees at client firms that are involved in specific searches because of their expertise in the field.

The insights derived from the qualitative data are summarized into five clusters, that each form opportunities for design:

1. Identifying strategic motivations - Venture IQ does not have a structure to define what the client is trying to achieve with that specific search.
2. Scoping and collaboration - There are no methods being used to capture information about a search itself, merely on the companies that are found. The

information that is relevant to a search is currently shared through various media, ranging from e-mail to phone calls and (informal) meetings

3. Communicating results - The companies that are identified as relevant are shared with client users through Catalyst, but clients don't get notified when new insights arise
4. Client user engagement - Project-based users are a major source of knowledge and analysts require their feedback to improve their search efforts. This feedback should be given in Catalyst, but these people are not familiar with the system and are not using it.
5. Positioning Venture IQ - An opportunity exists in the competitive field of intermediaries to move client engagement to earlier phases in their process. Most clients come to Venture IQ once they already have an idea of what they are looking for. Clients give Venture IQ the task of finding companies without providing underlying strategic motivations, which is essential knowledge for organizing a search.

The design opportunities are collected in the design brief that states the vision for the future of the software platform:

The vision is for Catalyst to become the go-to platform for initiating and organizing corporate venture capital searches, and accelerate these with Venture IQ's data-driven services.

The insight clusters are formulated into design challenges that, together with the design vision, parameters and requirements form the design brief, the foundation for the ideation phase.

Three concepts were composed from ideas that arose during team brainstorming. After detailing these concepts were tested along the requirements stated in the design brief and one concept was selected. The selected concept describes a procedure where clients can initiate new search projects within Catalyst whenever they desire to do so. This **intake procedure** consists of a series of questions that cover all the information that analysts need to start a search. Additionally, project information is captured in a format that allows collaborators (client lead users, project-based users and analysts) to review the project characteristics at all times and make alterations when necessary.

Two iterations of prototype testing with clients have illustrated the value of a structured intake procedure. Despite the low fidelity of the prototypes valuable information was uncovered by asking for specific types of project attributes and motivations. Test users, who were client lead users, acknowledged the value of the procedure. Not only to improve the effectiveness of the search process but also to individually assess the underlying reasons for a new project.

The workflow for analysts that emerged from the prototyping phase is structured as follows:

1. A client has completed the intake procedure and wants to start the search
2. The analyst defines the type of search project (Market, Technology or Explorative;
3. The analyst identifies the depth of knowledge the client team has on the topic at the start of the search;
4. The analyst determines the depth of knowledge the client team is trying to gain through this search project;
5. The analyst consults the service model to find the corresponding search actions

A challenge for the future arose during the prototype tests of the intake questions, as some questions and definitions can still be misinterpreted. It is therefore recommended that the intake procedure is thoroughly tested to smoothen out the ambiguity that some elements might cause.

The most important design features are two elements that are strongly connected: a new experience for the client to start their search for a strategic partner, and a service model that is a guide for the intermediary performing the appropriate search actions.

The final design illustrates an innovative process for client users to interact with each other and with analysts, via Catalyst. Aside from the intake procedure, a series of features is designed to make Catalyst a central place to collaboratively search for potential partners and share ideas about future projects.

Although Catalyst must undergo changes before the final design is realized, the new service model can be put into operation immediately. A simple online survey or intake document can be sent to clients that want to start a new project. From this intake survey analysts can select the appropriate actions and start the search process.

GLOSSARY

Large firm
An established corporation

Young venture
Startup or scale-up company.

Open innovation (OI)
A distributed innovation process based on purposively managed knowledge flows across organizational boundaries.

Venture capital (VC)
Capital invested in a project in which there is a substantial element of risk, typically a young venture.

Corporate venture capital (CVC)
The practice where a large firm takes an equity stake in a young venture with the objective to gain a competitive advantage.

Open innovation intermediary (OII)
Firms that provide services to other firms to explore ideas for open innovation.

Technology Readiness Level (TRL)
Method of estimating technology maturity on a scale from 1 to 9, 1 being basic research, 9 being mature/operational.

Intellectual Property (IP)
Intangible property that is the result of creativity, such as patents, copyrights, trademarks, industrial design rights, etc.

Service model
Describes the approach and actions through which value is created by a service provider.

Additional abbreviations

WFGM	Want, Find, Get, Manage
VIQ	Venture IQ
CLU	Client lead user
PBU	Project-based user
AI	Artificial intelligence
ML	Machine learning

READING GUIDE

Throughout this document three colored boxes can be found. These highlighted texts have several functions in supporting the main body text.

Quote boxes
Dark green boxes include quotes from interviews, meetings, surveys or other empirical data sources.

Insight boxes
Orange boxes contain key insights from the current section. All insights are summarized in section 2.6.

Notes
Grey boxes contain information about the origin of data, limitations or general remarks.

CONTENT

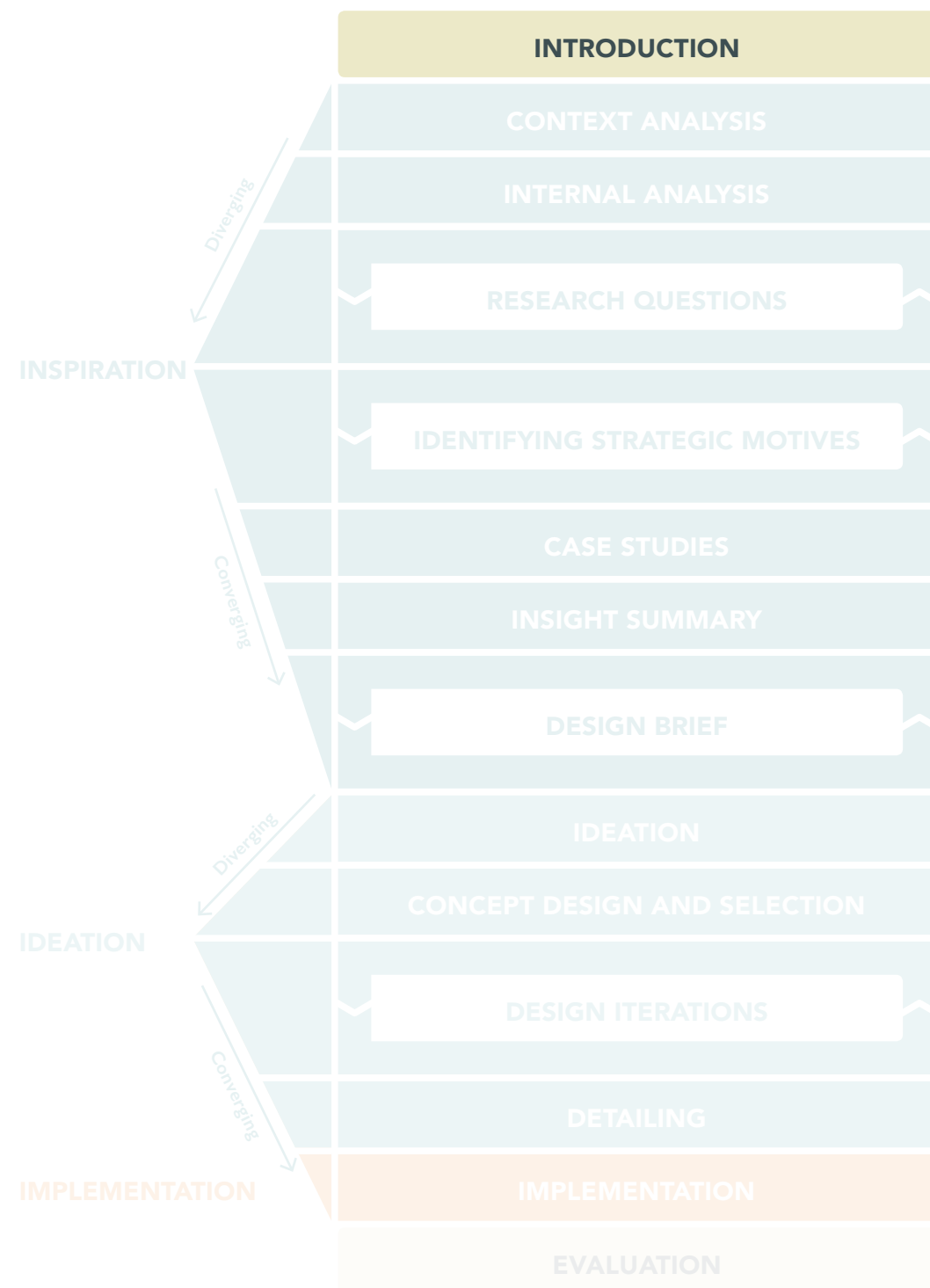
PREFACE	5
EXECUTIVE SUMMARY	6
READING GUIDE & GLOSSARY	8
GLOSSARY	8
CONTENT	9
1. INTRODUCTION	11
1.0 Introduction	13
1.1 About Venture IQ	14
1.2 Assignment	15
1.3 Approach	16
2. INSPIRATION	19
2.0 Introduction	21
2.1 Context analysis	22
2.2 Internal analysis	36
2.3 Research questions	40
2.4 Identifying strategic motives	42
2.5 Case studies	44
2.6 Summary of insights	50
2.7 Design brief	52
3. IDEATION	55
3.0 Introduction	57
3.1 Ideation	58
3.2 Conceptualization	62
3.3 Concept selection	66
3.4 Design Iterations	68
3.5 Service model	70
3.6 Client Workflow	74
3.7 Service delivery	78
3.8 Conclusion	79
4. IMPLEMENTATION	81
4.0 Introduction	83
4.1 Value proposition design	84
4.2 Implementation plan	86
4.3 Generating new business	88
4.4 Conclusion	90
5. EVALUATION	93
5.0 Introduction	95
5.1 Academic contribution	96
5.2 Contributions to practice	98
5.3 Personal reflection	100
REFERENCES	102
APPENDICES	106



1. INTRODUCTION

PROJECT FOUNDATION

- Introduction
- About Venture IQ
- Assignment
- Approach



1.0 INTRODUCTION

Established corporations are increasingly embracing collaboration with young, agile companies in order to stay ahead of competition and improve their innovation problem solving skills. Venture IQ is a young, Amsterdam-based firm helping these corporations to find leading innovative young companies. This section gives an introduction to the client company of this project, the origin of this thesis' assignment, and how the assignment is approached through design thinking methods.

Venture IQ was founded in August 2015, and in the time since its inception it has proven its value to various (international) corporations. These corporations start the search for young companies from an innovation perspective but are fairly new to the process of innovation scouting. Venture IQ offers specialist services for these corporations to make their scouting efforts more efficient through the use of technology and big data.

The assignment is to rethink Venture IQ's service model to improve meeting needs of their corporate clients. These clients are very different in size, experience and strategy, and the current service model approaches every project as if it were the same. In this assignment a deeper look is taken at what opportunities software can provide to improve the value for client stakeholders and their firms.

This project aims to bring human interaction to, what is in principle, a business-to-business context. Therefore the foundation of the research and design approach comes from design thinking methodology, considering people, technology and business strategy to create meaningful products and services.

1.1 ABOUT VENTURE IQ

Venture IQ was founded by Koen van Engelen and Alexander van Os in August 2015. The founders both have a background in venture capital, which is how they identified an opportunity in the sector: Large firms are showing more and more interest in young ventures. With their experience and network, they were able to found Venture IQ, with the goal to help large firms in their search for innovative startups to partner with.

Most of Venture IQ's staff works as technology consultant or analyst. They work directly with clients to find interesting companies and give advice on relevant technologies and business models. The experience of the founders in the field of investment in young technology ventures is combined with a group of flexibly deployable analysts and consultants with different backgrounds, knowledge and skills. This allows Venture IQ to operate in a wide range of industries, and for a diverse group of clients ranging from utility providers and telecom, to the food and dairy industry. The young ventures these large firms are looking for are often active in different fields, causing projects to span across multiple sectors.

Aside from consultants and analysts to serve these search projects, Venture IQ employs a full-time development team that works on Catalist. This is a software tool that can be used to find interesting companies, collect data and search through patents. The software is improved continuously and new features are added weekly. Clients, consultants and analysts are actively involved in making improvements and understand that bugs are common for software in its early stages. Catalist is an important tool for analysts, as it provides a channel for sharing search results. When an analyst finds an interesting company, he or she creates a profile in Catalist, where a client can give feedback and start a discussion.

In two years Venture IQ has grown from the founders to a team of 14 and Koen and Alex are setting out to continue growing the company further. Their vision for Venture IQ is to create a scalable business that operates globally. They want the software to play a key role in the future of the company.



Figure 1.1 - Venture IQ office

1.2 ASSIGNMENT

This section describes the definition of the problem at the start of this thesis. Venture IQ is a young venture itself, on one hand facing the task of finding its purpose and value for clients, but on the other has the flexibility of a small company and the ability to adapt to its context quickly.

The problem

Being a young company, Venture IQ is continuously searching for ways to improve its services for large firms. This is an ongoing process of figuring out what works and what not. But the experiences the team has gained so far are not shared on a regular basis, making it hard to put insights into action. Venture IQ has a method of providing their services, but so far it has not been thoroughly reviewed and opportunities for improvement are not collected or translated to actions.

A single, general, working process is applied to every new project that comes in. Although this process is flexible, it does not provide structure or guidance, making it difficult to efficiently organize a search process or tailor it to the client's needs. All projects at Venture IQ have the goal of scouting companies with interesting technologies but clients, topics, scopes and targets vary widely. Therefore a balance must be sought in creating a working process that guides and provide structure for individual projects but at the same time offers flexibility during projects that are difficult to describe or scope.

Venture IQ is a innovation scouting company, helping large firms find opportunities for open innovation and setting the first steps in acting on these. This means Venture IQ is not involved throughout the entire process of large firms and young ventures working together. Different phases of this process require different services, and it is currently not very clear what services Venture IQ exactly has to offer.

The opportunity

Venture IQ is right in the middle of the high growth topic of large firms seeking to improve their interactions with young ventures. As more and more large firms in the Netherlands and Europe are launching their first corporate venture capital fund this is the right time for Venture IQ to create an effective approach to deliver specialized services for that purpose.

The challenge

The above problems and challenges lead to the formulation of the assignment for this graduation project:

To develop a service proposition for an open innovation intermediary to aid large firms in the early stages of their search for strategic partnerships with young ventures.

This service proposition aims to provide Venture IQ and its clients with a new and improved working method for finding strategic partners. Through a customer-centric service approach with early stage interactions this service model will attempt to uncover client needs in early stages and find the appropriate way of structuring the search for the right innovation partner. A breakdown of essential terminology of the assignment is provided in Figure 1.2.

The newly design service should contribute towards the founders' vision of becoming a software company, and shift towards more digitally enabled client interactions.

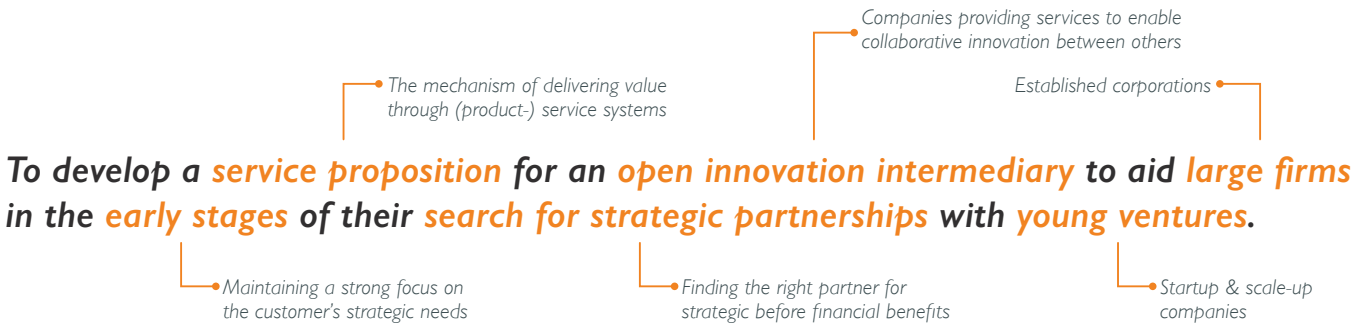


Figure 1.2 - Assignment breakdown

1.3 APPROACH

The project is set up according to the fundamentals of design thinking methodology of inspiration, ideation and implementation. Figure 1.4 provides a visual representation of the approach and the research and design actions that were carried out during each phase.

DESIGN THINKING

At the core of this project lies the discipline of design thinking, a design method at the intersection of people, technology and business. It aims to meet people's needs through human-centered research, and build technologically feasible products and services with a viable business strategy (Brown, 2008).

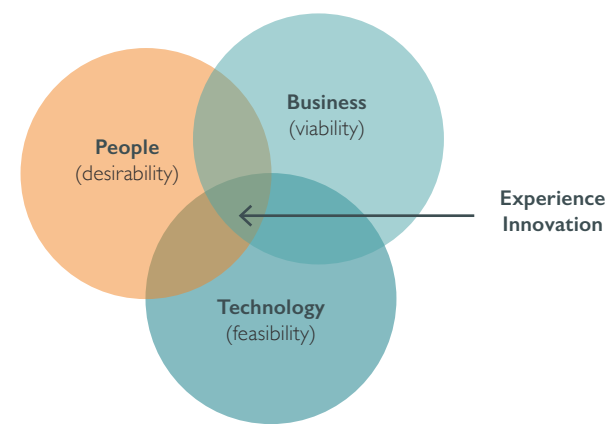


Figure 1.3 - Pillars of design thinking (IDEO)

The world of corporate venture capital and technology scouting services in particular is a business-to-business environment. In this area the importance of user needs is often overlooked, and this is where design thinking methodology is well suited for solving problems and creating meaningful products and services. This project maintains a human-centered research and design approach and aims to create meaningful solutions for people, and therefore, their organizations.

This project builds on the three phases of design thinking: Inspiration, where the context is investigated and problems and opportunities are identified, Ideation, where solutions are synthesized, and Implementation, where solutions are put into practice.

INSPIRATION

The inspiration phase starts out with a discovery section on the context of corporate venture capital, open innovation and how strategic partnerships are established. A literature review and customer analysis are performed to uncover the needs and desires that people in corporate venturing roles want answered. Based on this initial discovery two sets of research questions are formulated.

The first set of research questions leads to a conceptual methodology for identifying strategic motives. Validation of this model is done through a series of case studies of scouting projects carried out by the client company, Venture IQ. The second set of research questions is set around improving the client company's product-service system, and are answered through the same set of case studies.

The insights obtained during the discovery of the context and company, as well as the case studies are gathered, clustered and summarized, forming the input for the design brief. This document states the problems and opportunities and acts as the foundation for the ideation phase.

IDEATION

The design brief is taken into ideation sessions with the client firm's team. From these ideation sessions three concepts are constructed, which are then tested through the criteria stated in the design brief. One concept is selected and its elements improved through iterations of user tests. The outcome is a detailed redesign of Venture IQ's product-service system.

IMPLEMENTATION

The redesign of Venture IQ is taken to market, through a redesign of the value proposition and positioning statement. An implementation plan is compiled and potential future opportunities are explored.

EVALUATION

In this final chapter, the design and the conceptual model are evaluated. This project's academic and practical contributions are discussed, and this thesis is concluded with a personal reflection.

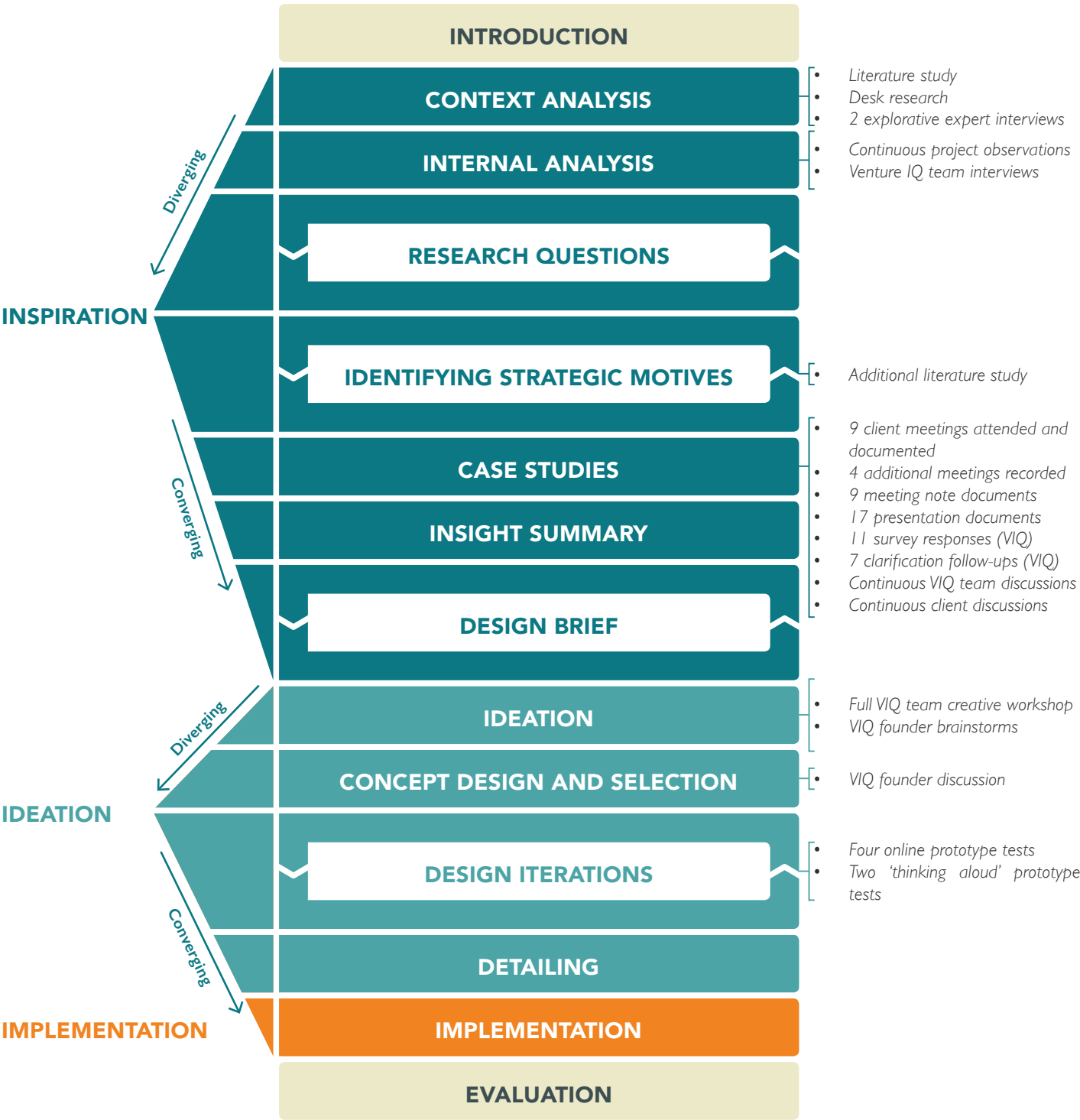


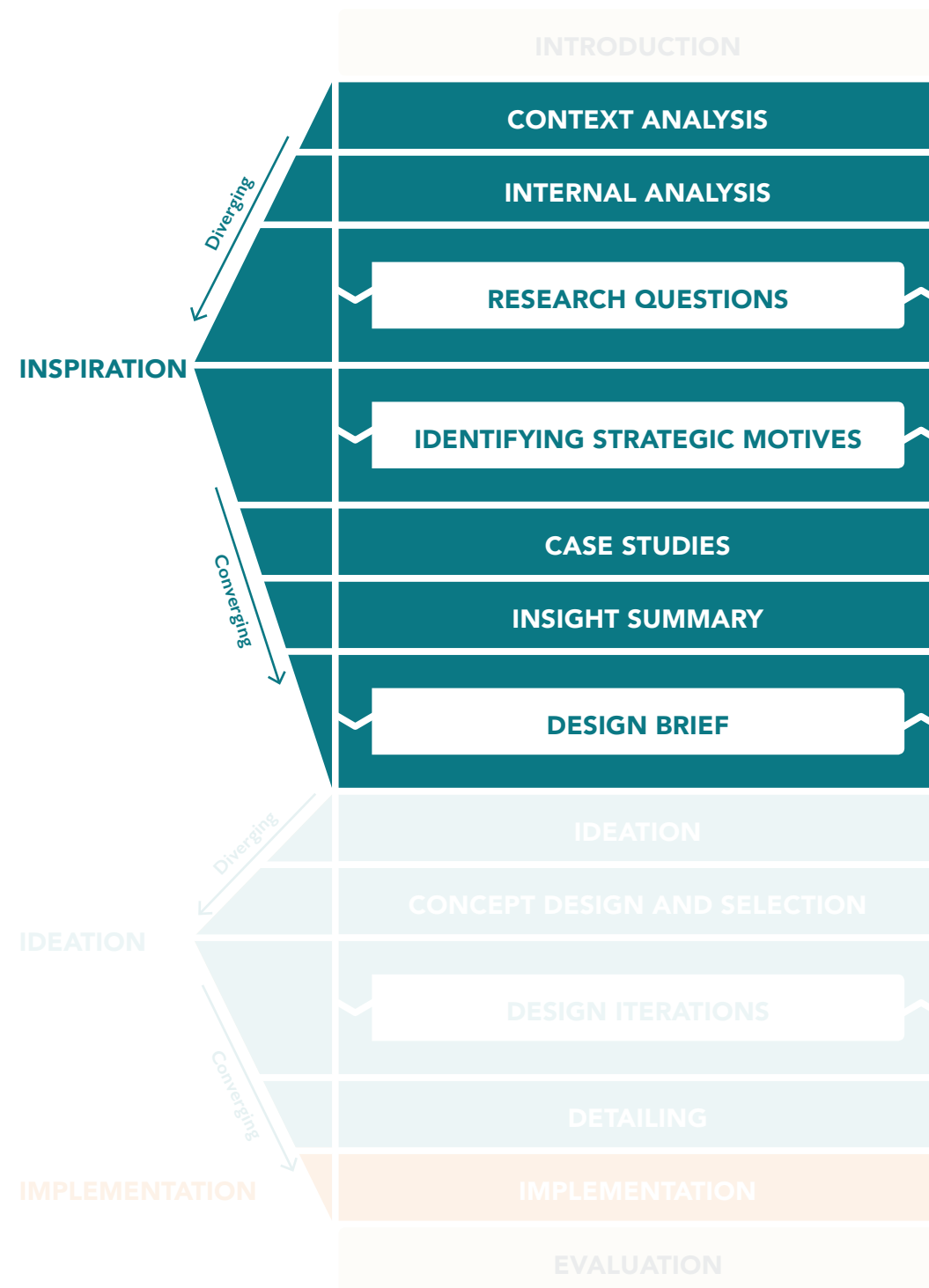
Figure 1.4 - Project approach



2. INSPIRATION

THE STATE OF INNOVATION SCOUTING

- Introduction
- Context analysis
- Internal analysis
- Research questions
- Identifying strategic motives
- Case studies
- Insight summary
- Design brief



2.0 INTRODUCTION

The Inspiration chapter looks at the developments that influence the client company Venture IQ, and synthesizes the problems and opportunities at hand.

The first section provides an introduction to the underlying causes of the recent rise in corporate venture capital activity and the firms that are engaging in it. The focus lies on strategic motives rather than financial gains and a review of literature provides insights into processes that these firms go through to find external partners for innovation purposes. Market and competitive analyses investigate the position of the client company in the highly competitive field of intermediaries in innovation partnerships. This is followed by an analysis of Venture IQ's current search process and software platform, along with the plans for future development.

Based on this phase of discovery an opportunity is defined, followed by the formulation of a set of research questions. The purpose of these research questions is to define what information is required to design a service model for an open innovation intermediary, that focuses on the early stages of strategic search projects. A conceptual typology of strategic motivations is constructed, which are further investigated through a series of case studies of previously carried out search projects at Venture IQ.

The results of the case studies are analyzed, clustered and summarized. A design brief is formulated, consisting of a series of opportunities and the design vision. Input for the ideation and design phase is provided in the form of design challenges, parameters and requirements.

2.1 CONTEXT ANALYSIS

The first section of the inspiration phase is understanding the context of the client company, Venture IQ. A review of literature is combined with customer research, market trend and competitor analyzes to lay the foundation for this project.

ENVIRONMENTAL FACTORS

In today's fast moving economy firms are looking for new recipes for achieving business success. The background of current macro trends adds to the general understanding of the modern businesses environment and the drivers for firms to improve themselves.

Launching a business is getting easier

In his recent book, the Fourth Industrial revolution, Klaus Schwab (2017) pronounces enormous changes in the way people, businesses and governments will function. It has become easier than ever to start a business, as entrepreneurs all over the world have increasing access to resources and tools like cloud computing, online marketing and professional services (Mettler and Williams, 2011). These business platforms (Figure 2.1) reduce the barriers for launching a business, and significantly lower the costs of scaling. Recent estimates from the World Economic Forum state that establishing a business with a working prototype has fallen from \$2 million to \$50.000, and in some industries as low as \$3000 (Baller et al., 2016).

Technology startups

Digitization and global connectivity are causing a boom in technology startups, in its turn a major threat to large corporations. These firms often have intricate organizational structures that are built to generate profit and stability, not innovative new ideas (Wessel, 2012). The amount of young ventures and the pace

at which they innovate is considered a major threat by incumbents, fearing their dominant position in the market will be disrupted or eaten away piece by piece by these small entrants (Taneja, 2015). This requires them to continuously reinvent themselves and find new methods to innovate (Schwab, 2017).

Open innovation

As an alternative to internal development, Chesbrough (2003) argues that large firms should look outside of their own innovation process. This phenomenon he called Open Innovation (OI). It states that instead of traditional internal research and development efforts, firms can and should look outside of their firm's boundaries and enable transfer of knowledge with these sources. The theory of Open Innovation comes into practice when firms diverge from their internal innovation funnel, and look to attract and/or share knowledge, as illustrated in Figure 2.2.

Types of open innovation

Open Innovation recognizes three general categories (Enkel et al., 2009). These categories and their practical methods are displayed in Figure 2.3.

Inbound OI is where knowledge is soaked up by the large firm. Common sources of knowledge are clients and suppliers but also competitors and research institutes. A very distinct type of inbound knowledge is obtaining intellectual property (IP), to gain access to new technology, products, services or processes. Relatively new forms of knowledge inflows are seen in crowdsourcing, idea competitions and the use of innovation consultants.

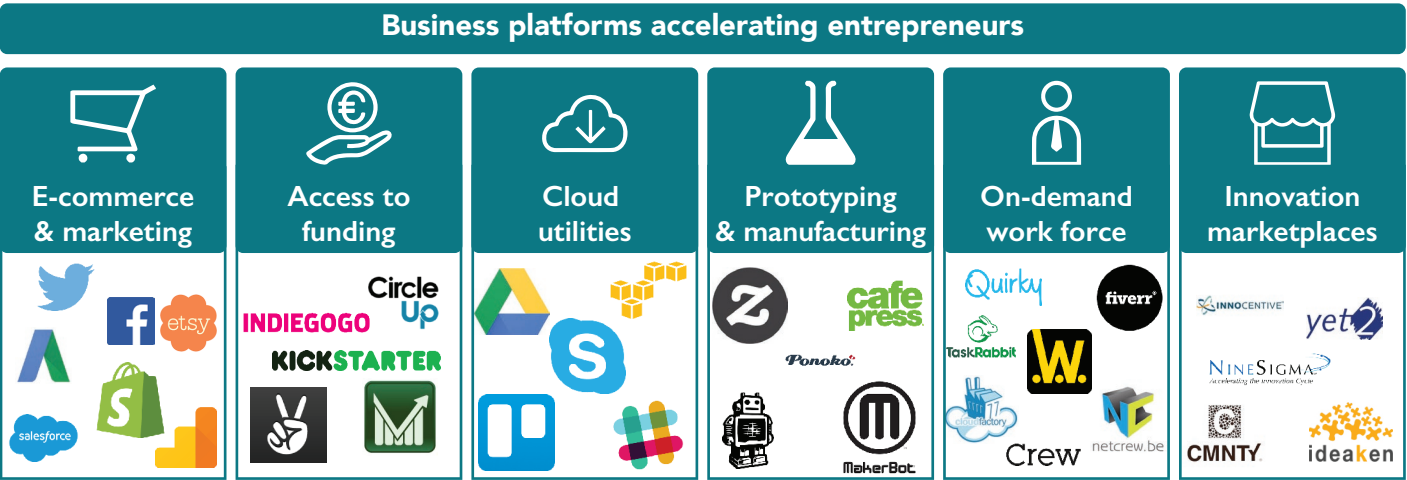


Figure 2.1 - Business platforms that accelerate entrepreneurship

Outbound OI is when a firm chooses to commercialize its knowledge by externalizing exploitation. Here, a firm generates profit by leveraging underutilized assets that it is either unable or unwilling to develop or bring to market itself. Examples are spin-off companies and IP via licensing fees, through which the impact on the large firm's operations is kept relatively low. (Chesbrough & Brunswicker, 2013)

The third category is coupled OI, where firms are involved in outbound as well as inbound knowledge flows. Coupled innovation processes have the purpose of collaborative value creation, by establishing strategic alliances and joint ventures or networks and ecosystems (Chesbrough and Bogers, 2014). Enkel, et al. (2009) found that in high-technology industries like electronics and software nearly 50% of projects included coupled innovation processes. These processes consist of collaborative activities and inter organizational constructs. (Mocker et al., 2015)

A high profile topic

Recent years have seen an surge of large firms seeking to stay ahead of 'disruption'. The theory of disruption (Clayton Christensen, 1997) has brought innovation high up on the corporate agenda, and firms increasingly keep track of their environment, including threats posed by newcomers (Christensen et al., 2015).

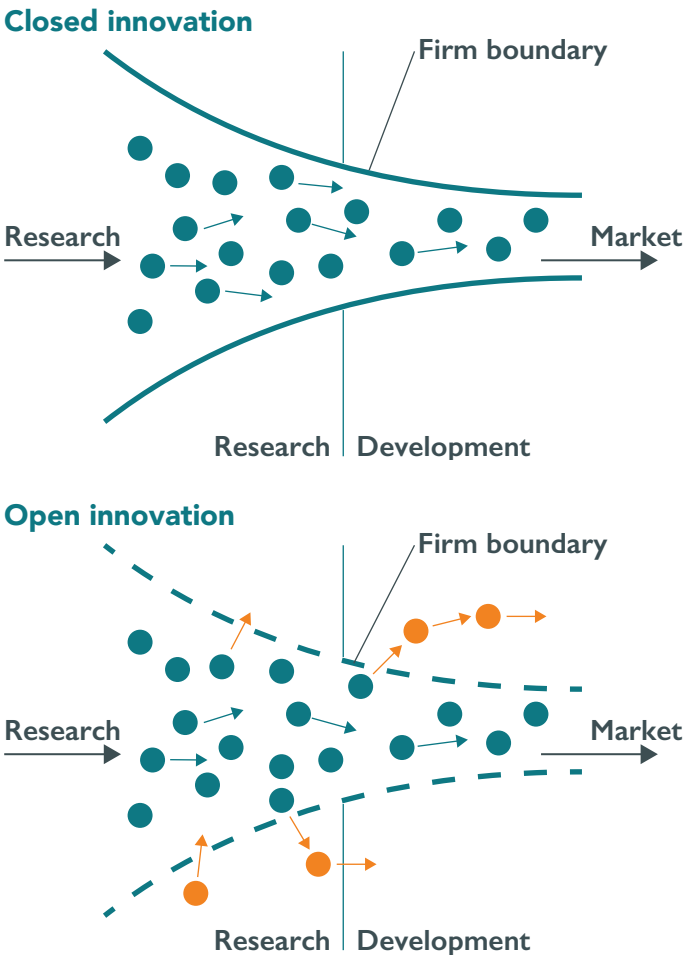


Figure 2.2 - Traditional versus open innovation processes (Chesbrough, 2003)

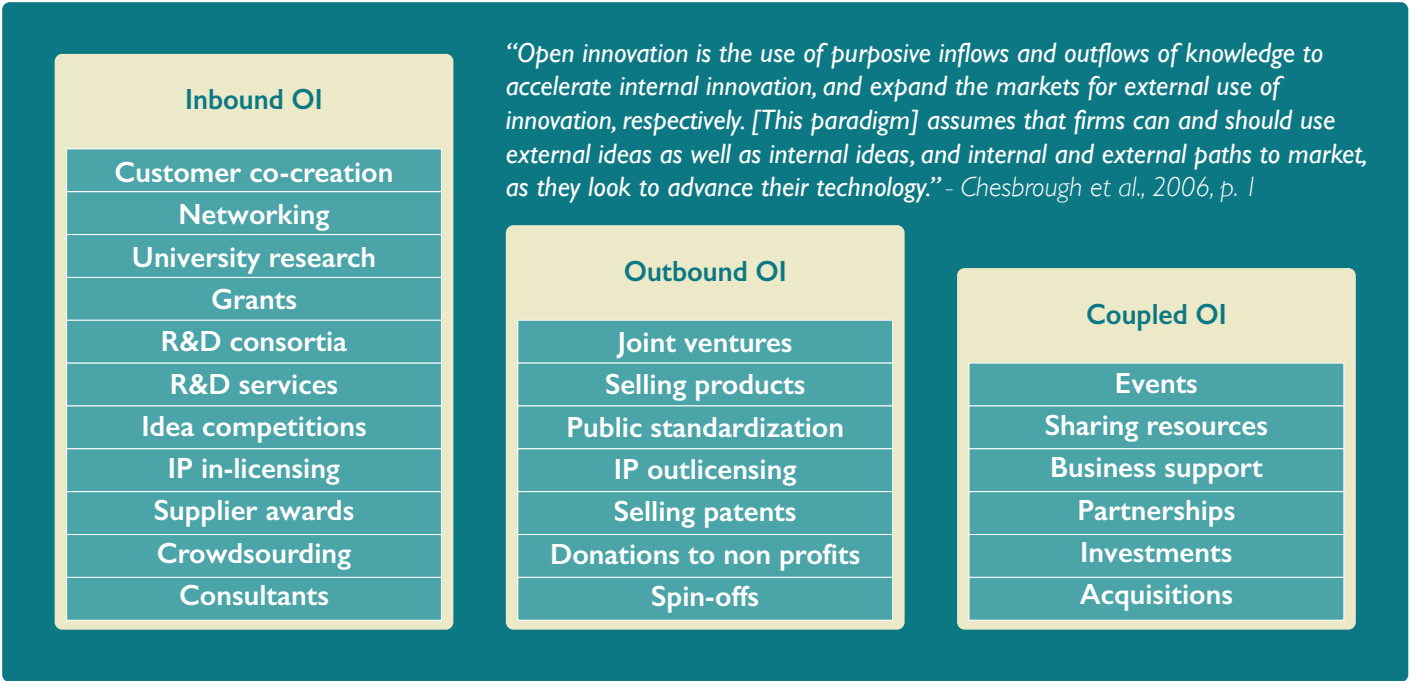


Figure 2.3 - Types of Open Innovation

Note
The scope of this project is defined by the intermediary services provided by Venture IQ. These cover establishing partnerships, corporate venture capital investments and acquisitions.

Insights
• In the current fast moving digital economy, opportunities to partner with young ventures come and go in a rapid pace.

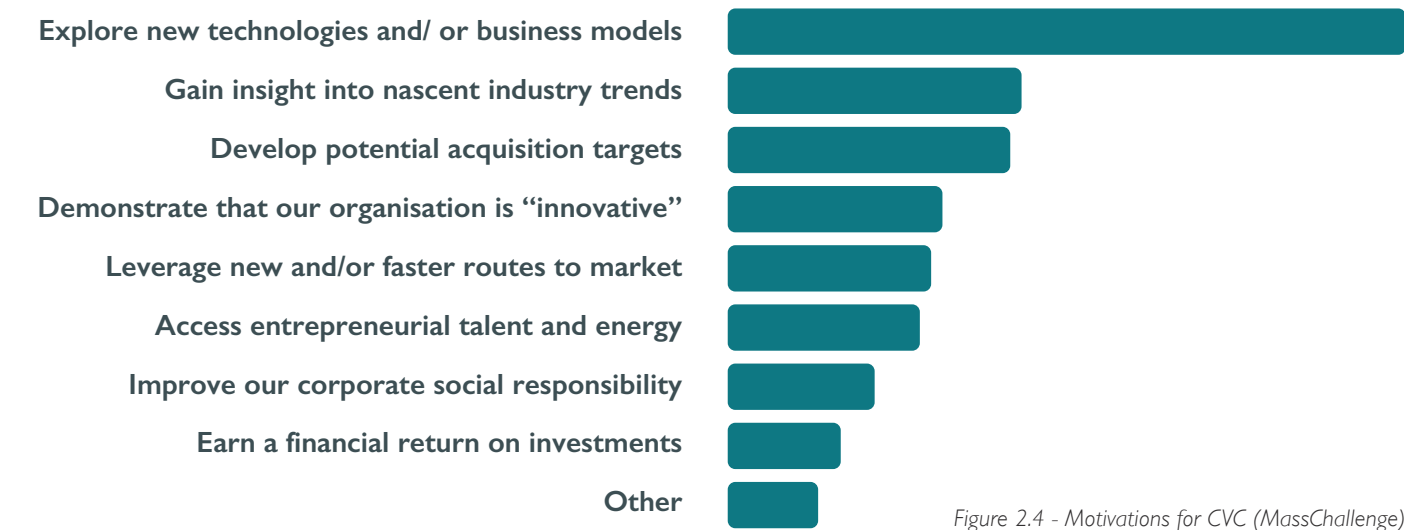
CUSTOMER ANALYSIS

The customer analysis features a review of theory on why and how large firms engage in open innovation and corporate venture capital in particular. A summary of open innovation frameworks is made to create an overview of all the tasks these large firms must carry out over the process of finding strategic innovation partners. The summary of frameworks from theory is then complemented with experiences from practice through interviews with CVC experts.

Strategic motivations for corporate venture capital
Traditional independent venture capital (VC) firms act primarily or solely for financial benefits. Young technology companies without a proven business model or profitability are a high-risk investment. VC firms therefore make relatively small investments in these companies' early stages in exchange for equity. They intend to sell their stake in the company typically within three to seven years. In a so called 'exit' the young venture is involved in a merger, acquisition or goes public (IPO), and a VC can sell its stocks. However, many ventures fail to reach this stage, or even to become profitable, making VC a high-risk form of investing. VC's tend to decrease this risk by offering strategic advice and networking opportunities to their portfolio companies.

Large firms interact with young ventures for a more varied set of reasons than merely financial return on investment. Working with young ventures brings newness to a company. Large firms tend to see these engagements as a means of exposing their employees to an entrepreneurial mind-set, thus creating awareness of new technologies, markets and novel ways of working (Dushnitsky & Lenox, 2006). Corporate accelerators and innovation departments often provide co-working spaces to foster interaction between corporate workers and young ventures (Kohler, 2016). In some firms, it is seen that this interaction lead to significantly higher internal innovation success rates (Dushnitsky & Lenox, 2005a).

Large firms' motivations for engaging in CVC



High profile investments also add to a firm's brand identity, showing their support for innovative ideas and young companies. Displaying corporate venturing activities creates excitement within the organization but also positively promotes the firms towards partner firms and customers, showing their aspirations for radical innovation (Rice et al., 2000).

An additional benefit for the large firm's organization is the access to entrepreneurial talent. Young ventures often employ highly skilled and talented workers. Through mergers and acquisitions, these talented people become part of the larger organization and have the potential to add value in multiple areas of its business (Kohler, 2016).

Example from practice - Apple's iFund

A prime example of corporate venture capital for strategic benefits can be seen in Apple's iFund, launched in 2008. This fund announced to start investing in mobile game- and application developers at the same time the third party software development kit for the iPhone was announced. Mobile app and game developers could receive funding to build software for the iPhone, allowed Apple to rapidly create an ecosystem around its new platform.

Siegel et al (1988) suggest that CVC should focus on financial gains to be successful. However, numerous academic and industry studies have been conducted where discovering new business opportunities, markets and technologies were ranked among the top objectives. Several large-scale surveys from recent years prove that large firms strongly focus on strategic benefits. A research study among 37 CVC units by Ernst & Young (EY, 2008) found their key motivations to be "mapping emerging innovations and technical developments" and gaining a "window on new market opportunities". Chesbrough & Brunswicker (2013)

Figure 2.4 - Motivations for CVC (MassChallenge)

conducted a survey among 125 open innovators and found their motivations to be 'exploring technology trends' and 'identifying new business opportunities', besides the general goal of 'establishing new partnerships'. The Startup Europe Partnership has devised a guide for successful corporate startup collaboration, where they point out that CVC is the right vehicle to "solve business challenges" and "expand into new markets" (Mocker et al., 2015), and a research study by non-profit accelerator MassChallenge (2014) identified "exploring new technologies and/or business models" and "gaining insight into nascent industry trends" as the primary strategic objectives (Figure 2.4).

Portfolio balance

Although the definitions used in aforementioned studies vary, the underlying principles for CVC can be brought back to explorational or exploitative opportunities (Figure 2.5). These basic principles for innovation activities has been widely used in theoretical studies and are the foundational descriptors of why firms undertake activities that are new to the company (Napp & Minshall, 2011).

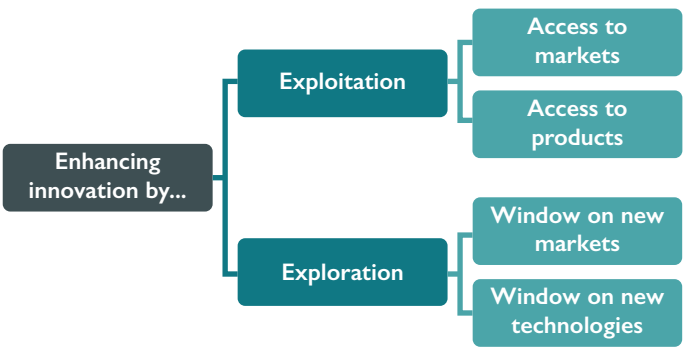


Figure 2.5 - Exploration and exploitation as strategic motives

Levinthal and March (1993) have stretched the importance of a well-balanced distribution of organizational efforts. Exploration is defined as the pursuit of new knowledge. It offers large firms a window on new technologies and emerging markets. Explorative opportunities cope with high uncertainty due to the newness of technologies or markets that might not have proven to be valuable yet. Because of the innovative nature, objectives in exploration are set for the long-term. Exploitation consists of the activities to develop - and gain returns on - current capabilities. It provides a firm with opportunities for short-term growth of revenue, by leveraging existing capabilities in new markets or developing products in known markets.

It is commonly acknowledged that exploration fuels exploitation and vice-versa, and therefore they must coexist within a firm (Figure 2.6).

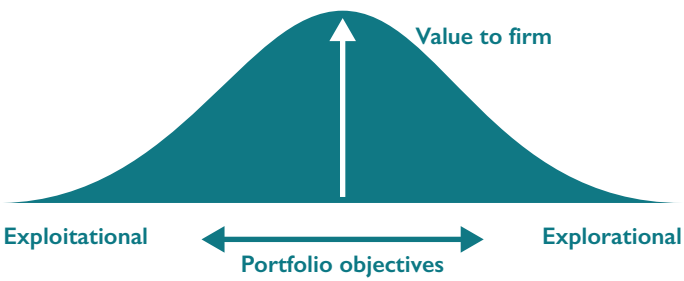


Figure 2.6 - Portfolio balance

Portfolio diversity

Besides emphasizing the balance between exploitation and exploration, previous studies also state the importance of a diversified portfolio. A diversified portfolio consists of CVC engagements with young ventures that operate in a range of different markets and/or span different technological areas. Here too, power lies in moderation: a portfolio of very similar companies might provide a strong foothold in one market, but can block a large firm's vision on others. High diversity of portfolio companies however may prevent a large firm from maintaining focus and absorbing new knowledge. The world's leading firms (like Intel, through its Intel Capital arm, Figure 2.7) are investing in variety of ventures to expand their own market and their firm's ecosystem (Yang et al., 2014).

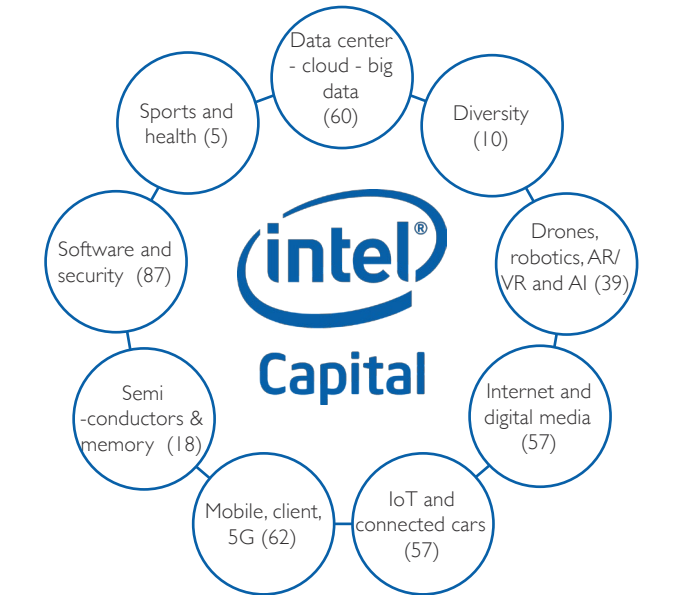


Figure 2.7 - Intel's balanced and diversified portfolio of 286 investments (www.intelcapital.com/portfolio)

Insights

- The primary motivation for large firms to engage in CVC is to explore new technologies and/or business models
- Strategic motivations differ in their focus on a new market, technology or both



Figure 2.8 - Frameworks for Open Innovation

Establishing partnerships

Once the strategic motivation is present within a large firm it enters the process of finding and partnering with a young venture. A review of literature will provide insight into how large firms organize the process of finding innovation partners.

Establishing innovation goals and objectives is the starting point from where a CVC unit works towards establishing a partnership, investment or acquisition. A widely adopted framework to capture the full range of this process is the Want, Find, Get, Manage model developed by Gene Slowinski (2004). This framework (Figure 2.9) has proven to be of great value for large firms as a structure for managing Open Innovation projects.

The Want stage is when a large firm decides on what type of external resources it is looking for to meet its strategic objectives. The Find stage is where decisions are made on search strategy and mechanisms for searching are put into action. During the Get stage the firm decides on interesting partners or investment/acquisition targets and starts early engagement and negotiation processes. The Manage stage is where an agreement has been made and collaborative work starts.

Each stage requires different tasks to be taken from the large firm's corporate venturing unit. These tasks have been covered in various studies, though information is dispersed among a wide body of literature. To obtain a comprehensive overview of the tasks that large firms face in finding the right partner and establish a partnership, 19 scientific publications were reviewed. 9 of these publications present their own model for organizing open innovation, the earliest dating from 1996 (Chatterji), the most recent from 2014 (West & Bogers) (Figure 2.8).



Figure 2.9 - Tasks for a large firm during the Want, Find, Get, and Manage stages

The remainder of publications either made use of one of these models or present tasks and processes in a different format. Minshall et al. (2008) for example propose a set of 'practitioner guidelines'.

The CVC 'task set'

A body of scientific publications (Reference group B) was reviewed to create an overview of the tasks a large firm must perform in their process of establishing an innovation partnership. This overview consists of 100 tasks, mapped along the phases of the WFGM framework (Appendix A). As many of these task definitions overlap, further grouping was needed. The 17 groups that followed are displayed in Figure 2.9.

WANT

Theory clearly shows that tasks related to strategy primarily take place in the early stages of a project. Project strategy is complex, as internal needs must be considered, project boundaries and criteria must be set and decisions made for strategic objectives.

Before starting a search it is of great importance to assess the firm's overall strategy, innovation portfolio and portfolio strategy. For this, Day's Matrix can be used to balance objectives (exploration versus exploitation) and at the same time maintain diversity. Basic knowledge about the target market or technology is required in this stage, so the project team should be reading up on the latest market trends and developments. Furthermore, several quantifiable decisions can be made about resources available for the project, planning, and what kind of collaborations the firm is open to in this stage. To transfer into the Find stage, insights and motivations must be translated into a strategy for scouting potential targets.

FIND

The Find stage starts with gathering sources that might prove to be valuable in finding relevant targets. Valuable sources are different for every project, but often include for example industry conference lists, external experts or online blogs. Based on the initial findings a review of the scouting strategy is made. During scouting, interesting targets are identified, often impacting the scouting activities themselves.

GET

The Get stage comprises of establishing contact with relevant assets and initiate negotiations. A large firm might want to start out with a pilot project, engage in a minority stake investment or pursue an acquisition of the young venture. When a decision is made that a collaboration might prove valuable to both companies, due diligence is an important next step. Here both companies investigate and assess each other's practices, financial health and other factors relevant for future collaborative business activities. These assessments are then taken into negotiations, and after an agreement, into contracting.

MANAGE

After agreements and contracting, the collaboration is kicked off with briefings for employees from both sides and collaboration is started. Depending on what type of collaboration, this often requires thorough integration of IT systems and organizational structures.

General tasks

Literature recognizes several ubiquitous tasks, these are tasks that cover the entire process of Want, Find, Get and Manage model. Organizational learning is key in collaborative projects, and therefore continuous efforts must be made to gather and share learnings of previous experiences.

Project team members should be carefully selected to ensure key players are involved. Internal experts on relevant markets and technologies provide new insights into a search project and related business units have a vision for potential future integration of external innovations. Decision makers are of great importance as projects enter later stages, to get financial and organizational support.

Implications

Literature does not describe a single 'best' framework for engaging in open innovation. Firm diversity has lead to a wide variety of studies and theoretical models, each is suitable for application in different situations. As the WFGM framework has been battle tested, it, and the task set derived from the collective group of frameworks, will form the foundation of this study.

LESSONS FROM EXPERTS

Two experts were consulted through semi-open interviews to gain additional insights into the process of corporate venture capital. These experts work within the innovation and venturing department of a large firm. Expert A is a senior innovation manager overseeing the firm's corporate venturing projects. Expert B is an innovation manager who works between business units, the innovation department and the CVC unit.

At the start of both interviews a brief explanation was given on the project purpose and the WFGM model. Interviews were structured among three themes: strategy, process, and organization. During the interviews the respondents were asked to clarify their experiences with examples of projects.

Project strategy

This large firm does not use a structured approach to CVC. Strategic considerations are made throughout the projects, and alterations are made continuously.

Expert A: Defining our goals actually takes place later in the project. During the end of the find stage we start setting goals and objectives that are quantifiable. The same for planning, resources, etcetera. These start in the find stage.

Although CVC units commonly also manage the firm's portfolio, the strategic benefits that come with a well-managed portfolio are not consciously taken advantage of.

Expert A: There is no structure in our portfolio yet. There is a portfolio strategy, but that is not used for strategic purposes. The portfolio strategy includes guidelines for the companies we are looking for, size, traction, number of customers, how we will invest, etc.

Expert A: Creating a scouting strategy really takes place when transitioning from Want to Find.

Involving customer wants in early stages is something that is done for internal projects, but CVC is a different method for organizing innovation and here it is clearly absent. Internal projects are guided by Lean Startup methodology, which iterates based on customer input.

Expert B: For our internal innovation developments we start by doing market research and talking to customers. Here we maintain a 'Lean Startup' working method.

Expert A: In my view the customer wants are often forgotten. It is difficult to uncover these, it's often done from your own perspective, taking the role of your own customer. This is typically a task that keeps on being postponed. At some point, you do have to validate ideas with actual customers. It is often not done at all until it is implemented in our business.

Project process

This firm however does not maintain a standard structure or format for the purpose of communicating search projects internally. This leads to communication being scattered across various channels, sharing documents via email and other channels, and knowledge transfer through informal meetings, which are often left undocumented. Prior experiences remain undocumented and causes of failures are not shared within the organization.

Expert A: We don't have a blueprint for open innovation. I think that is the way it should be, addressing cases independently.

Expert A: A search profile should be communicated in a one-pager. That's a necessity for easy internal communication.

Expert B: We currently don't have a process to document learnings from our projects, neither for establishing partnerships.

Expert A: We learn far too little from prior projects. We are just not doing this enough. I think we should make this a routine. If something is not going the way we want, we should talk it over and determine where we have made mistakes and what we should do better next time. Learning is extremely important, it's a shame we're not doing it enough.

Organization

Both interviewees emphasized the importance of getting support from decision makers. Involving them in early stages is seen as highly beneficial to getting approval later on the process.

Expert B: We are a result driven organization - top level says money must flow in, when that happens you're not actually innovating anymore. It's just business development.

Expert A: When you start transitioning to Get you need to start getting support from decision makers. It's always valuable to start doing this early on, even just by informal mentions.

General remarks on WFGM

Both interviewees recognized the WFGM model as a useful framework for organizing CVC. However, remarks were made about the fact that it is a universal model that lacks actionable insights. When confronted with the comprehensive version, all tasks seemed well-known, some were in the wrong place but overall the model creates a thorough understanding of the CVC process as organized with the WFGM model.

Implications

The WFGM framework is a very general model, not directly applicable in practice. The task undergoes the same issue, there is no thing as a set of tasks that is going to be useful for every firm. The task set is therefore merely used to gain an understanding of the process of CVC, opposed to having the potential of functioning as a tool for CVC itself.

Insights

- Project related internal communication is scattered across various channels
- The scope and criteria for a search should be captured in a format that can be shared internally.
- Strategic motives change throughout a search project. A team should be able to change scope along the way and react to newly gained insights.
- It pays off to involve key decision makers early in the process of CVC

MARKET ANALYSIS

This section is used to gain understanding of the market and basic constructs of the ecosystem CVC operate in.

Phases of growth

Young ventures can raise funding during all stages of the development of their business. Different stages involve other types of funding, and other organizations that get involved (Figure 2.10). In the seed stage, the money necessary for working out an idea come from entrepreneurs themselves or people in their personal network. Due to the costs involved in developing a product or technology, many companies also require funding in later stages. This is where for example crowdfunding, angel investors, incubators, accelerators and startup competitions can help. When larger investments are needed for further development or growth, institutional and corporate venture capital becomes an option. For growing and maturing ventures with a proven business model or a positive balance sheet, private equity firms can provide capital for growth. When

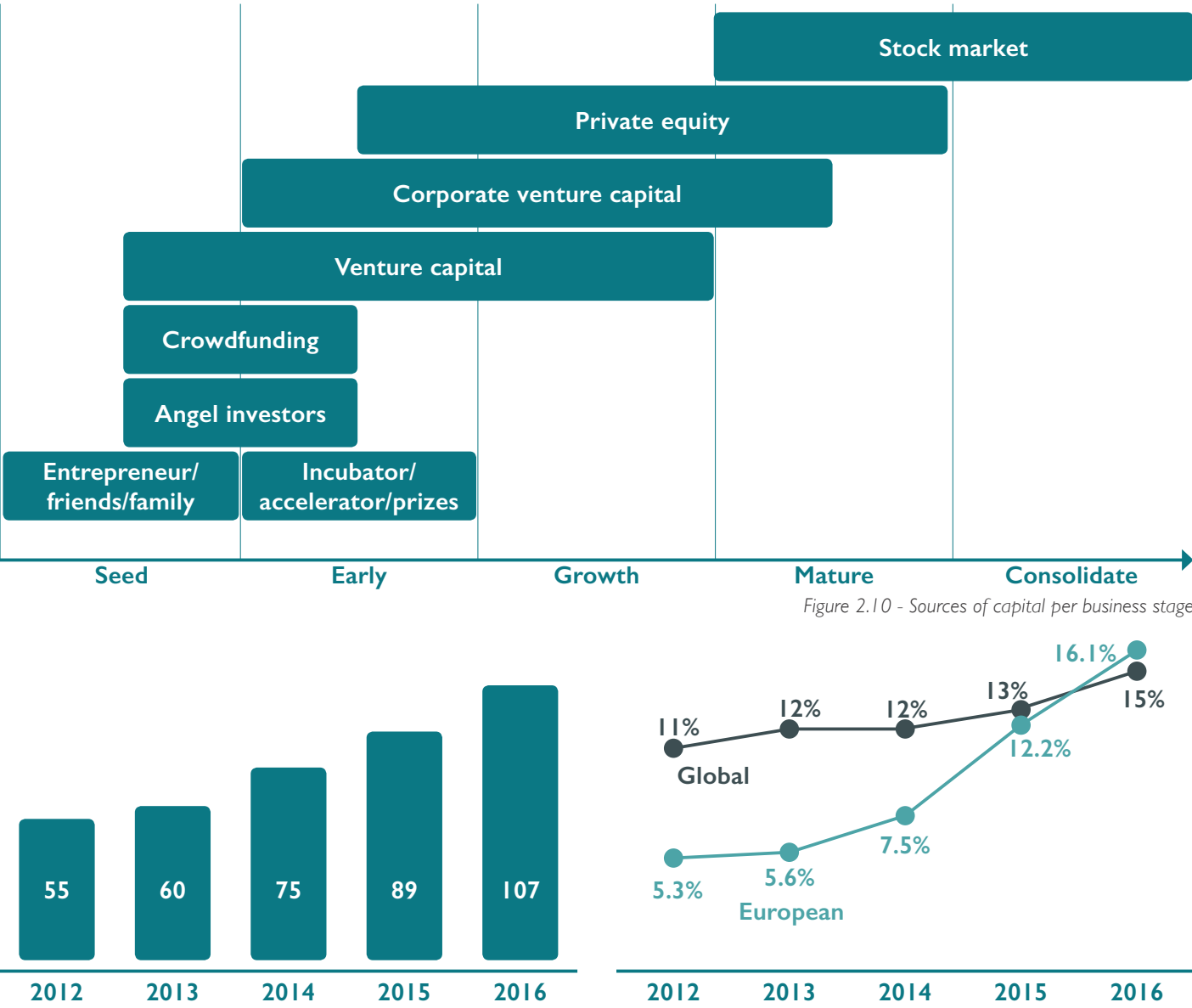


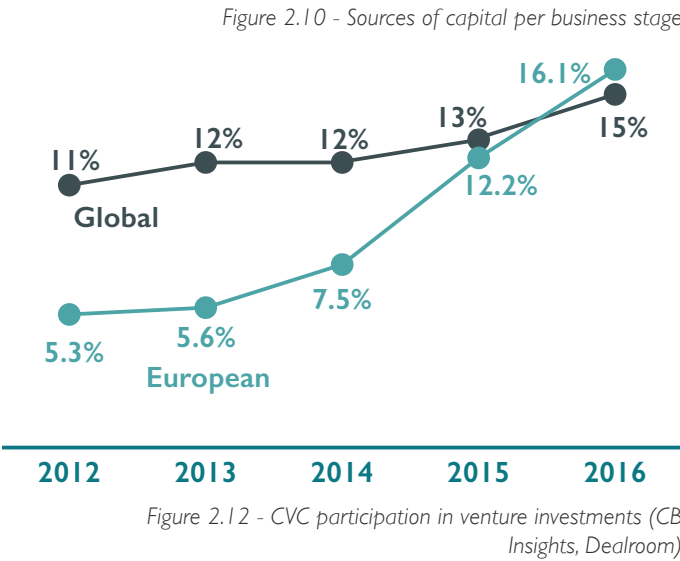
Figure 2.11 - Newly active CVC units per year globally (CB Insights)

a business is looking to grow even further, it might “go public” and trade its stocks on the stock market (Volans, 2016).

CVC trends

Because of the rapid changes in their industries, corporates are investing heavily in startup related activities. Where institutional VC's are driven by financial gains, corporate investments create strategic value, something that is being increasingly recognized across the world and in all industries. The past couple of years have seen a major growth in corporate venturing units. CB Insights reports a growth of 20% in the amount of newly active CVC over the last year (Figure 2.11).

CVC activity has always been highest in North America, accounting for over 60% of all deals globally. 19% of CVC investments were made in European startups, a rate that has been increasing steadily over the past years (CB Insights, 2017).



Compared to global VC investments, the amount of investment deals that include funding from large firms is also seeing a strong increase (Figure 2.12). In Europe, this amount is increasing even stronger (CB Insights, 2017; Dealroom, 2017) and is expected to grow further (KPMG, 2016).

The Dutch CVC ecosystem

In the Netherlands, the same trend is seen. Many of the nation's large firms, across various industries, ramped up their corporate venturing and startup programs (Figure 2.13). Collaborating with startups has become a high profile topic over the past years.

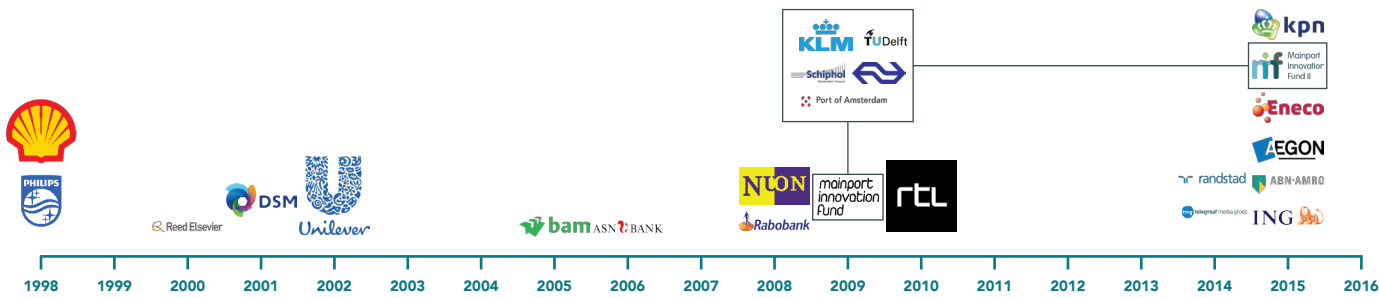


Figure 2.13 - Large Dutch firms initiating CVC activities

Various organizations are promoting collaboration between large firms and young ventures in the Netherlands, among which StartupDelta, COSTA (Corporates and Startups) and CVNN (Corporate Venturing Network Netherlands). These organizations specialize in enabling large firms to share their experiences in CVC, connect to young ventures and advise both parties in their collaborative efforts. Under StartupDelta the Dutch government is increasing its support for the startup ecosystem, by matters of government funding, regulatory benefits for technology

focused entrepreneurs and investors and measures to attract international talent (Financieel Dagblad, 2017).

The foundation of the Dutch ecosystem is formed by three strong hubs: Amsterdam, Eindhoven and the Rotterdam/Delft/The Hague/Leiden area. These hubs are home to incubators and accelerators, often linked to local universities and entrepreneurship programs.

Young ventures looking for funding are depending on a limited amount of institutional investors and funding options (Kienhuis & Stavenga, 2016). These investors often have a focus on specific business stages, further limiting the options (Figure 2.14).

As the Dutch startup ecosystem continues to grow, the limited options for institutional funding is leaving a gap for corporate investors to fill. Large firms need to actively interact with the Dutch startup investor ecosystem to gain access to early stage innovations and investment opportunities. Seed and early stage investors form a great source to discover potential innovation partners, whereas growth- and later stage investors are head-on competition or, in some cases, become co-investors.



Figure 2.14 - Examples of sources of startup capital in the Netherlands (Kienhuis & Stavenga, 2016)

- Insights
- Global CVC activity is rising
 - European CVC is rising even stronger
 - Dutch large firms are increasingly realizing the value of partnering with startups

COMPETITOR ANALYSIS

This section is used to take a look into the theory and practice of open innovation intermediaries. It seeks to find the types of intermediary services that are offered throughout the phases of the WFGM framework, and identify and analyze Venture IQ's main competitors.

Innovation intermediaries

The significant rise of corporate venture capital activity has sparked a growth in companies offering services within the field of open innovation. Companies that search for external innovation partners are commonly referred to as 'innovation seekers', those that might deliver these innovations are 'innovation providers' (Teece, 2000). In the middle of these, innovation intermediaries act as agents in the innovation process between two or more parties. Intermediary services span across all stages of the WFGM model, ranging from startup databases to collaboration consultants. Howells (2006) explains four functions of intermediaries:

- Providing information about potential collaborators
- Enabling a transaction between two or more parties
- Mediating between organizations that are collaborating
- Advisors for funding or commercialization of the results of a collaboration

Laying these services onto the WFGM framework (Figure 2.15) shows that Howells' (2006) typology does not cover the Want stage. This study is scoped around the early stages of establishing innovation partnerships, thus the Want and Find stages. Therefore the question arises: what parts of the CVC process are currently underserved by intermediaries? Literature extensively covers the Get and Manage stages, elaborating how intermediaries can improve collaborative innovation practices or a large firm's CVC organizational structure. However, strategy in the Want stage and searching in the Find stage have been understudied.

Previous studies have also primarily investigated consultancy like intermediary companies like NineSigma, InnoCentive and Yet2 (Holzmann et al, 2014; Yanagisawa & Guellec, 2009; Lichtenthaler & Ernst, 2008; Witzeman et al., 2006; Enkel et al., 2009; and others). Although some of these studies were conducted by renowned open innovation

experts like Henry Chesbrough and Gene Slowinski, literature lacks a view into new intermediary businesses that have emerged over the past years.

These new players offer extensive data and analytics on private companies, funding and innovation trends. This data is presented through digital platforms, allowing access to a global community of innovators who, in several cases, also contribute to the content.

Competitive landscape

As the project's client company, Venture IQ, currently provides consultancy services and a data driven platform, their competitors include both types. Analysis of competitor websites led to an overview of the intermediary market landscape. Competitors are mapped onto the WFGM model, according to the CVC tasks they can take off a large firm's hand (Figure 2.16).

Custom services

The top row of the competitive landscape exists of pure custom service players. These companies deliver consultancy services, from the front of the Want phase up to commercializing a partnership. These services deliver solutions for specific problems their clients experience. Aside from consultants, this category includes companies that offer custom made software for managing an innovation portfolio, custom research activities and networking advisors.

Self-service databases

Companies like Crunchbase, VB Profiles and Index.co are examples of digital platform based, data driven intermediaries. They offer comprehensive databases where innovation seekers can search and browse. Many of these companies publish 'featured lists' or general market insights for clients to discover trends and opportunities in their industry or find inspiration. Their data is derived from news and funding announcements. Many companies without funding are missed this way, resulting in these databases being less suitable for discovering seed- and early stage companies. Most database providers are based in the U.S. and lack comprehensive data outside of their own geographic market. Cross industry trends and pollination are also hard to find on these platforms. Most of these companies are competing on the same trait: a complete

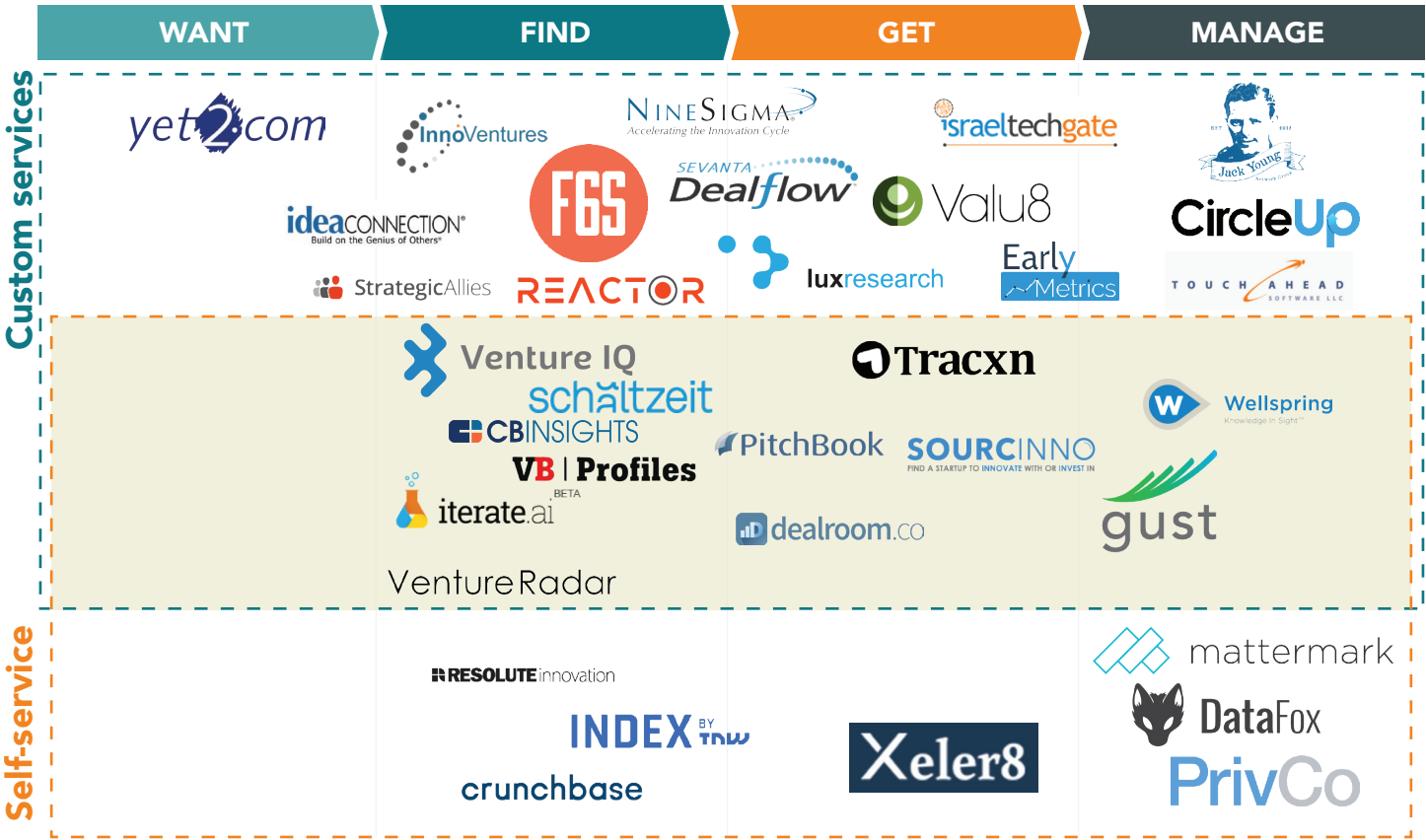


Figure 2.16 - Competitive landscape along the WFGM framework, based on Appendix A

and up-to-date database. Platforms get much of their data from funding announcements so early stage companies without funding are often overlooked.

Database + Custom services companies

For Venture IQ, the most relevant companies are located at the cross-section of custom services and self-service databases. These companies use data-driven digital technologies to provide their intermediary services. Most of these companies offer a database, and when clients are not able to find what they are looking for they have the possibility to request additional services.

Venture IQ is currently positioned in the find phase. In their process, clients express their wants and Venture IQ searches for relevant companies. Despite their access to the world-wide patent database, every search related assessment is still made by analysts. Additionally to the patent database other sources are screened however, those are not owned by Venture IQ. Finding relevant companies using these sources is still a manual and time-consuming process. Venture IQ and its key competitors are further looked into in Table 2.1 on page 34 and 35.

Target customers

A wide range of customers is addressed by the market for intermediaries. It is seen that funding, merger and acquisition trends are targeted at venture capitalists, and less at corporate innovators. Intermediaries are attracting large firms' attention by mentioning disruption, innovation

and a competitive edge, whereas a VC might be attracted by industry and financing trends and detailed market analytics and reports.

Data collection strategies

Three data strategies are identified in the market: manual entry, user generated data and automated data collection.

The most basic data acquisition and processing method for intermediaries is by manually collecting and analyzing information. Analysts and researchers gather and analyze data sources and present their search results in reports or databases.

Other companies maintain a community driven content generation model, where users are the source of the data. This method is often supplemented by other data gathering strategies, as the amount of users needed for a comprehensive database is particularly high.

Automated data acquisition is commonly done through web-crawling, where algorithms analyze open data sources on the Internet and process this into usable data that is presented on a platform. Open sources may be news outlets, social media, conferences, etcetera. These automated processes significantly reduce the amount of manual processing that is required to build and maintain a database and often rely on modern digital technologies like natural language processing (NLP), artificial intelligence and machine learning.



Figure 2.15 - Howell's typology compared to the WFGM framework

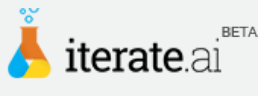
	 <i>There are a zillion tech companies out there. Venture IQ identifies the ones you should know about and helps you partner with them.</i>	 <i>Without data, you're just another person with an opinion.</i>	 <i>Europe's #1 venture capital and private equity database.</i>		 <i>Where executives use artificial intelligence to discover startups, then evaluate and engage.</i>	 <i>We're creating a better way to do VC, PE and M&A</i>	 <i>Empowering Foresight & Innovation</i>	 <i>Discover relevant business information</i>	 <i>Discover the innovators and disruptors</i>
1									
Self-service platform									
Custom services									
2									
Database size	3.500.000+	600.000+	500.000+		160.000+	1.000.000+	Custom	20.000+	190.000+
3									
Custom services	Lead generation, deal flow management, investment and partnering advice	Custom content, on demand research	Analyst/concierge support		Discovery, curating and proof-of-concept tests	On-demand analytical support	Custom software design and consulting	Landscapes, in-depth analyzes	Operates search engine and search services
4									
Pricing model	Upon request	Free / \$3.550-\$12.450 annually	Free / \$250 monthly / Upon request		In beta - Unknown	\$1 000 - \$1 500 monthly	Upon request	Free / \$20 / \$100 / \$500 monthly	Upon request
5									
Team size	12	140	7		18	376	4	140	4
6									
Funding		€8.600.000	€300.000		€1.400.00	€12.000.000		€3.000.000	

Table 2.1 - Overview of key competitors, based on company profiles (Based on competitor data in Appendix B)

Key competitors

Table 2.1 provides an overview of OI intermediaries that combine data analytics with Find-stage custom services. A set of six characteristics is looked into.

1 - Self-service versus Custom services

This chart depicts the balance that intermediary companies have in their service models. All these companies recognize the complementarity of a self-service platform and custom services, and strive to find a balance between quality of service and scalability. Ratings are based on company websites' balance between the two.

2 - Database size

Venture IQ has the largest database by far. It contains over 3.5 million companies (not counting universities, research institutes and individuals owning patents), but has gathered detailed information on only a small portion

3 - Custom services

Different models for custom services are offered. Some intermediaries offer analyst services to deliver custom content. VentureRadar does this by having analysts operate their search engine, and CB Insights is able to deliver full research reports. A different example can be found in the way Schaltzeit operates, by delivering custom software specified to the client's needs.

4 - Pricing models

Pricing models vary widely. Companies with a focus have structured pricing models, often based on subscriptions for access to their database. Custom services involve more complex pricing models and are often not even listed on

5 - Team size / 6 - Funding

This indicates what size of companies Venture IQ is up against. Highly funded companies have a focus on self-service and thus, the opportunity to rapidly scale, which is attractive for investors.

Conclusion

Strategy-based discovery is not offered through digital platforms yet. Data driven intermediaries focus on scale and provide general services. Databases are explored through filters and search queries, thus are only useful when a user is aware of what he/she is looking for. Discovery is being offered through inspiration, trends and discovery tools which are generally too broad to provide actionable insights. Early phases of the search for a strategic partner

are therefore underserved by self-service databases. Custom services have the great benefit of catering to a client's exact needs, but are not suited for online scaling. Gathering data and analysis is time-consuming.

But without uncovering a client's needs (the Want) and providing a tailored service, an intermediary's service might be too general. A balance must be found between uncovering the client needs and enabling them in finding the right strategic partner.

Insights

- The Want stage is currently underserved by intermediaries
- Database intermediary services compete on data comprehensiveness
- Data on companies outside of the United States is limited in database services

2.2 INTERNAL ANALYSIS

This section functions to gain a deeper understanding of Venture IQ's activities in the field of open innovation intermediary services. The company's current working process for technology scouting is studied through observations and informal engagements with the analyst team. The role of the software platform catalyst in this process is explained and the company's plans for the future are looked at.

VENTURE IQ'S SEARCH PROCESS

Introduction

Since its founding in August 2015, Venture IQ has carried out 48 projects for 10 different clients. Projects often cover multiple technological areas, and have lead to experience in 96 technology fields so far (May 2017). These projects typically take between one and three months, and Venture IQ carries out up to ten searches simultaneously. Search projects strongly vary in scoping upfront, client dedication and the outcomes that are expected. To organize their search process, Venture IQ follows a standard working process. This process consists of three phases, each ending in a client meeting or presentation (Figure 2.17).

Kick-off

In the beginning of the kick-off phase, a briefing is requested from the client. This is commonly done via e-mail, a phone call or a meeting in person. The Venture IQ team translates this briefing into a scope and criteria, and sets out to find example companies. These companies are presented during the kick-off meeting, where the scope and criteria are further defined.

Search

The search phase is where the search team tries to find potentially interesting companies, which are then added to Catalyst. This is a software platform where clients log in and see search results. The client is asked to provide feedback within Catalyst, so the search team can focus their efforts on relevant company types. The results of the search phase are then presented in a long list during the next meeting. In this meeting, the primary targets are selected (three to ten companies) for the deep dive phase.

Deep dive

The deep dive phase is where the team sets out to gather detailed information on the targets through phone interviews and for example financial data sources. The results of the deep dive are presented during the final meeting, which is based on a discussion about the right partner and possible next steps.

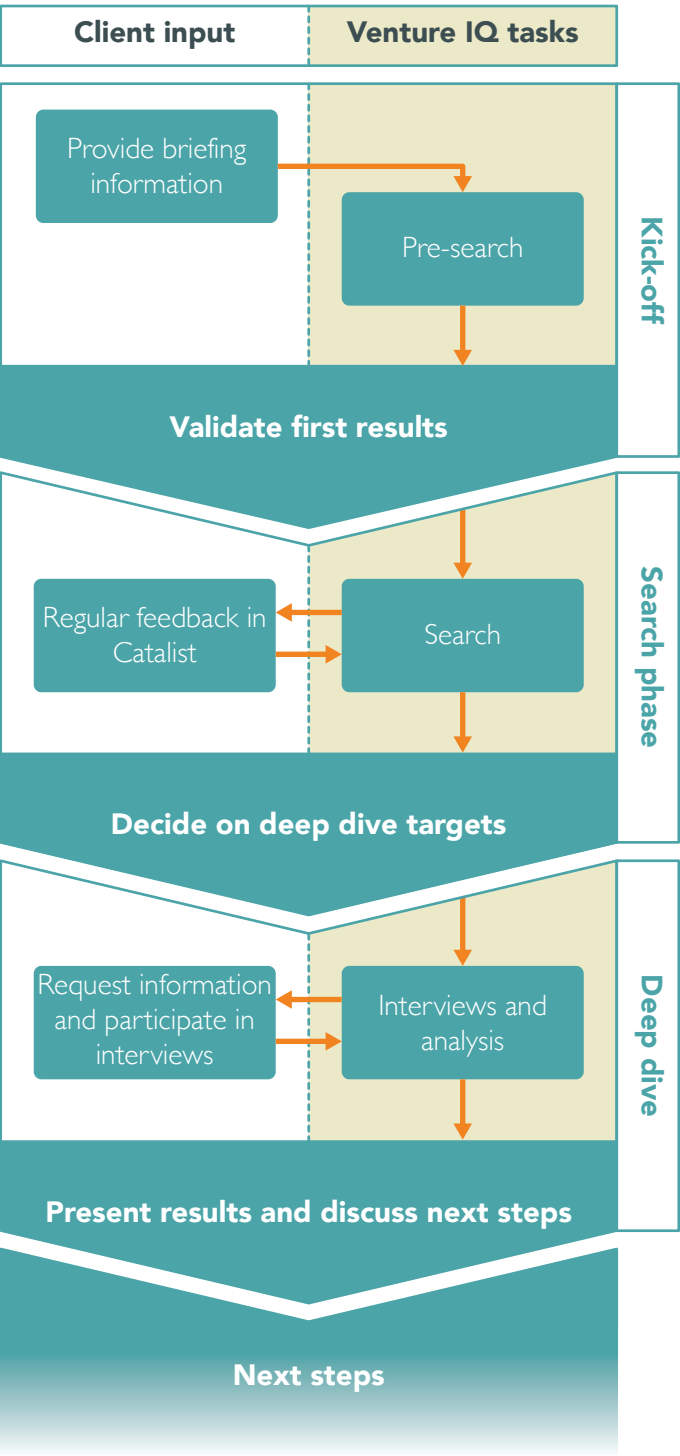


Figure 2.17 - Venture IQ's current search process

Next steps / additional services

Aside from search projects Venture IQ also offers additional consultancy services, for example advice in setting up a CVC unit, innovation strategy and deal making. Consultancy services. These services are outside of the scope of this study, as the focus lies on Venture IQ's core activity: scouting companies.

Relative to the WFGM model

When compared to the WFGM model (Figure 2.18), Venture IQ's services start near the end of the Want phase, as collaborative scoping takes place during the kick-off phase and workshop. A client has previously made the decision to pursue an opportunity and has chosen to outsource the search process. Venture IQ's core proposition focuses on the Find phase, as this is where the actual search activities take place. Depending on the outcome of the search phase, the Get phase is initiated by connecting the client firm with young ventures to discuss the possibilities of a partnership.



Figure 2.18 - Venture IQ's services in the WFGM framework

CATALYST

Throughout search projects clients and analysts use Venture IQ's software platform Catalyst. A team of software developers is continuously improving this platform and building new features. Input for these improvements are gathered from analyst- and client users during team sessions and client visits. Venture IQ was early in establishing a user base among its clients and has benefited from their feedback ever since the company started.

Users

The software is being used by three types of users, Venture IQ analysts, client users in a CVC role and client users that are involved in specific projects. These types of users interact with Catalyst in different ways.

Analysts use the platform to collect search results and communicate with clients. For every newly found company that is relevant for a client a profile is created, which is then shared with that client. A company profile contains general information (amount of employees, year the company was founded, etc.), an elaborate description, financial data and, if the company owns any, information about their patents. Additionally analysts can add information that is relevant for a specific search project and client in the comments section and provide a rating.

Client users that work from in a CVC role use Catalyst to view search results, communicate with analysts and add companies they find themselves. An overview of the companies that are on their radar is called dealflow. This is where a CVC or VC collects leads and categorizes them on their status, ranging from just discovered companies up to those that are already in the portfolio. It is up to a CVC unit to manage this dealflow and keep track of the large firm's partners. These lead users also initiate searches.

Project-based users are not involved in strategic searches on a regular basis, but are called in for specific projects for which they might possess valuable suggestions and knowledge. For example: an R&D manager that encounters an opportunity shares this with the large firm's CVC team and is included in the team to give examples of potential partners and share knowledge about the field with the Venture IQ team to speed up the search process. Client project based users are involved in specific projects and during a limited period, but after completion the platform remains accessible for them to stay up-to-date.

CATALYST FEATURES

Catalist is currently positioned as a state-of-the-art software tool that is used to gather all potential partners for a client (Venture IQ, 2017). The software is used by analysts to discover and collect company data on behalf of Venture IQ's clients and share their search results through the interface. Although the software is less than two years old an extensive set of features has been built to support the search for innovative companies.

Company profiles

All features of the platform revolve around company profiles. As with most company data platforms these profiles include basic information like a short description, amount of employees, date founded and links to the company's website and social websites such as the LinkedIn page, Twitter and Crunchbase. Additionally, input fields are available for financial notes and to provide a description of the technology. Evaluation of companies is done through three five-star ratings: a general rating, technology score and financial score. This is done by Venture IQ analysts.

Insights

- Venture IQ maintains a single working process for all search projects
- Analyst users are experienced with Catalyst and need it to obtain feedback from clients
- Client lead users are heavy Catalyst users and use the platform to manage their firm's CVC projects
- Project based users are light users and only use the platform when it is required for a single project

Patents

Another important feature of the platform is the ability to view a company’s patents. Catalyst is built on the worldwide patent database and includes every company, person and research institution that has been granted one or more. Patents are classified through CPC codes (Cooperative Patent Classification), which are included in Catalyst profiles so that analysts may find companies with similar patents. This allows the team to boost search results as soon as one interesting technology is found.

Collections

Companies found during a search are saved in Collections, groups of companies with similar activities, or specific characteristics. Clients can access the Collections that Venture IQ curates for them, view the latest additions and use filters to subject the Collection to their criteria. They can also create their own Collections and gather companies without the help of Venture IQ analysts.

Dealflow

Whenever a company profile is shared with a client it requires a Dealflow status. This status lets the client see an overview of all their active leads in Catalyst, those that might become interesting later on (On Hold), companies they are currently working together with (Project) and those that have been rejected. Each of these four categories has subcategories, depicted in Figure 2.19.

Dealflow is used by CVC lead users to maintain and manage all corporate venturing activities and running projects. It is a dynamic feature of the Catalyst platform, meaning that the Dealflow status can be changed at any given time, for example when a high potential lead is engaged and then partnered with. On the other hand, newly uncovered information about a young venture might cause the status to degrade to On Hold or Rejected when it is negative.

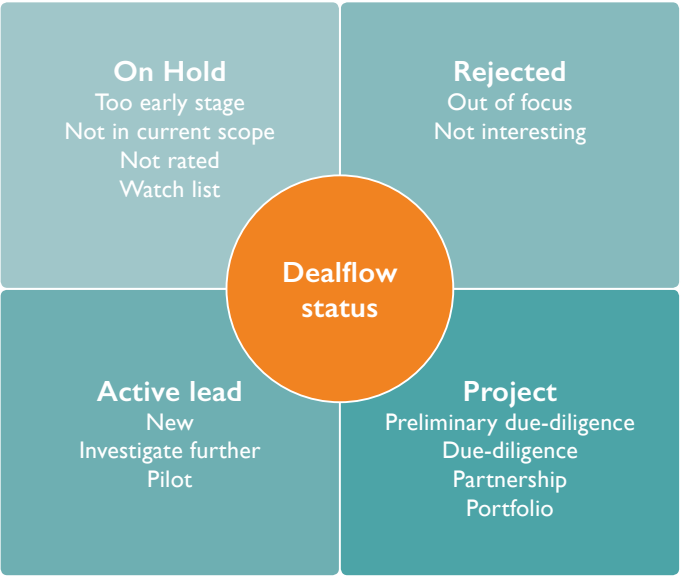


Figure 2.19 - Dealflow status options

Feedback functionality

Catalist delivers additional value by enabling clients to provide feedback on specific companies. This is done through the feedback tab in a company page (Figure 2.20). The feedback tab includes a comments section where a discussion can be held by client and Venture IQ team members, insights are shared and the Deal Leader is assigned. This is the team member that is responsible for communication with the Venture IQ team to request additional information or engage with the potential target.

The feedback page also includes a relevancy rating, where Venture IQ analysts can indicate the young venture’s relevancy for that specific client. A client team member can also assign a relevancy rating, adding to the feedback loop between Venture IQ and the client team with the goal to improve further search efforts and define the most relevant targets.

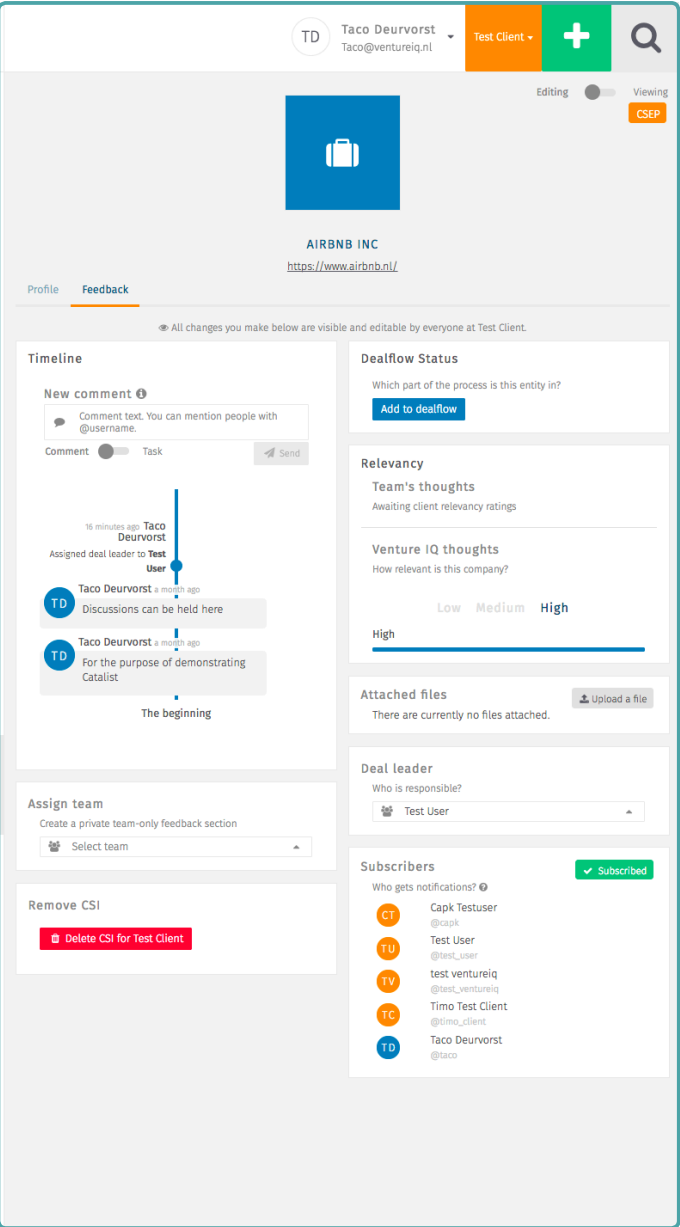


Figure 2.20 - Catalyst feedback page (example for Airbnb)

DATA STRATEGY

Like all intermediaries that rely on data, Venture IQ has a strategy on gathering and structuring data with the purpose of powering its scouting services. This data originates mainly from Internet sources, and processing is done both automated and manually by analysts. Figure 2.21 depicts the sources that are commonly used to find new companies.

The foundation of the data lies in patents and their owners. Around 4 million company profiles are accessible through Catalyst, most of which consist of only the company name and a list of patents. Processing new data into Catalyst is done by adding new companies and completing the profile information fields. This is time-consuming work, so Venture IQ is continuously looking for methods to increase efficiency.

VENTURE IQ TECHNOLOGY ROADMAP

Venture IQ’s founders have the vision for the software to become a standalone platform, where clients can manage their own search projects and find relevant companies by using a set of digital tools. Catalyst has a long way to go to achieve this vision, as selling the platform as a standalone version is currently not possible. The steps that Venture IQ is planning to take to move towards a self-service software platform are included in the Technology Roadmap in Figure 2.22 (Appendix E). Planning is either short (<6 months), medium (6-12 months) or long term (>12 months).

Short term

In the short term the primary development goal is to increase the amount and quality of the data in Catalyst. New data collection and processing techniques will need to be deployed, like crawlers and web scrapers that

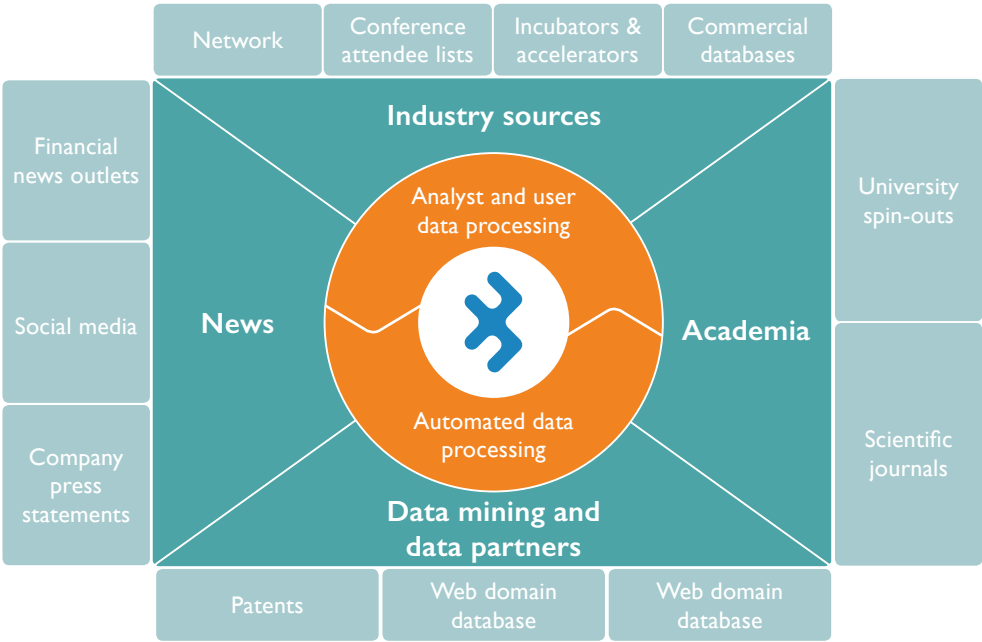


Figure 2.21 - Venture IQ data sources

automate data collection on the Internet. The objective is to overturn the ratio of manual versus automated data collection and processing over time. In Venture IQ’s view analysts will always stay involved in the process, although their work might change radically. A browser plug-in for analysts will make manual data collection more efficient.

Medium term

Finding companies and screening search results will become more efficient, by automatically augmenting search results with similar companies. These tools will be based on natural language processing and artificial intelligence technologies. An additional goal is to provide more insights into search results with visualizations, allow clients to customize their experience and interactions and open up the data in the platform as soon as its quality and quantity is sufficient.

Long term

Catalist will have a considerable amount of users, all adding data to the platform that becomes available to the rest of the users. Integration with other databases will make the software more widely usable. Collections that are curated by Venture IQ are commercialized by selling them to users.

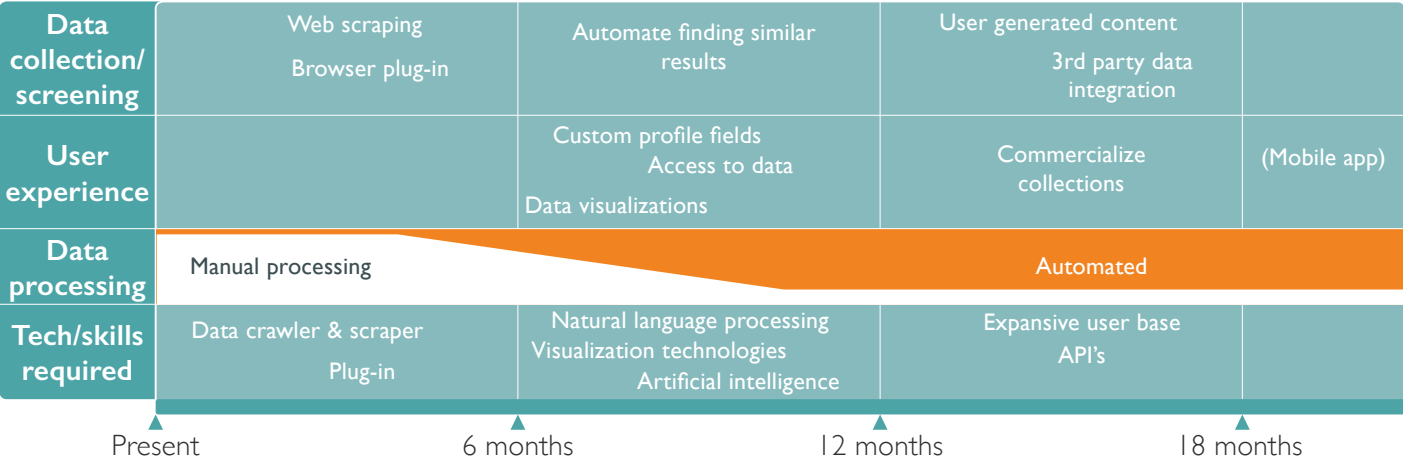


Figure 2.22 - Venture IQ technology roadmap

2.3 RESEARCH QUESTIONS

Based on the discoveries made in the previous sections, an opportunity is defined, followed by the formulation of a set of research questions. The purpose of these research questions is defining what information is required to successfully design a new service proposition for an open innovation intermediary, in this case the client company, Venture IQ.

OPPORTUNITY GAP

Venture IQ's founders have a vision of building a scalable software product. Venture IQ is a young company that is still discovering its core proposition and Catalyst in its current form is a good step towards that vision. However, the company lacks a strategy for what their software platform should become during the coming years. There is a demand for early phase services in the market and Venture IQ has the opportunity to play into that demand with customized data-driven services (Figure 2.23). To play in to this opportunity gap a redesign of Venture IQ's service model is required, for which the input will be collected through answering a set of research questions.

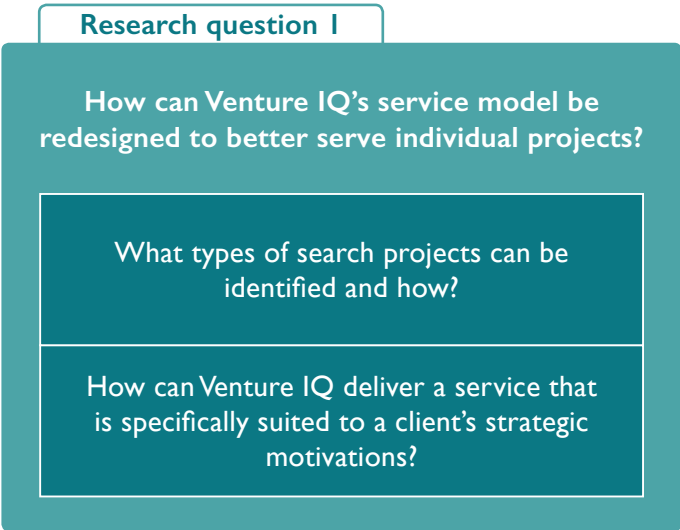
Identifying strategic motivations in the want phase

In the previous sections, several aspects of Venture IQ's current activities are found that require further investigation. Internal analysis shows that the company operates according to a single working process that is currently not suited to structurally identify client needs in the Want phase. Clients' strategic motivations currently arise while search activities are being carried out. This often leaves Venture IQ's team in the dark during early search phases or requires analysts to start searching in a new direction. A better understanding of what the client might be looking for from the start will lead to better collaboration, a more efficient scouting process and therefore increased results.

Understanding clients' needs means uncovering their strategic motivations and to offer an effective service. Venture IQ's staff recognizes that different strategic motivations require a different approach, but the current search process does not provide guidance or structure to respond to this.



Further research will provide insights into how these strategic motivations might be uncovered and used by Venture IQ to improve its services. Research question 1 and its subquestions need answering.



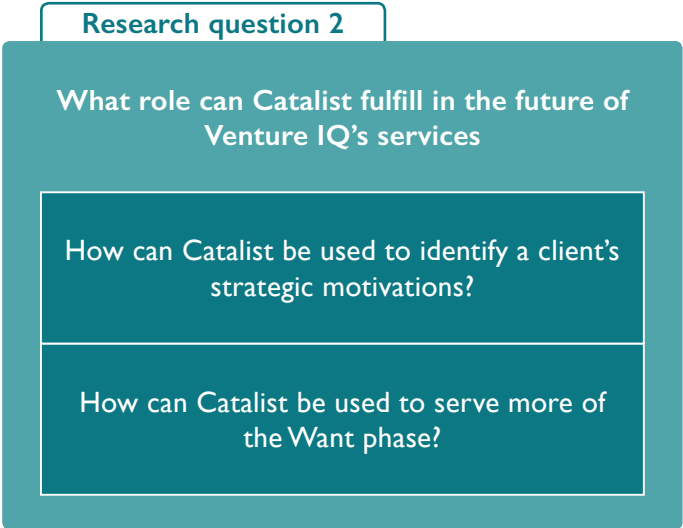
The role of software and data

Data-based intermediary services compete on the comprehensiveness of their databases. Venture IQ's database builds from patents, but most of the search work is carried out online. To be able to compete with database intermediaries, Venture IQ needs a data collection strategy, something that is continuously worked on and improved. Data is currently collected manually from various sources, ranging from personal networks, lists of conference attendees, competitor's databases, etcetera.

Being the focus of Venture IQ's vision of a software service, Catalyst is continuously subjected to changes. The platform is developed in so called sprints, meaning improvements and new features are released every two weeks. The platform in its current form was shaped by the team's view and assumptions of what it should become, supplemented by requests made by client users. Discussions regularly arise about specific clients or unique use cases that turn out to require major changes to the software. In some

cases these changes don't benefit the other users on the platform. Today's dynamic situation poses many challenges and the vision for the software is sometimes forgotten.

The software platform in its current form is used mostly by analysts and client lead users. Further research must point out in which phases Catalyst is currently being used, why it is being used, how it is used and what aspects of the platform have the potential to increase Venture IQ's impact in the Want stage. Through further investigation of the way Catalyst has been used so far, research question 2 with its subquestions must be answered.



RESEARCH APPROACH

A review of theory on innovation project types will form the foundation of a deeper understanding of strategic motivations for large firms to look outside for innovation opportunities. In combination with an overview of Venture IQ's past projects a conceptual classification for innovation search projects is developed. To further define the characteristics of the conceptual search project types, Venture IQ projects are selected for in-depth investigation through exploratory case studies in section 2.5.

Additional to developing a classification of project types, these case studies are conducted to gain insights into the current role Catalyst plays within Venture IQ's service. The objective is to uncover how the platform delivers value for different users and its effectiveness for collaborative innovation scouting.

Learnings are collected in the summary of insights (section 2.6), forming the input for a design brief (section 2.).

VENTURE IQ'S VALUE PROPOSITION

Answering these questions will culminate in a redesign of Venture IQ's innovation scouting services. The redesigned service will require a focus on the early stages of establishing strategic partnerships, the Want and Find stages. Venture IQ currently does not emphasize the value of early stage intermediary services in their proposition, thus a redesign is required.

Strategy is really about positioning yourself and differentiating yourself - what is going to make you different from or better than competitors.

- Robert Kaplan (2003)

Value Proposition Canvas

In the implementation phase a new value proposition will be designed based on Venture IQ's new service model. Along Alex Osterwalder's Value Proposition Canvas (Figure 2.24) an overview is created of customer segments and what value Venture IQ delivers for them (Osterwalder et al., 2014).

The renewed service model will form the foundation of Venture IQ's strategic positioning as an innovation scouting service. This service will target a group of existing customers and possibly appeal to new segments. The right hand side of the canvas describes these segments, their pains and what they gain from resolving those pains and completing the jobs-to-be-done. The left hand side describes the new service model and the value customers can expect from Venture IQ.

Content for the Value Proposition Canvas is collected from the analysis and supplemented with value created with the redesigned service model.

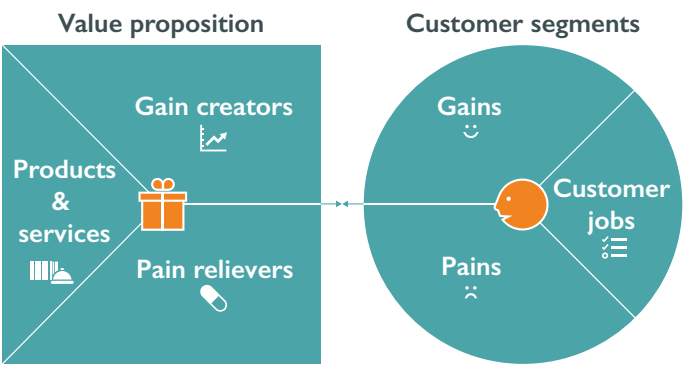


Figure 2.24 - Value Proposition Canvas

2.4 IDENTIFYING STRATEGIC MOTIVES

To gain deeper understanding of CVC intermediary services offered by Venture IQ, it is important to be able to distinguish different types of client requests. Therefore the following questions need answering:

- How can Venture IQ’s service model be redesigned to better serve individual projects?**
- What types of search projects can be identified, and how?
 - How can Venture IQ deliver a service that is specifically suited to a client’s strategic motivations?

PROJECT TYPE IDENTIFICATION MATRIX

To uncover differences between search projects that Venture IQ has carried out a conceptual typology is constructed. Section 2.1 describes project differences in the form of exploration versus exploitation, and divides these further in market and technology projects. Market and technology are recognized drivers for R&D projects and literature finds they have a different impact on innovation (Zhou et al. 2005).

George Day (2007) devised the Risk Matrix, to portray uncertainty within a firm’s innovation portfolio. Day uses two measures: the degree to which the target market is new to the firm, and the degree of newness of the product/technology to the firm. Spitsberg et al. (2015) have adopted Day’s matrix to illustrate the diversity of a corporate venture capital unit’s objectives of tapping into new technologies and/or markets.

The X-axis rates the firms familiarity with the intended market, described in three intervals: “Same as current offerings”, “Adjacent to current offerings”, and “New to the company”. The Y-axis rates the firms familiarity with the intended technology/ product, also in three intervals: “Same as current offerings”, “Adjacent to current offerings” and “New to the company”.

Familiar technologies and products that are launched in familiar markets are positioned in the bottom left section of the matrix and pose relatively few uncertainties. As technology- and market familiarity is rated less, projects are positioned more upwards and to the right of the matrix.

Past projects

In collaboration with the Venture IQ team, previous search projects were positioned on this matrix (Figure 2.25). Out of a total of 48 projects, 31 were positioned on the matrix. The remaining 17 projects were not representative because they were either too short too evaluate their position or did not include search activities from the side of Venture IQ. Using the populated matrix, three conceptual project types are proposed*.

Market search

Through these projects the client firm seeks to enter new markets with proven technologies. Searches focus on established players and ventures that are currently in the process of scaling up. These new market opportunities are often driven by regulatory developments or consumer trends that the seeking firm aspires to involve in their business.

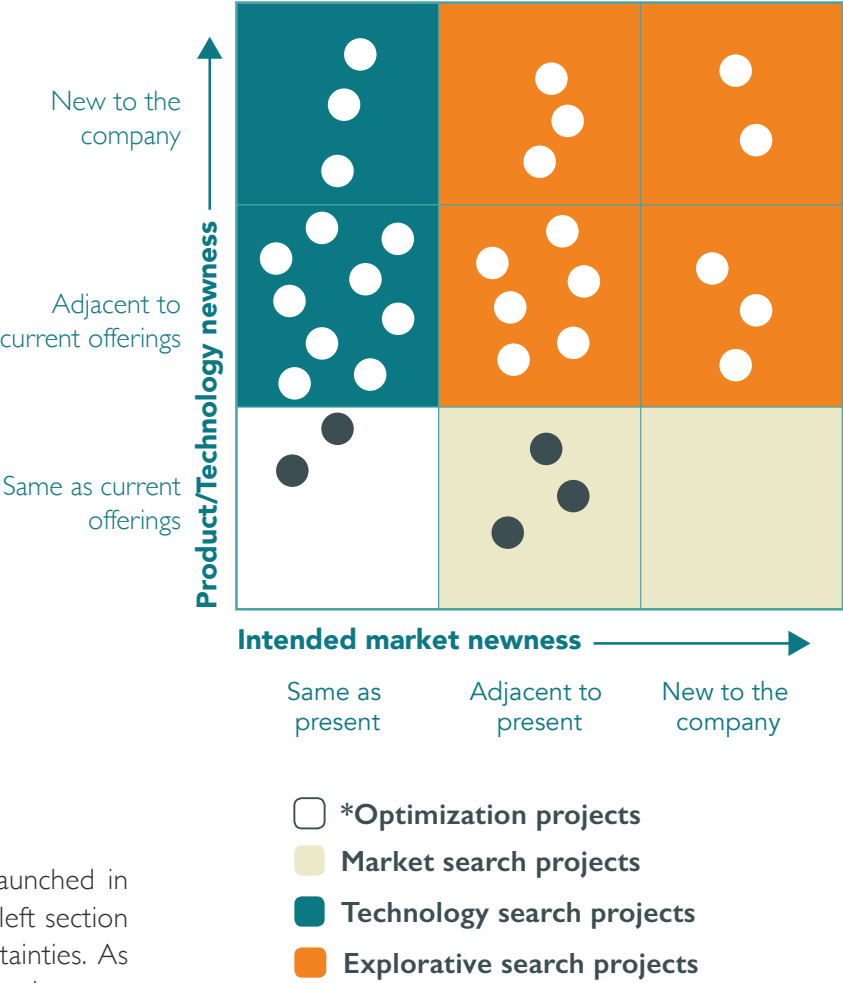


Figure 2.25 - Project identification matrix

Technology search

These projects target new technologies that client firms can implement to improve and expand their current offerings. New technologies can be found with very early stage startups up to large firms and even competitors. These technical searches benefit from patent data and criteria revolve around technology readiness levels (TRL).

Explorative search

When a search area is outside of a client firm’s current market and product offerings it becomes highly explorative. Internal knowledge is limited on both factors and this complicates initial scoping. Without internal experts, the objectives for these searches are broad and outcomes are uncertain.

Identifying a project type

Day (2007) maintains a set of scaled-response questions to position internal innovation projects on the matrix. These questions aim to rate an innovation on similarity to a firm’s current market or product (Appendix F). Day’s questions provide a basic structure for recognizing the characteristics of a project type. However, they cannot be directly copied to identify strategic motivations for searching external innovations. A new method is needed for positioning a project on the matrix.

The metric for identification is newness. In this context newness is reversely proportionate to the amount of knowledge and experience a large firm possesses on the market and/or technological area they are trying to get a foothold in. A challenge in redesigning Venture IQ’s services is measuring this newness.

	Intended market	Intended product/ technology	Client stakeholders involved	Time goals	Targets	Initial sources to screen
Market search projects	Adjacent/ new	Same as current offerings	Business development, strategy	Short term	Scale-ups, established companies	News, market reports, internal experts, social sites
Technology search projects	Same as present	Different from present	Product development, R&D	Medium term	Early stage up to established	Patent database, conferences, incubators, universities, etc.
Explorative search projects	Different/ unknown	Different/ unknown	Strategy, Innovation, CVC unit	Long term	Unknown	Unknown

Table 2.2 - Project type characteristics

*Out of scope - optimization projects

The bottom left corner of the matrix is home to optimization projects. These projects are very close to the large firm’s existing operations, for example comparing potential suppliers. This category does not fall within this study’s scope on strategic innovation and is therefore not further included in this study.

Project type characteristics

Additionally to the degree of newness of the intended market and/or technology, project types have a set of characteristics that are captured in Table 2.2. These characteristics partially originate from initial observations of Venture IQ search projects. These observations formed the input for a subsequent collaborative session with the Venture IQ team. The (fairly broad) goal of this inspirational session was to uncover ways that projects are different.

IMPLICATIONS

Identifying a project type early on can help guide the search team in finding the right starting point for their search activities. In a highly explorative search, for example, the client firm has very limited knowledge on the intended market and technology, and is unaware of the possible segments within those areas. Without first gaining knowledge of the areas and its segments the search team will be searching for companies at random and at a very low success rate.

Identifying where a client is at in terms of knowledge sets the base for Venture IQ’s search efforts. The next challenge is to extract the prior knowledge from a client and find the right approach to achieve a full understanding of the search area.

Table 2.2 provides a guide for Venture IQ to set the base of a search project by identifying key client stakeholders (and likely sources of knowledge), initial sources for read-in, and managing expectations on project outcomes and planning.

Insights

- Three search project types are identified: Market search, Technology search and explorative search
- These search types can serve as a framework for Venture IQ to base its services on

2.5 CASE STUDIES

To gain deeper insights into how Venture IQ currently delivers its search services a series of exploratory case studies is conducted. The foundation for these case studies is the conceptual typology of project types. All three project types are covered by analyzing previously carried out projects.

METHODOLOGY

As the research questions that need answering before entering a design process have many variables influencing the outcome, a research method is selected that suits complex uncertain phenomena. The case study method is suitable for answering “how” questions and allows for flexibility in selection of the cases to match the objectives of this study (Yin, 1994).

- Objectives of the case studies are:
- Gain deeper insights into the three conceptual search project types
 - General insights into Venture IQ's search service
 - Insights into how and when Catalist is used

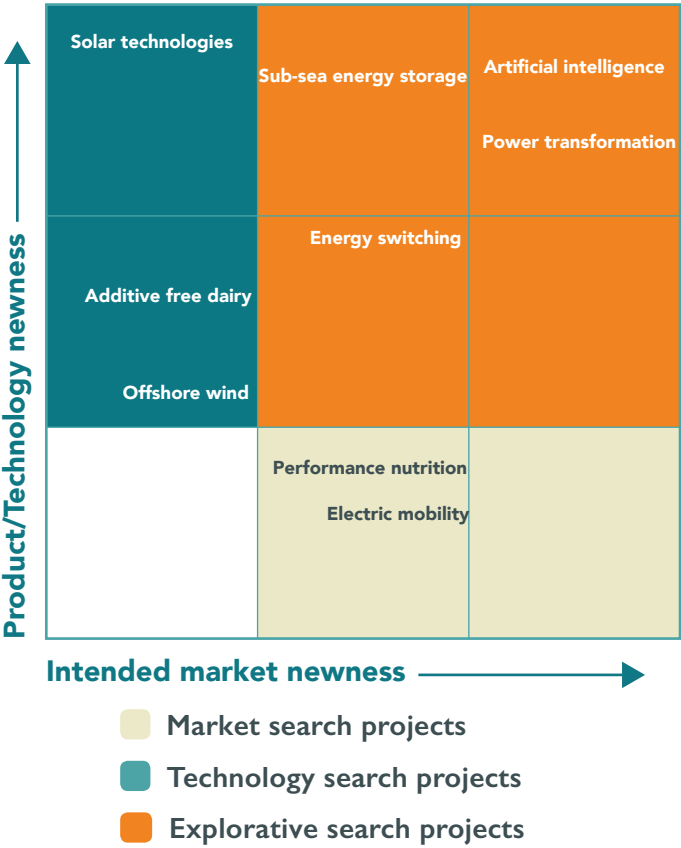


Figure 2.26 - Selected case study projects positioned in the matrix

Note
Due to confidentiality agreements company names, project names and outcomes have been altered.

The three conceptual project types provide a guide for the case study protocol and maintains a focus during analysis of the results. The case-level research protocol is to collect qualitative data embedded in project documentation, project meetings and analyst experiences. Results are analyzed with explanation-building and time-series analysis techniques. Three levels of analysis are carried out. The first level of analysis is on a single-case level, collecting data and studying phenomena for independent situations. The second level is a study between cases to find relations within each of the three project types. A final study across cases is used to gather insights into Venture IQ's working method and how and when Catalist.

Case selection

Previous search projects were studied in depth to obtain insights into Venture IQ's current working method and the three search types. A total of 31 projects were considered and evaluated subjected to the following criteria:

- Analysts typically work at Venture IQ for a period of six to twelve months, thus not all projects were carried out by analysts still working at Venture IQ. Therefore all case study projects must be recently or nearly completed.
- Case study projects must be representative for Venture IQ's working process
- A variety of search project types, technology, market and exploration venturing is needed
- Case studies must include projects for different client firms to ensure generally applicable insights

Nine projects were selected, of which two are Market search projects, three are Technology search projects and four are Explorative search projects. These case projects were carried out for four different clients in various industries: energy, consumer packaged goods, telecommunications and industrial engineering.

Data sources

Data on these nine projects was gathered from project meeting notes, correspondence and presentation slides. Additionally, several meetings were attended from which audio recordings were analyzed. For each of the nine case projects the analysts who were involved were requested to share their experiences through a survey, followed by informal interviews where additional clarification of the survey responses was needed.

RESULTS

Hereby a summary of the case study outcomes is presented. The context the case study project, clients information and rough qualitative data is found in Appendix G and H. The findings of the case studies are illuminated by citations from analysts, clients and project documentations.

The first part of the results relates to the three project types, followed by findings on Venture IQ's service process in general. The next part of this study's findings is dedicated to the role of Catalist in Venture IQ's services. Profiles of the stakeholders, or Catalist users, are then presented.

RESULTS - PROJECT TYPES

Market search projects

These cases showed that in Market search projects the client firms already knows what kind of product or technology they are considering, but does not know how to put it into the market. They have often seen examples of companies that have already done so and have the capabilities the large firm is looking for. Business development managers have knowledge on what these capabilities must be, as they have often researched the intended market.

Client on Case 5: Companies that are not established in any market are not of interest to us, we are looking for boots on the ground

Market search projects require a thorough deep dive process from the Venture IQ team, as commercial information is essential to a young venture's relevance. Deep dives can be time-consuming due to the time it takes to schedule calls and communicating the insights from these calls with the client.

Analyst on Case 6: Conducting the calls took of course time to schedule/plan. What was very difficult/Time consuming was when we had to schedule calls between the startup ourselves and client seniors (with very busy schedules).



Figure 2.27 - Subjects of the nine search projects included in the case study

Technology search projects

The three case projects showed that technology search projects often set out to find cutting edge technologies, but clients commonly steer the project towards less radical outcomes. The evidence of this is found in TRL criteria. As technology search projects progress, the desired TRL increases, thus targeting technologies that are more likely to be available in the short term.

Presentation slides Case 1: The solar technology search started with a focus on discovering novel solar cell technology. Focus now lies on cost reductions.

Within technology search projects there are two streams: product/technology innovation and production/process innovation. This should be clarified upfront, but is not necessarily defining the scope of a project.

Most client stakeholders involved in technology searches work in R&D roles and have a great deal of knowledge on the subject with the risk of narrowing the scope too much. A major part of the activities carried out by the Venture IQ team is reading into the relevant science, technology and relevant patents, but still maintain the ability to look beyond the client's scope.

Case 7 meeting notes: Client may have defined the scope too narrow already, we should rather look at a bit too much companies than missing potentially interesting ones. VIQ should look further than the client's industry only.

Explorative search projects

Recognizing explorative search projects can be difficult. In general the project scope is broad, technologies or markets are young and internal knowledge at the client firm is scarce.

Analyst on Case 8: It was quite a new area for the client and before we started asking questions during the first call the client hadn't given it a lot of thought. That meant the client did not really provide a scope during the call.

During the early phases of an explorative projects, discussions are inevitable. The scope is unclear for the Venture IQ team, but also for the client firm itself. Therefore early search results are presented during meetings for the purpose of inspiration, not to identify targets. This is not always clear to client team, but is an effective method of sparking a discussion.

In explorative search projects it is particularly difficult to define success, and in many cases there is no follow-up. A large firm has gained a view on new opportunities and first has to evaluate its options. This can make explorative

searches feel unsuccessful to the Venture IQ team, while in fact the value for a client lies in learnings, not direct results. The expectations for the outcomes of explorative search should therefore be carefully managed, both for a client and the Venture IQ team.

Analyst on Case 9: Since this was only an exploratory search there was no clear follow up from their side. This always makes it a bit hard to succeed in a project since the final conclusion could then be: well nice, interesting leads but now we will internally need to process it before we can continue.

RESULTS - GENERAL PROCESS

Client teams

Venture IQ currently schedules update meetings after each phase (kick-off, search, deep dive). Analysts expressed that discussions with clients add a lot of value and speed up the process, but scheduling, preparing and holding meetings is time consuming. Outside of these meetings it seems that client feedback is difficult to obtain. Clients need to be made aware that providing feedback is in their own interest.

Analyst on Case 1: We need a better structure with the client, in which it is made crystal clear that we also demand input/ feedback from them. Now, our requests seemed to be more like nuisance, than actually helping them further.

In some cases it was unclear how certain people were involved in a project. Sometimes these people did not know their role in the project themselves and were therefore not committed. This meant obtaining feedback was even harder than from those that clearly had something to do with the project. Communications about team member roles can be vastly improved and the need for feedback should be expressed more clearly.

A major factor in the amount of feedback that is provided by the client is the composition of the client's search project team. Senior managers often have other priorities than logging into Catalist on a regular basis. However, a team that does not include key decision makers will encounter problems in later stages.

Analyst on Case 6: These people were very senior and way too busy to be screening a lot of companies. Interesting is that we proposed to have less senior people in the team to them and that they declined that idea. These senior people still told us that they want to see the companies themselves.

Analyst on Case 4: Getting the client's experts to provide feedback on companies through Catalist proves to be a challenge. A large reason is the lack of time allocated for this by the client's management.

Client team size also has a large effect on the search process. A large team can lead to endless meetings and indecision, but having a small client team can cause a lack of urgency and commitment.

Analyst on Case 6: We were with too big groups during meetings with people from all levels in the organization. That didn't work so well. Suggestion: Perform brainstorm only with the core team members, the ones that will perform the search and then present the findings to their management to get approval to start.

Communication

Although Catalist provides a channel for providing feedback, search project communication mainly takes place through phone calls, email and during meetings. This means important feedback and documents are scattered across various channels.

Analyst on Case 7: Feedback was collected via Catalist and that worked well. However, it mainly worked for feedback on individual entities. Not on the complete search or a broader topic. Sometimes I wanted to know whether we were searching in the right direction at all. And that is information you cannot really get from the client.

Large lists of search results are difficult to present to the client. Therefore Venture IQ uses visualizations of value chains to structure and communicate findings, but in new markets or technological areas the value chain is often unclear. Figuring this out is time-consuming for the Venture IQ team.

Analyst on Case 4: Especially during the broad search scope in the beginning we found a lot of companies in very broad space of technologies and solutions. It was hard for them to compare these companies with all having a different proposition

Flexible workforce

One of Venture IQ's strengths is the flexibility of its workforce. Analysts work part-time and are deployed on various projects. A drawback is that analysts who switch between projects need to be updated on a search project's scope and progress. That information currently lies with a limited staff of full-time employees that has to maintain an overview of all running projects. Improving the flexibility of the part-time staff is considered to be valuable. This will require new methods for transferring knowledge within the Venture IQ team.

Analyst on Case 9: Reading in on a subject is time consuming. We therefore need an easy way of briefing other analysts as well to make the resource pool more flexible if needed.

Depth of data

Especially during the deep dive the depth of information on potentially interesting companies is greatly appreciated by clients, as most of this information comes directly from the source via phone calls and is not publicly available. Clients remain anonymous during these interviews.

Client on Case 2: The deep dive is where Venture IQ is truly adding value. The amount of data you are collecting through these interviews is extraordinary.

- Insights
- Reasons for client stakeholders to be involved should be communicated
 - Client stakeholder roles should be clarified upfront
 - The need for feedback is unclear
 - Communications between the client and Venture IQ team is scattered across channels
 - Analysts need client feedback to improve focus and search results
 - Analysts need regular updating by full-time staff, which can be time-consuming
 - The depth of data uncovered during the deep dive is highly appreciated by clients

RESULTS - CATALIST

Obtaining client feedback

All analysts expressed problems with obtaining client feedback through Catalyst. The lack of feedback causes delays in the projects and knowledge is not exchanged. Venture IQ's efficiency depends on this feedback, but client engagement with the platform is currently insufficient.

The two user types' (lead users and project based users) engagement on the platform is different. Motivating lead users is not the problem as CVC is part of their day-to-day job. Project users on the other hand have different motivations, which are often hard to pinpoint. Their expertise is called upon for specific search projects, but a feeling of commitment might be lacking with these employees. It is important to uncover the intrinsic and extrinsic motivations for project based users and address these to increase engagement on the platform.

Project related information

Another problem with Catalyst as a feedback channel is that it merely offers the possibility for clients to comment on single search results (individual companies) and not on a search project as a whole. Lists are made and information is stored in Catalyst, but much of project related information is shared through a variety of channels. Venture IQ has no dedicated channel for organizing projects and sharing statuses within its own team with or client users. The current functionality of the platform named Collections provides users with a list of relevant companies. This is a static overview that does not provide insights into the search project's progress, search results and how the companies that are found compare to one another.

Clients would also like to see custom fields for certain technical specifications on which they can compare target companies. Criteria differ between projects and are currently not shared in an organized matter.

Catalist usage across phases

One of the questions from the analyst survey was to what extent Catalyst was used during each phase. Not surprisingly the search phase is where Catalyst is used most. But during the kick-off phase there is no role for the platform. Across 9 search projects the platform was not used to present companies to the client during the kick-off phase a single time.

During the search phase clients are requested to rate a large amount of companies. Here is where Catalyst should be adding the most value. After the search phase, during the deep dive, the depth of information on each company becomes too great to share through Catalyst profiles. Instead, text documents are uploaded and shared with clients.

CATALIST USER PROFILES

Based on the findings from the case studies profile cards are composed for each type of Catalyst user. The user profiles are the reference point when a user type is mentioned throughout the rest of this document.

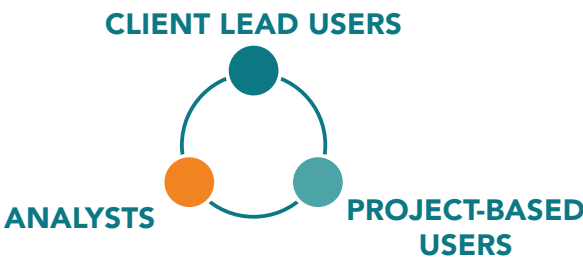


Figure 2.28 - Catalyst user types

The profiles include case study findings, and are formulated into elements of the customer segment side of the Value Proposition Canvas (Jobs to be done, Pains and Gains). Although Venture IQ analysts aren't true customers, they become an extension of the client team when they start collaborating on a project.



Analyst

I'm an analyst at Venture IQ which requires me to learn about a new industry on a regular basis. After reading in on a subject I search for promising young ventures in this industry and see if they match with our client's needs.

Catalist usage: As an analyst I am continuously collecting data and adding this to our database. I regularly switch between projects and client firms, by using the information in the platform.

Jobs to be done: My work consists of collecting data and finding new companies in the data we already have. I manage search projects and present results to clients to obtain their feedback and improve our search efforts.

Pains: Most of my time goes to manually entering data into the database. Client teams are not using Catalyst enough to provide feedback on a regular basis. This means I have to wait for them to respond or continue searching without knowing if it's the right direction.

Gains: Having the data in one place and keeping track of multiple projects using the software makes my work easier. I don't have to use spreadsheets to present results, instead I have a collaboration and communication tool that is purpose-built.



Client lead user

I work in the corporate venture capital/innovation management department. I oversee and manage projects where we search for innovation outside of our own firm.

Catalist usage: I use Catalyst on a daily basis to check on project progress. I am an experienced user and familiar with all the software's features.

Jobs to be done: I need to maintain our dealflow, manage and oversee projects

Pains: I need to keep track of all the innovation projects we are running simultaneously and to connect with - and involve the right stakeholders.

Gains: Organizing and maintaining our CVC efforts in one place, centralizing communication here would greatly improve my productivity. This will allow our firm to be more efficient in finding interesting partners.



Project-based user

I'm a business/R&D manager and am familiar with potentially interesting markets, technologies and companies.

Catalist usage: I was called in for this project and am unexperienced with Catalyst. I'm required to use it now, but don't think I will continue to use it afterwards.

Jobs to be done: I am in this project to see if the companies that are found by Venture IQ are interesting for our firm. I rate the relevancy of these companies and provide my expertise on why a company is interesting or not.

Pains: It is costing me time on top of my day-to-day work.

Gains: I like being involved in innovation projects, and the outcomes of a search projects might make my work more efficient or allow my department to expand its activities.

WHY PROJECT-BASED USERS DON'T LOG IN

The problem of client users not logging into the platform to provide feedback is evident. Arguments can be made that it is the responsibility of the client team to commit to a project and for the lead users to motivate the project based users to contribute. However, the fact that this is not happening is detrimental to Venture IQ's services and is a direct problem in their work. Therefore it is important for Venture IQ to understand why project-based users are not taking the time to log in to the platform and share their expertise. Follow-ups after the analyst survey uncovered the following causes for project-based client users not to provide feedback.

- Project based users don't consider search projects as part of their job, thus it not high on their list of priorities. Their managers have not allocated time for them to work on these projects.
- Venture IQ staff sends e-mails with requests for feedback and reminders, there is no call to action coming directly from Catalyst.
- Project based users feel no urgency or time pressure, thus the workload in Catalyst builds up. What follows is a negative loop of motivation and tasks that stack up
- Project based users find it unclear what their role in a search project is and what is expected from them.
- Project based users don't see the added value for themselves and their day-to-day work.
- Catalyst's user interface is too complex. The platform is barely two years old and a lot of improvements still need to be made to improve its user experience.
- Client users already need to log in on too many different platforms for work.

These causes for the lack of motivation need to be tackled with the redesigned platform to improve the collaboration between clients and Venture IQ analysts.

Insights

- Catalyst is not being used to add value in early project phases
- Catalyst does not facilitate scoping and custom criteria
- Catalyst does not support feedback on an entire project
- Catalyst does not provide insights into a search's progress
- Search results are presented in lists, while in meetings they are presented in comparative overviews
- Catalyst is not suitable to discuss elaborate data
- Project based users don't login or don't provide feedback

2.6 SUMMARY OF INSIGHTS

Through context and internal analysis, followed by explorative case studies a total of 34 insights were gained (Table 2.3). Five clusters emerged from mapping the insights, Figure 2.29 shows which parts of the analysis shaped these clusters. These clusters represent the opportunities for the design brief (section 2.7).

INSIGHT CLUSTERS

Identifying strategic motivations

A great opportunity for Venture IQ lies in adjusting its services to a client's needs. This means uncovering their strategic motivations and choosing the corresponding search project approach. Each approach will take the form of either a Market search, a Technology search or an Explorative search. These search project types will provide a structure for the Venture IQ team to identify initial sources, provide the client with advise on team composition and manage expectations concerning search outcomes.

Scoping and collaboration

Insights in this cluster arose from the context analysis and the case studies. Capturing the definition of a CVC search project in a document makes it possible to share information with people that have not been involved from the start. This documentation should be dynamic, as the analysis shows that the scope and criteria of a search is likely to change over time. New information that might impact the scope is found regularly, and should be shared with all people involved. Centralizing information on a search project will also allow Venture IQ to make more efficient use of its workforce.

Communicating results

Search results are currently presented to clients mainly through meetings, and preparing those is time consuming. Catalyst offers the opportunity to share search results with

clients and offers the feedback functionality. This feedback system has a drawback that it only facilitates comments on single companies. When a search project in its entirety needs to be discussed it is done during the meetings, via calls or e-mail. Because of this, keeping track of insights and information about the progress of a search is documented outside of Catalyst.

Client user engagement

Perhaps the biggest problem Venture IQ currently faces is that project-based users are not actively engaging in Catalyst. Project-based users are invited to collaborate on search projects because of their expertise on the subject, and their knowledge and feedback is valuable to analysts for achieving good search results. Project-based users often already have companies in mind that are able to provide that what they are looking for .

Venture IQ can provide recommendations for a client's team composition based on the type of search project. Business development managers for example have extensive knowledge about their market and are potentially rich sources of information for finding relevant adjacent markets.

Positioning Venture IQ

Insights for this cluster arose during the context analysis. Venture IQ's current proposition can be improved to transition into a promising gap in the market: that of providing more strategy related services in the Want stage. A redesign of Catalyst offers the opportunity to reposition the company and cover a larger part of the WFGM process. Engaging large firms earlier in their CVC efforts has the additional benefit of being able to learn about what motivates these companies and improve client relationships.

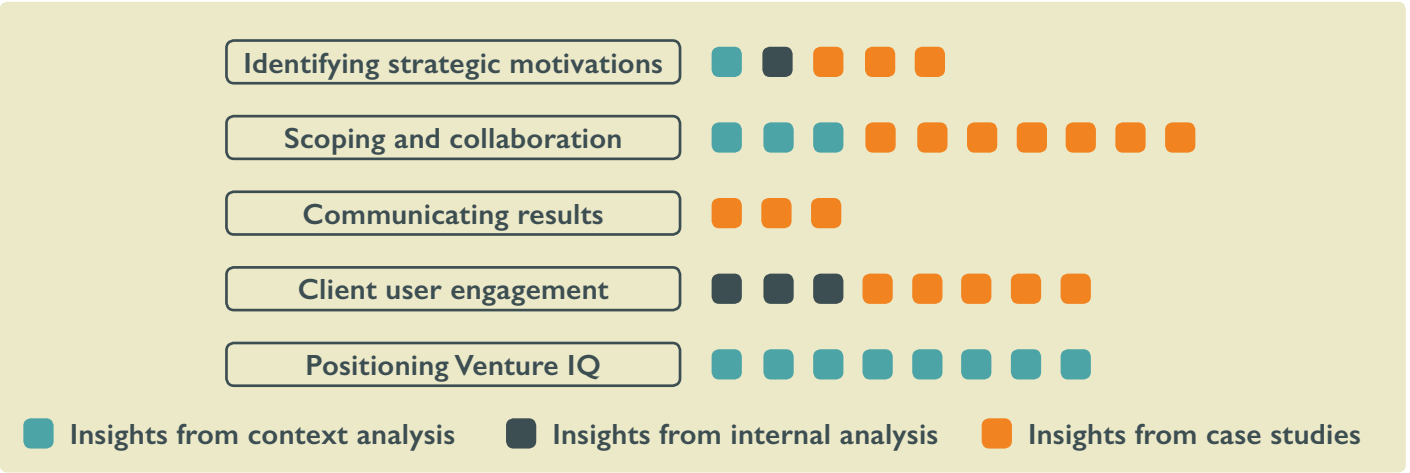


Figure 2.29 - Origin of insights

CONTEXT ANALYSIS		
Environmental analysis	Young ventures come and go in a rapid pace	Positioning Venture IQ
Customer analysis	Internal project related communication is scattered	Scoping & Collaboration
	Scope and criteria should be captured in a standard format	Scoping & Collaboration
	Strategic motivations for a search project change over time	Scoping & Collaboration
	Exploration demands a different strategy than exploitation	Identifying strategic motivations
	The most important motivation is to explore new technology and markets	Positioning Venture IQ
Market analysis	Global CVC activity is rising	Positioning Venture IQ
	European CVC activity is rising even stronger	Positioning Venture IQ
	Dutch large firms are increasingly realizing the value of partnering with young ventures	Positioning Venture IQ
Competitor analysis	Database intermediaries compete on data comprehensiveness	Positioning Venture IQ
	Data on companies outside U.S. is limited on these platforms	Positioning Venture IQ
	The Want phase is currently underserved by intermediaries	Positioning Venture IQ

INTERNAL ANALYSIS		
Working process	Venture IQ maintains a single working process for all search projects	Identifying strategic motivations
Catalist user types	Analyst users are experienced with Catalyst and need it to obtain feedback from clients	Client user engagement
	Client lead users are heavy Catalyst users and use the platform to manage their firm's CVC projects	Client user engagement
	Project based users are light users and only use the platform when it is required for a single project	Client user engagement

CASE STUDIES		
Market search projects	See Table 2.2	Identifying strategic motivations
Technology search projects	See Table 2.2	Identifying strategic motivations
Explorative search projects	See Table 2.2	Identifying strategic motivations
Client teams	Clients should be advised about their search project team size and include decision makers	Client user engagement
	Reasons for client stakeholders to be involved should be communicated	Client user engagement
	Client stakeholder roles should be clarified upfront	Client user engagement
Communications	The need for feedback is unclear	Scoping & Collaboration
	Communications between client and Venture IQ team is scattered across various channels	Scoping & Collaboration
Flexible workforce	Analysts need client feedback to improve focus and search results	Client user engagement
	Analysts are regularly updated by full-time staff, which can be time-consuming	Scoping & Collaboration
Depth of data	The depth of data from the deep dive is highly valued	Communicating results
Catalist	Catalist is not used in early project phases	Scoping & Collaboration
	Catalist does not facilitate scoping and custom criteria	Scoping & Collaboration
	Catalist does not support feedback on an entire project	Scoping & Collaboration
	Catalist does not provide insights into a search's progress	Communicating results
	Search results are presented in lists, while in meetings they are presented in comparative overviews	Communicating results
	Catalist is not suitable to discuss elaborate data	Scoping & Collaboration
	Project based users don't login or don't provide feedback	Client user engagement

Table 2.3 - Summary of insights

2.7 DESIGN BRIEF

The design brief features the opportunities at hand, a design vision, the challenges and other essential aspects for entering the design phase.

OPPORTUNITIES FOR DESIGN

Analysis has shown that Catalyst, the software platform, is currently underutilized for a number of reasons. Therefore the focus of the design phase must be redesigning Catalyst to better aid clients and analysts in the Want and Find stages of finding potential innovation partners. The insight clusters from the summary provide the following opportunities for design:

Identifying strategic motivations

The new design of the platform must facilitate recognizing each new search project as a market search, technology search or exploratory search project. The Venture IQ team can then define what the initial sources for a search project will be, provide the client with advise about their team composition and manage expectations for the outcomes.

Scoping and collaboration

To improve documentation and collaboration from project day 1, the new design must enable the client team and Venture IQ to define the search project's scope within Catalyst. The implications for this are that a scope overview can be created in the platform, and is available when needed. This scope overview should be adjustable throughout the project and changes need to be tracked.

Communicating search results

The current search results in the form of 'Collections' is static. Client users (lead and project-based) see a list of companies that might be interesting and can use filters to select geographic region, company size and other general information. Evaluating search results is currently repetitive work and does not provide insights into a group of search results. The redesigned platform must also facilitate feedback and discussion on a search project in its entirety.

Client user engagement

A major problem Venture IQ currently faces is the lack of client engagement on Catalyst. The redesigned platform will increase engagement through improved accessibility and usability and considerations of its users' motivations. Regular updates are needed to keep users posted and drive them towards the platform. Once there, they can contribute to the scope, engage in discussions and share their knowledge on the search project.

Positioning Venture IQ

The 'Want' phase is underserved in todays market for data-driven Open Innovation intermediary services. With a redesign that emphasizes the early stages of establishing strategic partnerships Venture IQ can position themselves in a unique place in the market: Proactive identification of client needs and answering these needs with data.

DESIGN VISION:

With the opportunities for design a vision is formulated for the redesign of the platform and the services Venture IQ delivers for Corporate Venture Capital.

The vision is for Catalyst to become the go-to platform for initiating and organizing CVC searches, and accelerate these with Venture IQ's data-driven services.

Catalist will become the place to go for large firms when new ideas arise for which partnerships with external innovators might be valuable. On the platform clients can create a project and organize the search from the start. This early engagement with Catalist provides the opportunity to centralize efforts throughout a project and increase stakeholder engagement. From this early engagement, Venture IQ can gain insight into a client's motivations for a specific search project, apply an appropriate search strategy and deliver specialist services.

DESIGN CHALLENGES

Together with the design vision, the opportunities for design are reformulated into five How-To's. These formulations are the input for ideation and design (Chapter 3), for which a plan for implementation will be constructed (Chapter 4).

How-to..

- **Identify a client's motivation using Catalyst?**
- **Facilitate dynamic scoping and collaboration within Catalyst?**
- **Communicate progress and insights for an entire search?**
- **Drive users to Catalyst and get them to share their knowledge?**
- **Position Venture IQ to fill the 'Want gap' in the market?**

The fifth How-to concerns Venture IQ's positioning in the market for Open Innovation intermediaries. By rethinking the positioning statement, the company can address the questions their potential clients are trying to have answered. After the design phase, the fifth How-to will be attended to in the implementation phase.

DESIGN PARAMETERS

Data comprehensiveness

A prerequisite for the design phase is that Venture IQ's data becomes more comprehensive. It currently consists mainly of patent data from around 18 million entities (companies, universities and individuals). Apart form patent data, information on these companies is very thin. Venture IQ is in need of structuring and complementing its current data and a strategy to acquire more information about companies that do not own patents. Appendix E shows Venture IQ's roadmap for short-term (weeks), medium-term (coming 6 months) and long-term (> 6 months)

The design phase will be based on the long-term goals for Venture IQ's data roadmap, where Catalist for example is able to automatically find similar companies, scrape their websites and acquire relevant information.

Design for different users

The current software platform hosts three user types. The level of access and administrative roles are different for these users, thus the redesigned Catalist will require distinct functionalities for analysts, client lead users and

project based users. Analysts operate partly on the back-end of the software, carry out data entry and have access to administrative features. The design phase will therefore focus on the clients side of the platform, and propose a new front-end for client user types of lead users and project based users.

REQUIREMENTS

For Catalist to become the go-to platform for starting and accelerating strategic CVC searches various adaptations have to be made to the platform. The objectives and boundaries for these changes are captured in a set of requirements for the new design.

- Catalist must enable analysts to recognize a client's strategic motivations and choose the corresponding approach
- Catalist must make it easier for client lead users to initiate new projects
- Catalist must drive project based users to the platform more regularly
- The new verison of Catalist must utilize existing technologies and be implementable within 12 months.
- The redesign may not require fundamental changes to Catalist's coding and database architecture.
- Catalist must facilitate collaboration, documentation and exchange of documents
- The new design must shift project communication from scattered channels to the platform

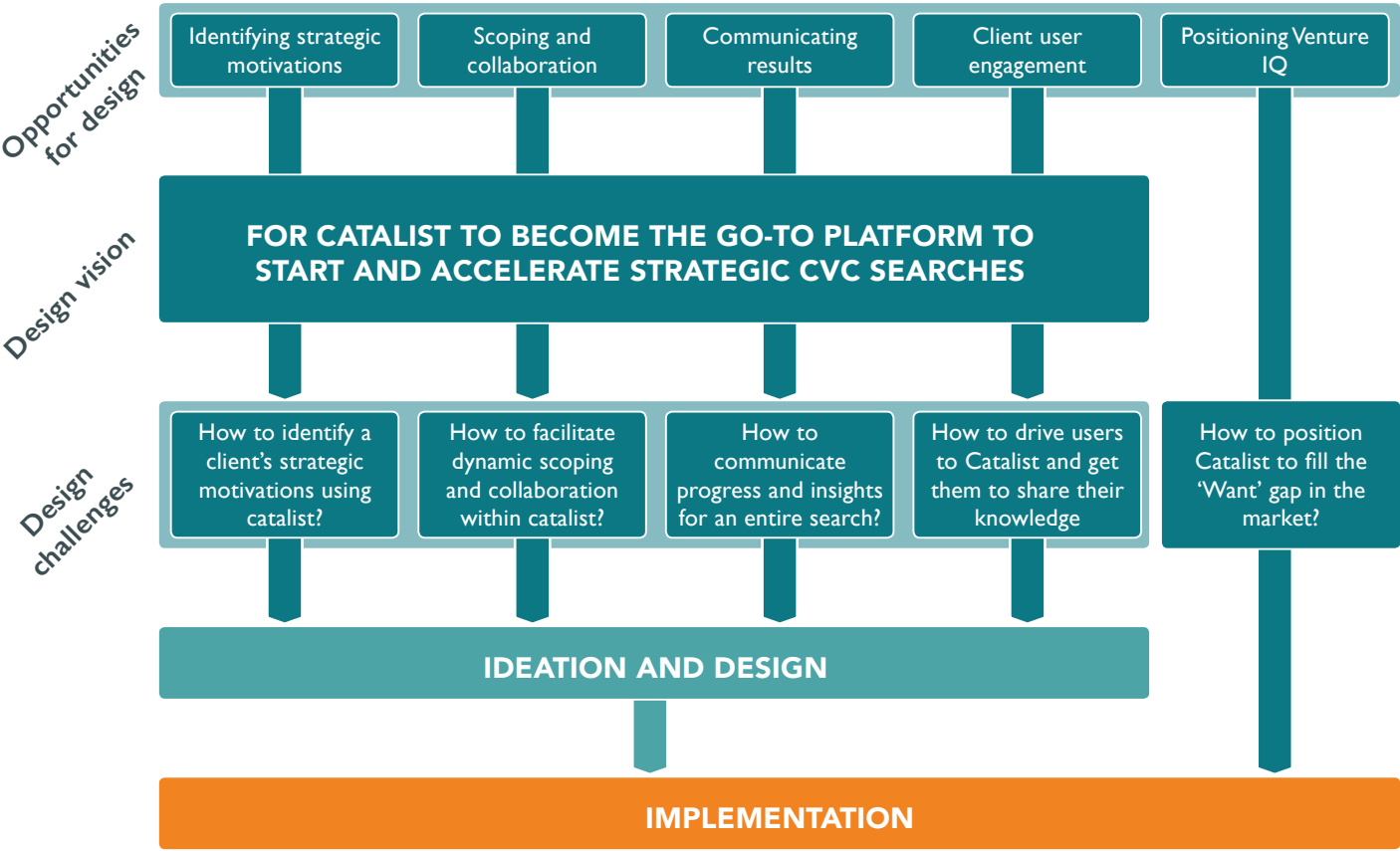


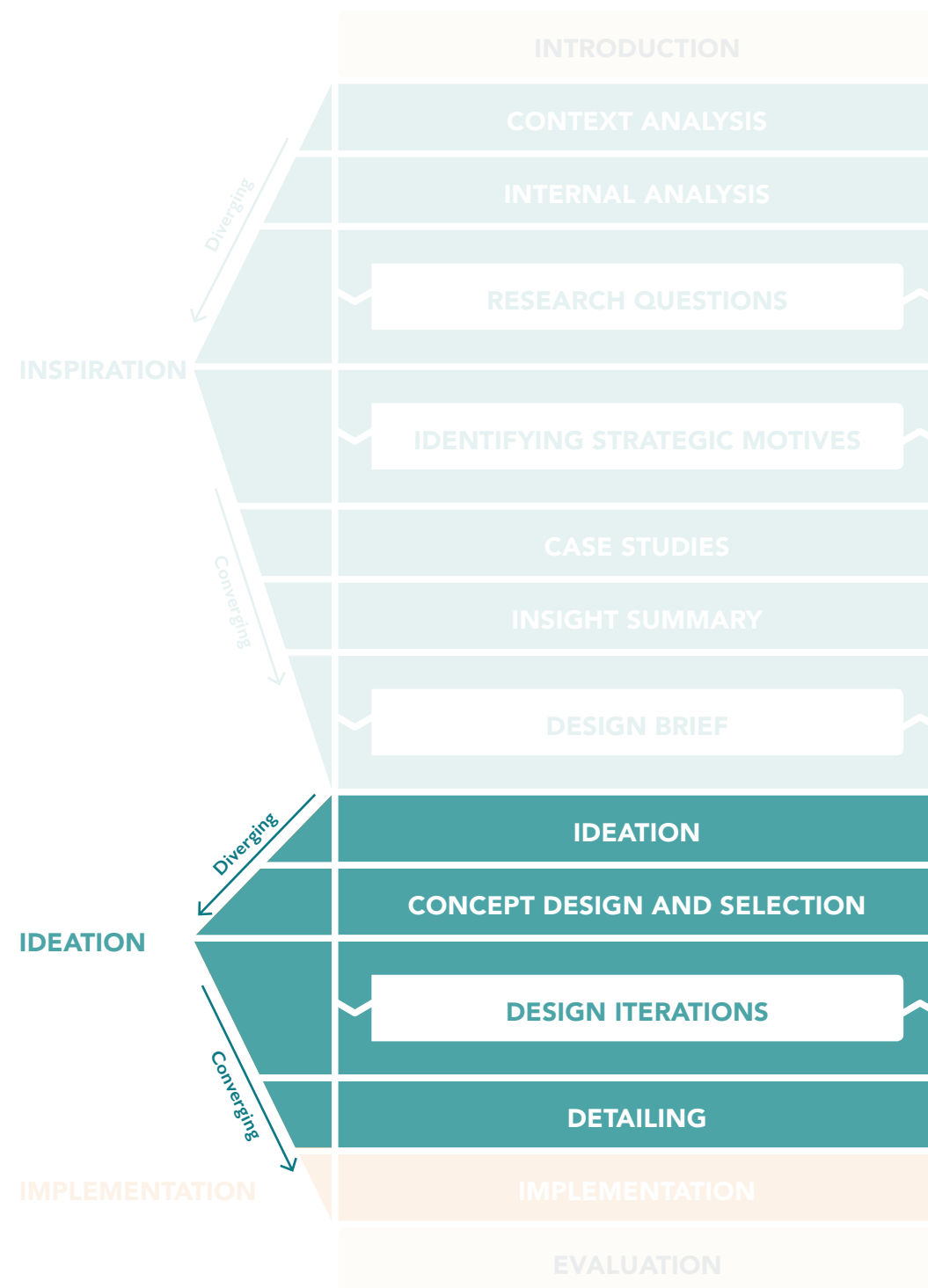
Figure 2.30 - Elements of the design brief



3. IDEATION

SYNTHESIZING SOLUTIONS

- Introduction
- Ideation
- Conceptualization
- Concept selection
- Design iterations
- Service model design
- Client workflow
- Service delivery
- Conclusion



3.0 INTRODUCTION

The summary of insights and the design brief form the input for the ideation phase. The design vision and the formulated are taken into ideation sessions with the Venture IQ team to brainstorm on elements for a future service model. Outcomes of these sessions are combined into three concepts which are tested on the design boundaries and criteria.

The selected concept is taken through several iterations of user testing and improvements to find a fitting method for uncovering a clients' needs.

A service model is designed for Venture IQ analysts describing the appropriate responses to different client needs and what actions need to be undertaken to reach the goal of a search project. The client need identification method is further detailed and a design is proposed that integrates the new service model with Venture IQ's software platform. The design phase concludes with an elaboration of the new service delivery and evaluation through the design vision and criteria.

3.1 IDEATION

With the foundation of the design vision and the design challenges several ideation sessions were held. The ideas generated in the ideation sessions were collected and for each design challenge promising ideas were used to construct concepts for the redesign of Catalyst. These concepts were subjected to the design requirements and complementarity to the design vision.

IDEATION SESSIONS

For each of the four design challenges, formulated as how-to's, group ideation sessions were held at Venture IQ. These sessions were explorative in nature and encouraged to think freely about the possibilities for each of the challenges. A brainstorm was held for each how-to, followed by a mind map.

The key benefit of holding these brainstorms with the Venture IQ team is experience and ability to judge whether solutions or designs will make their work easier, if they provide additional value compared to the current services and recognize potential pitfalls.

The mind maps from the ideation phase form the input for the conceptualization where ideas from the how-to sessions are combined to form new systems and constructs for the future service process at Venture IQ.

HOW TO IDENTIFY A CLIENT'S STRATEGIC MOTIVATIONS USING CATALIST

The first How-to session started with considering ways to obtain input from clients. A distinction was made in active and passive forms of providing this input on their strategic motivations. With active forms the client is required to spend significant time to start a new project, whereas passive forms make use of information that is readily available.

The objective for this ideation session was to be able to position a search project on the project type identification matrix. Therefore a rating of the market newness and technology newness was needed.

A key requirement for this design challenge was to keep the process simple and understandable for a client. Project type identification should become the first step when clients start a new project, so first-time users should be able to go through this process. This can be achieved either by a very simple process or guidance from Venture IQ.

Three categories for identification arose during ideation: through direct interaction with analysts, interaction via Catalyst and identification by Catalyst, leading to three ideas.

Direct interaction: Intake meeting

During an intake meeting (or call) analysts can show a client examples of companies in Catalyst that might be interesting. During the meeting questions are asked about their knowledge about the examples, from which a judgement is made on the search project type and appropriate approach.

Identification via Catalyst: Uploading a project brief

Clients are requested to upload a description of the project the moment they initiate it. A standard briefing format requires the client to rethink the project purpose, goals, criteria, search areas and other relevant information. From this brief, analysts can identify a search project type and select the corresponding approach.

Identification by Catalyst: Onboarding survey

Upon initiating a project Catalyst requires clients to answer several questions, from which the project receives an initial rating on the matrix. Responses to the questions are quantified ratings of how much knowledge and experience a client has on the intended search area. Analysts can immediately see whether a newly initiated project is either a Market search, Technology search or Explorative search.

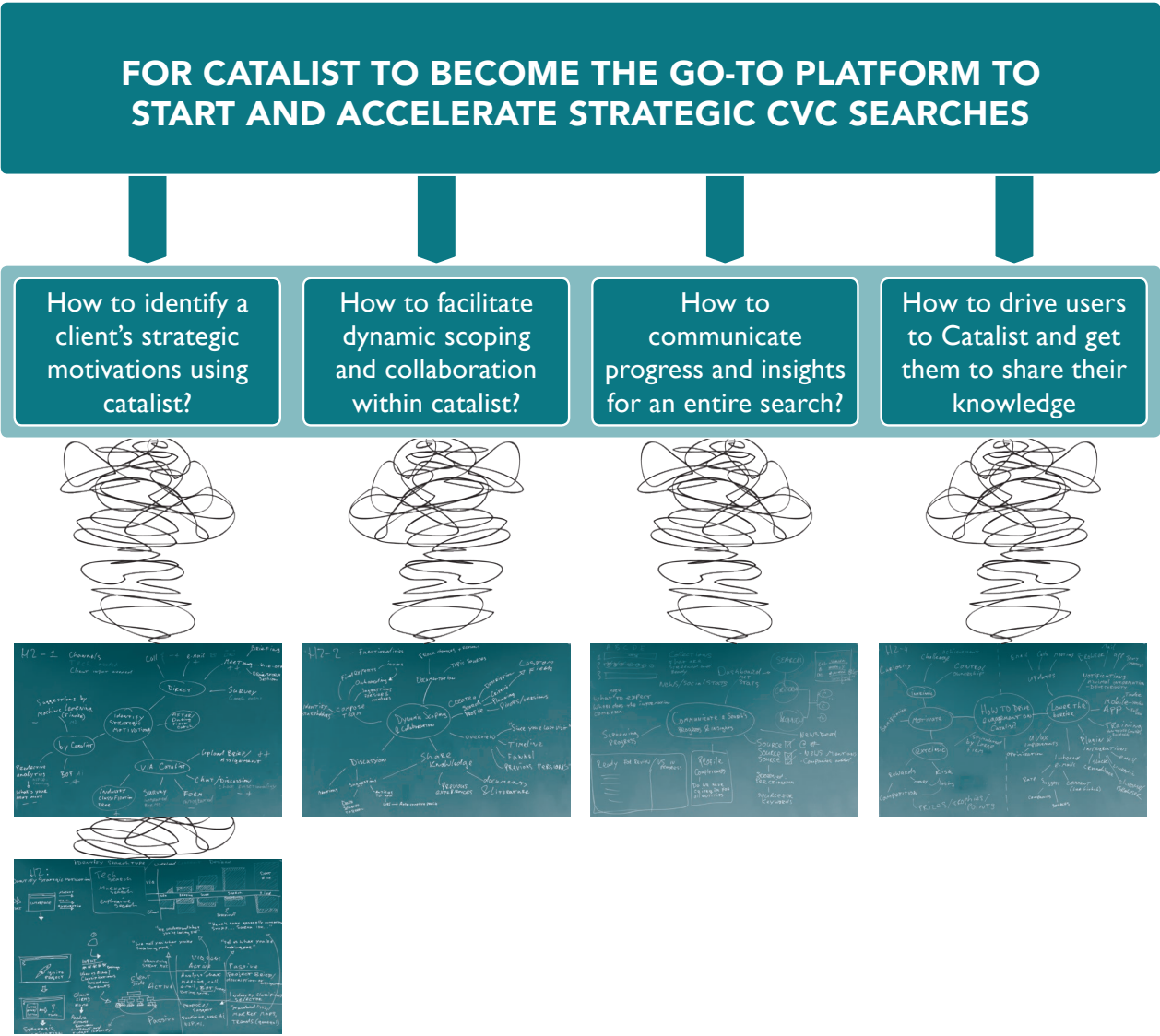


Figure 3.1 - Ideation process, Vision - challenges - brainstorms - mind maps

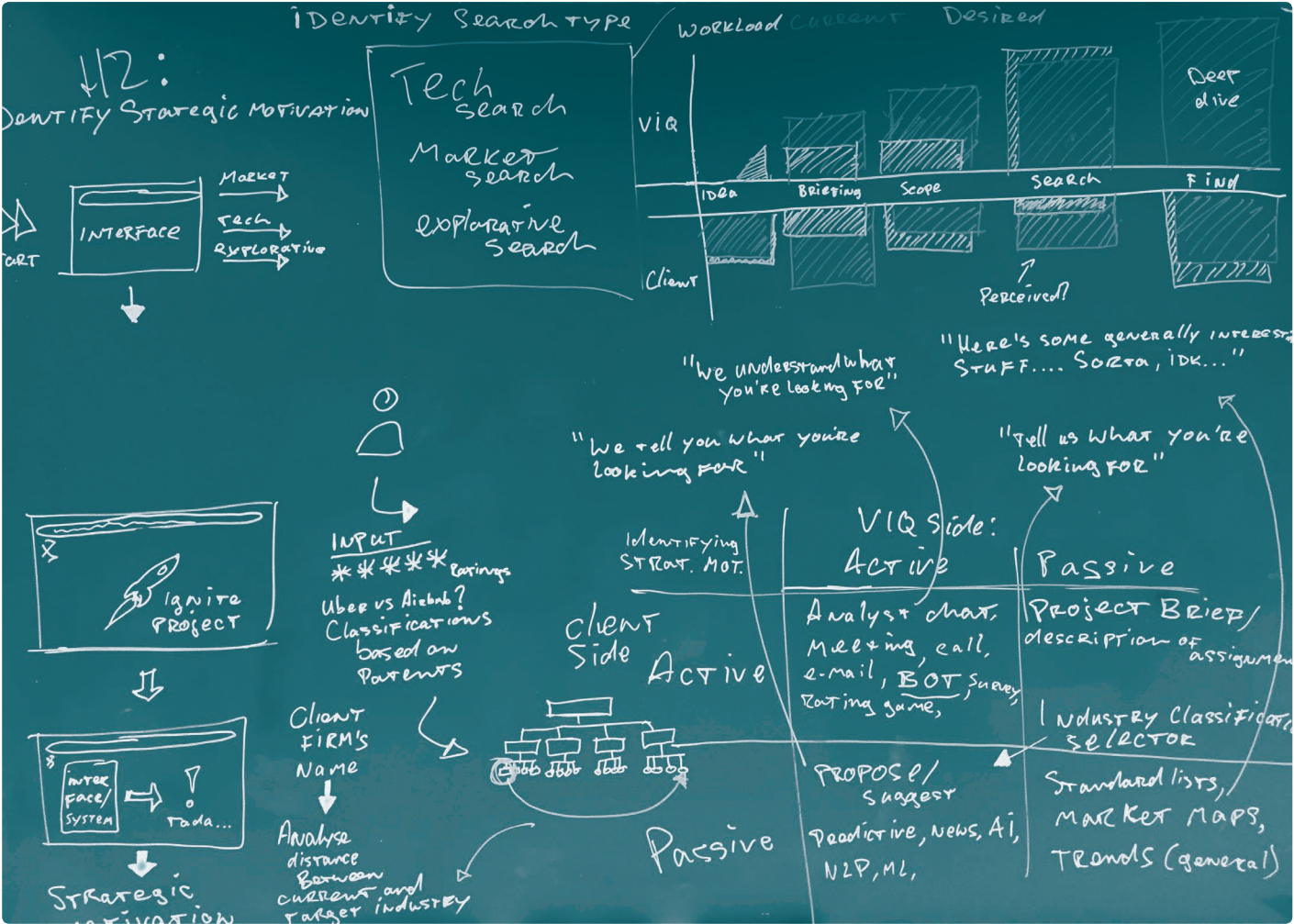


Figure 3.2 - Mind map impression of the first how to - Identify strategic motivations

HOW TO FACILITATE DYNAMIC SCOPING AND COLLABORATION

Dynamic scoping consists primarily of interface design considerations. The ideation session started out with discussing how users might interact with Catalist in order to be able to collaborate on the project scope and definitions in order to improve search efficiency. Next was ideation on how the platform can be used to boost discussion and spark collaborative search activities between client users.

Example companies

When a new project is created, the client lead user is asked to briefly define the scope and analysts provide a first catch of companies that might be interesting. The lead user is then asked to invite the rest of the project team to collaborate on the project and based on the first catch the scope is formulated in customized fields.

Scoping and data suggestions

Based on the search project type Catalist proposes a set of scope elements. These include for example geography, company size, technology readiness level and whether the targets already have received an investment. Additionally, analysts make suggestions for data sources to screen and requests the client lead user to invite the team and provide additional sources.



Figure 3.3 - Mind map - facilitating dynamic scoping

HOW TO COMMUNICATE PROGRESS AND INSIGHTS

Catalist currently does not offer a project overview. Clients are presented lists (called Collections) with companies that are relevant for a specific search, but no information is given on the search itself. This ideation session set out to provide clients with a quick overview of what they need to know about a search project's status.

To-do's/checklist

Upon opening a project overview, the client user is shown an overview of tasks related to the project. This checklist will include sources to screen, companies to add, calls to make and decisions to make.

“Since your last visit”

When visiting a project page, the client is provided with an overview of the changes to the project since his/her last visit. Clients will be shown how many companies were added in the meantime and whether changes have been made in the scope and criteria and their impact on the list of relevant companies.

Dashboard

The idea of the dashboard is to provide the client user with an immediate overview of all the companies that are included in the project. Statistics will be shown on how companies meet criteria, using charts, graphs and other data visualizations. The client user gets a quantified look at the search progress and exactly how many companies and which ones are the best options at that particular moment.

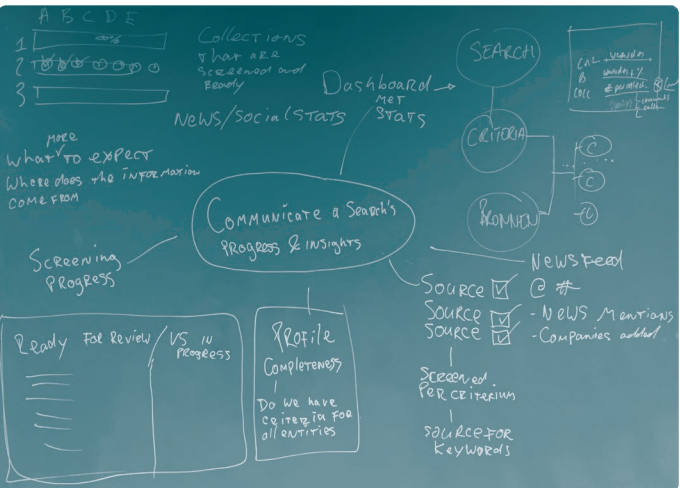


Figure 3.4 - Mind map - communicating progress and insights

HOW TO DRIVE USERS TO CATALIST AND GET THEM TO SHARE THEIR KNOWLEDGE

One of Venture IQ's biggest issues at the moment is that project based client users don't log in frequently enough, and when no feedback is given on whether companies are relevant or not, analysts have a hard time to improve search results. The fourth How-to session aims at solving this problem, by getting project-based users to log in to Catalist and share their view.

Getting project-based users engaged is a complicated task. As the internal analysis showed, there is a wide variety of reasons they don't collaborate. Two main strategies were identified: lowering the barrier and increasing motivation. In this ideation session the goal was to combine these strategies. Lowering the barrier for project-based users to collaborate in Catalist means making it easier to provide feedback, engage in the discussion and to provide input for the search in the form of sources.

Motivations are divided into intrinsic from extrinsic motivations. Intrinsic motivations are personal drivers for action, whereas extrinsic motivations are influences from external factors (Ryan & Deci, 2000).

Mobile app/gamification

Catalist is redesigned into a low-key, low-noise mobile app with the basic functionality of viewing companies. The user can either rate a company as 'relevant' or 'not relevant' and can leave a comment to explain why. The amount of companies that each user has rated can be viewed in

the app and in Catalist, to stimulate competition among the project team members. Gamification has become a widespread strategy for driving enterprise employee engagement in software (Kumar et al., 2013).

Notifications + simplified reviewing interface

Notifications by e-mail are used to evoke curiosity by giving just a hint of what has happened in a project. A message like “View the latest additions to your project” is used to give the user a sense of project ownership and the urge to check out what's new.

The e-mail notification links to a simplified version of the Catalist interface, that is specifically designed to review potentially interesting companies. This lowers the barrier to provide feedback. When in Catalist the user is always able to switch to the normal Catalist interface to view the status of the project.

Automated and inbound e-mail

With automated e-mail updates the client user is kept up-to-date with a search project and receives a list with his or her to-do's in Catalist.

Inbound e-mail is a way for users to conveniently upload files and comments, simply by replying to Catalist@ventureiq.nl. Users can share data sources, insert links to company websites and comments in discussions by using a standard e-mail format that can be read by Catalist. The information is then uploaded to the project page.

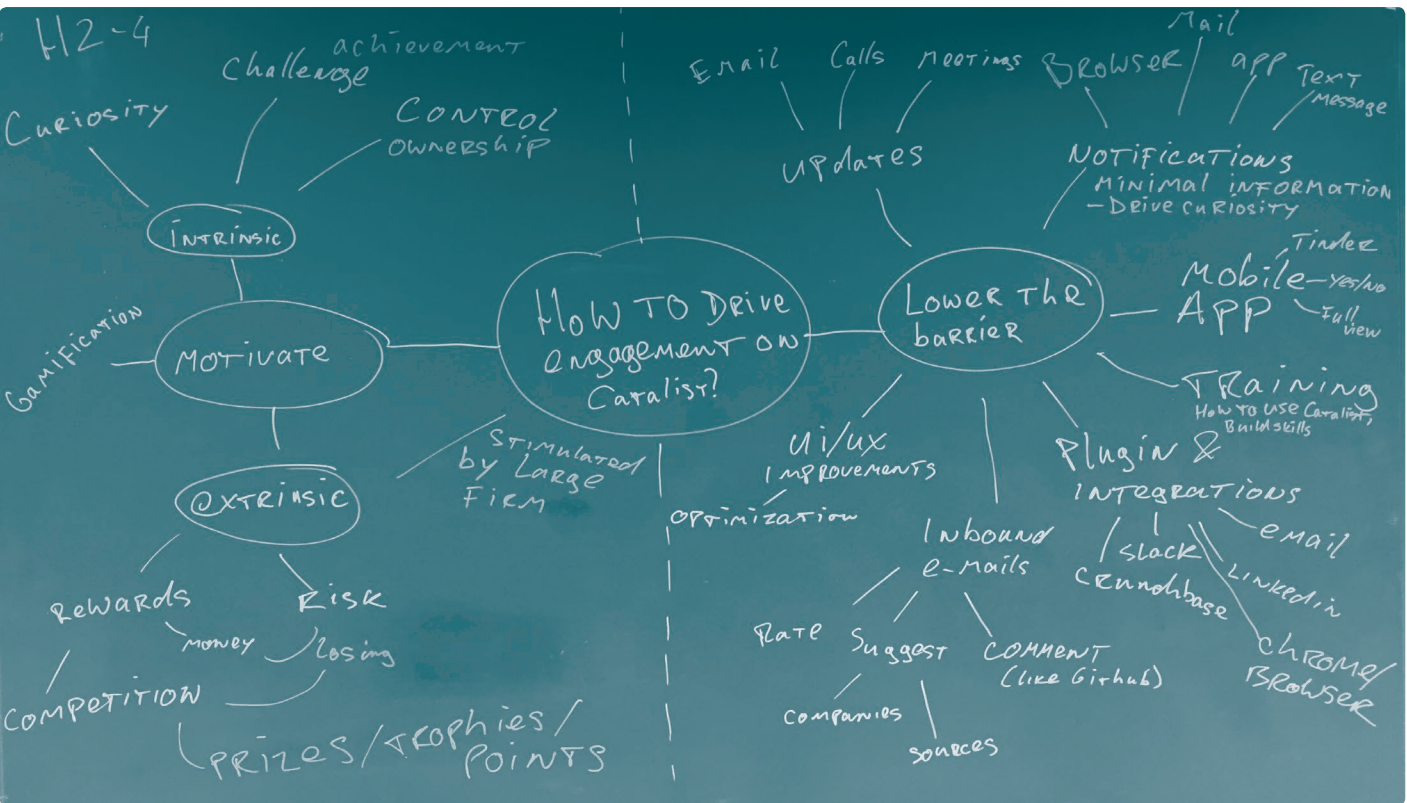


Figure 3.5 - Mind map - driving engagement

3.2 CONCEPTUALIZATION

Three concepts were generated by composing ideas generated in the How-to sessions. The combination of how-to's are visualized in service processes, representing the form of interaction with clients.

COMPOSING CONCEPTS

The goal of composing concepts is to explore service models and processes. The concept compositions are presented in Table 3.1. The starting point for each of the concepts is slightly different, leading to a different interaction between client and Venture IQ throughout the process. Three types of feedback interactions are explored, each offering clients a different way of providing their expertise and opinion on newly found companies to accelerate the search process. The client feedback system is the main

scope of this conceptualization phase, as this is currently a big problem for Venture IQ's services. Presenting search results and progress is also a topic that the concepts are addressing. Every concept leads up to the deep-dive, where the most promising finds are selected and investigated in-depth. From there on the services Venture IQ offers differ to strongly to be captured in a process, as clients make very specific requests for information to dive into the target companies.

What the concepts do not include at this point is the analyst workflow for searching companies. In this section searching is considered as part of the process, and detailing these activities will follow once a conceptual service process is selected.

	How to identify a client's strategic motivations using catalyst?	How to facilitate dynamic scoping and collaboration within catalyst?	How to communicate progress and insights for an entire search?	How to drive users to Catalyst and get them to share their knowledge
Concept 1 - email requests	Intake meeting	Example companies	To-do's	Automated and inbound e-mails
Concept 2 - In-app rating	Project brief	Example companies	Dashboard	Mobile app
Concept 3 - Simplified rating	Onboarding survey	Scope and data suggestions	"Since your last visit"	Notifications and simplified reviewing

Table 3.1 - Concept compositions

CONCEPT 1 - EMAIL REQUESTS

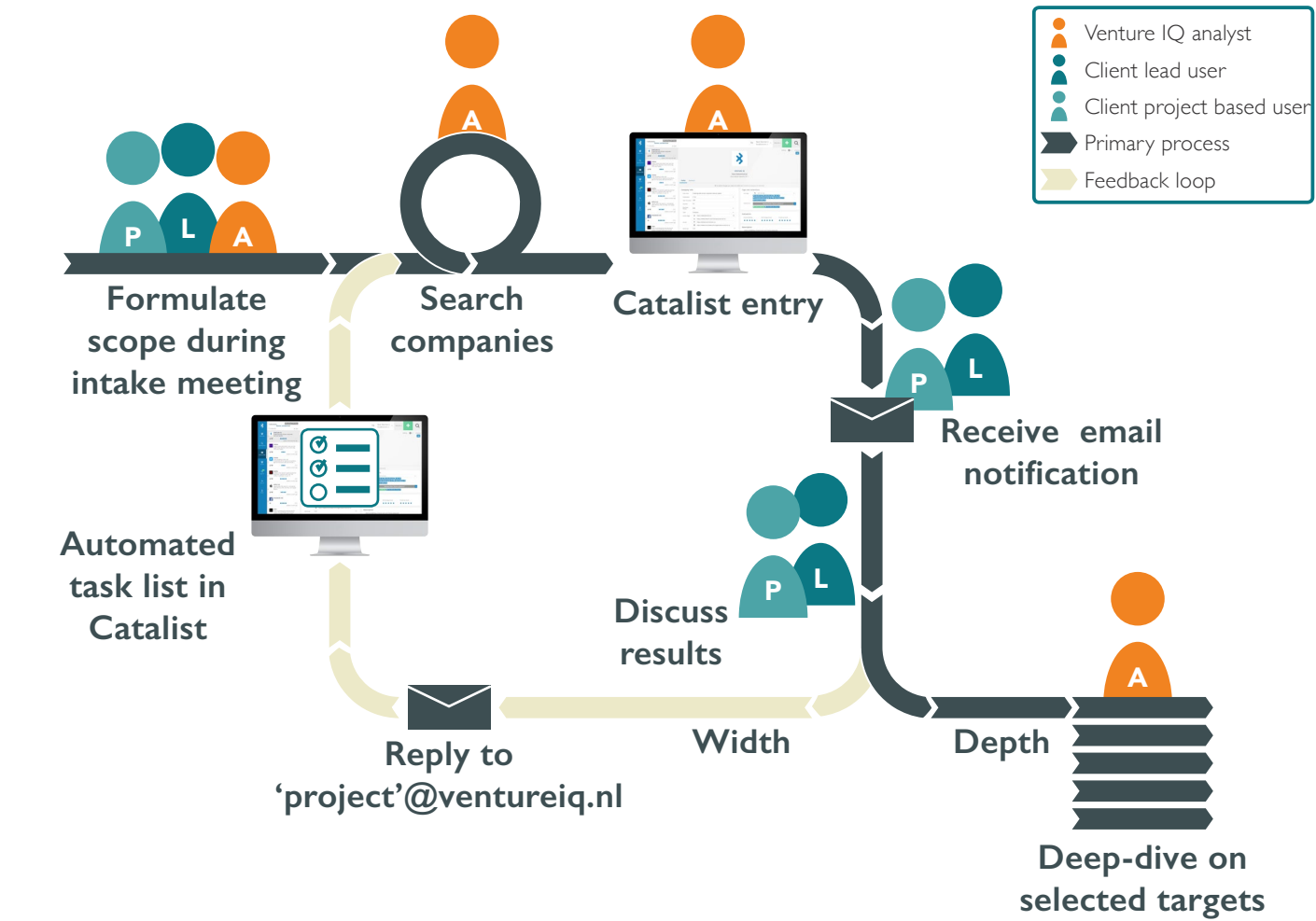
The first concept for Venture IQ's service model starts off with an intake meeting, similar to what is done today. This meeting sets out to identify the client's strategic motives through discussion and predefined questions. Analysts collect their findings, document these and upload them to in Catalyst for other analysts to review whenever they are put on that specific project. This way all analysts have access to the relevant information on what kind of project it is and the sources that are relevant to the search process.

After the intake meeting the client team members get login credentials and a tutorial for Catalyst. Each team member can visit Catalyst to find example companies to comment on, and a discussion takes place on the project page to discuss the project scope based on the examples. From the discussion a list of to-do's is constructed by the client lead user in collaboration with analysts. This list of to-do's is visible in Catalyst, where other team members can add items to the list.

Aside from regular log-ins, analyst can 'push' a list of newly found companies to the entire client team when feedback is required. Client team members can share their feedback or add a to-do by replying to the notification e-mail, and use the tags #to-do or #message to add it items the to-do list or place a comment on the project message board. This way, client users don't have to login for these small tasks.

The key benefit of this concept is that is not very different from what Venture IQ currently does, so implementation is relatively easy. The barrier to log-in is being removed by making it very low key to reply to search results. Clients can continue within their daily activities without having to visit Catalyst.

In case a client requires more information to form an opinion the platform is visited. The company concerned may be added to a list for deep-dive targets. The limit for this list is agreed upon upfront by the client team, based on their preferences for deep-dive research.



Features



- To-do list**
- Companies to add
 - Additional information requested
 - Sources to screen



- Automated emails**
- To-do's completed
 - New companies added



- Inbound e-mails**
- Mail to Project@ventureiq.nl
 - Add to-do's
 - Request adding a company
 - Request scanning a data source

CONCEPT 2 - IN-APP RATING

The second concept is a process initiated by a project brief from the client's side. The client is requested to fill in a standard formatted document with information about the project. This document contains questions about the client firm's current knowledge of the intended market, experience with the technologies at hand and provide scoping information and criteria. This document is reviewed by analysts, additional information is requested to fill gaps where possible, and the document is shared in Catalist.

Getting insights into project results through visualizations has been a client request for a while. Venture IQ has not been able to answer these requests. A project dashboard with statistics about the collection of companies found can show client users (and analysts) the amount of companies, where they are located, company sizes and overlapping technological themes and topics.

For project-based client users the barrier to providing feedback during the search process is lowered by using a mobile application. This application is a low-noise easy to use interface to view basic company information and provide feedback very quickly. Users can access the application on a regular basis and view the companies for which feedback is requested by analysts. Choosing to rate a company as relevant or not relevant lets users complete their feedback task quickly and gives a feeling of achievement. Additionally, users can see a leader board of who has been rating the most companies, sparking additional motivation. After a predetermined search period a selection of the highest rated companies is made to take into further analysis during a deep-dive.



- Features**
- Project brief format**
 - Capturing essential knowledge
 - Saves this information in Catalist
 - Statistics
 - Project dashboard**
 - Visualized results
 - Elaborate project status
 - Automated examples based on ratings
 - Mobile app**
 - Clean interface for quickly reviewing search results
 - Yes/no rating
 - Brief expansion why
 - Mail to Project@ventureiq.nl

CONCEPT 3 - SIMPLIFIED RATING

The third and final concept composition lets a client lead user initiate a new project without any support or guidance from an analyst. Whenever a new project is created in Catalist the client can invite team members. All are presented with several questions in the form of a short survey within Catalist. The answers to the questions are scaled ratings, collectively leading to a positioning in the project identification matrix.

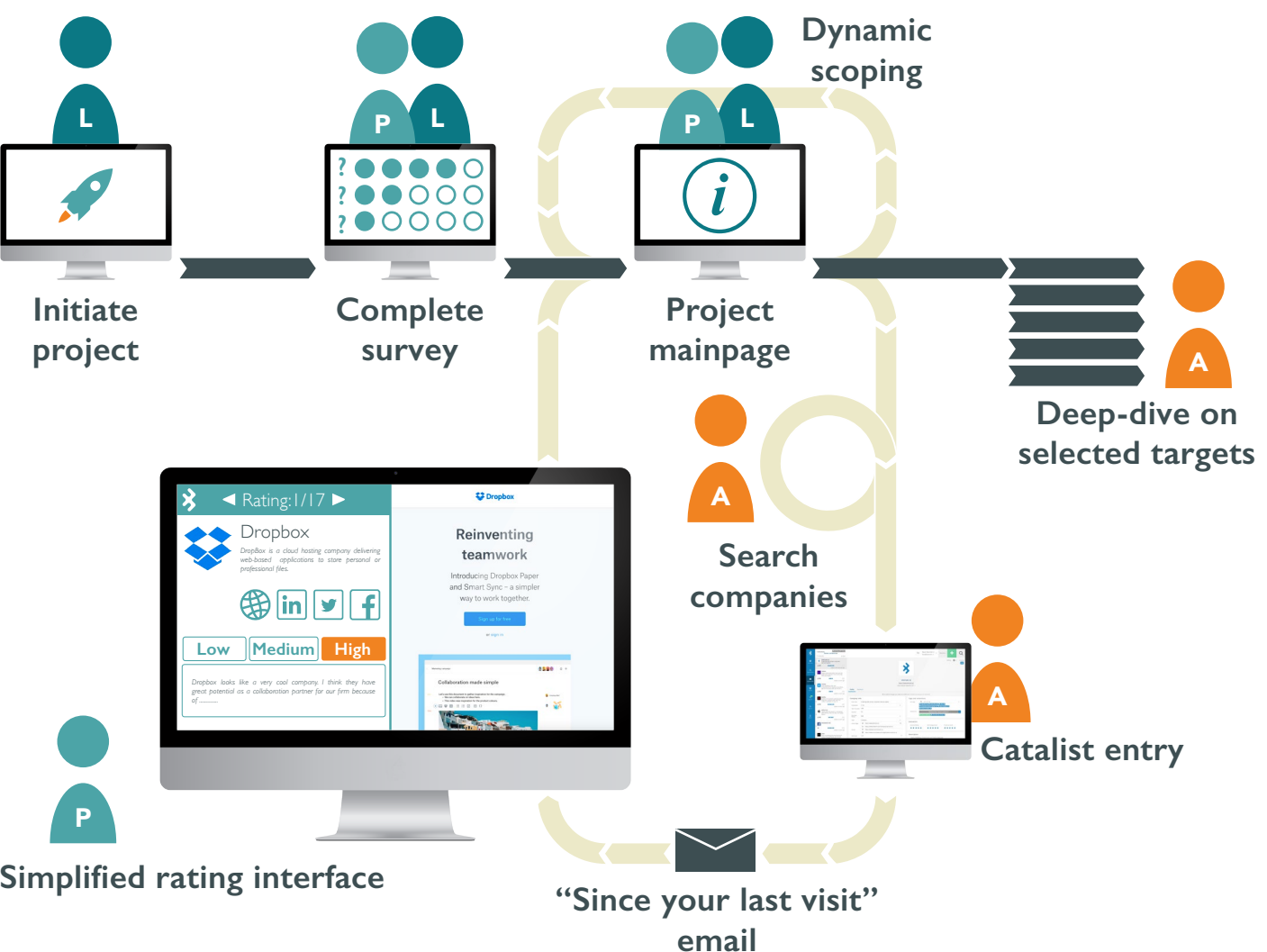
Upon completing the survey, a project page is created. This page includes elements specific to the project's search type and provides suggestions for criteria, team composition and data sources. This page is always accessible to the client team and act as a place to store insights and project related information and documents.

After setting up the project, the project homepage becomes an overview of latest developments, showing everything

"Since your last visit". This overview includes notifications with newly found companies, scope alterations and new messages in the discussion section.

Project based users are frequently asked to give their opinion on newly found companies in the form of a rating and optional feedback. This will be done through notification by e-mail, containing a link to a simplified version of Catalist that is specifically designed for providing feedback on companies. This version will include only the basic features for evaluating a companies relevancy like a short description and a preview of the company's website and social activities.

After completing the feedback the client user is able to enter the 'normal' Catalist interface and view the project mainpage to comment and collaborate on the project scope and next steps.



- Features**
- Project initiation**
 - Onboarding procedure
 - Independent of analysts
 - Capturing essential knowledge in Catalist
 - Statistics
 - Recommendations**
 - Team composition
 - Data sources
 - Initial examples
 - Dynamic scope and discussion feed
 - Notification and simple interface**
 - E-mail notification
 - "Since your last visit"
 - Company rating interface
 - Only new companies
 - Option to go to normal view

3.3 CONCEPT SELECTION

Comparison of the three concepts is done by their complementarity to the design vision and how each concept measures up to the requirements stated in the design brief (section 2.7).

EVALUATING THE CONCEPTS

The concepts were generated with the objective of making work easier for both analyst and client users. All three concepts are improvements to the current working model Venture IQ maintains, although implementing each offers different benefits and poses different challenges.

Two of the design requirements are based on product development and implementation. Venture IQ is a young company and does not have the resources to develop completely new technologies. All concepts are therefore based on existing and proven technology. Another issue is whether the design can be built based on the current version of Catalist or if a completely new interface is needed. Based on these characteristics an estimation is made for the time-to-launch for each of the three concepts.

FEASIBILITY

Venture IQ is a small firm, and has a development team of three software engineers working on Catalist. Aside from developing and implementing new features, this team is responsible for maintenance of the platform, including day-to-day bug fixes and small issues. Significant changes to the platform often lead to a period where the team is occupied with fixes, which has the effect that a platform overhaul takes more of their time than just its development.

Venture IQ does not yet have the flexibility of developing and testing ideas that might not be worth it. To assess the feasibility of the concepts, the development team was consulted to roughly estimate the time-to-launch for each of the concepts (Figure 3.6).



Figure 3.6 - Estimated time-to-launch for each concept

Concept 1 (Email requests) is a short-term implementable solution. The channels through which client contact takes place are already being used, except for the inbound e-mails. Inbound emails can become quite complicated, as it requires natural language processing, or a fixed email format that clients must restrain to.

This new service model basically builds on the current process of meetings and collaborative activities. Therefore the estimated time-to-launch is relatively short (within 6 months). This concept's main issue is that it does not drastically increase engagement on the platform.

During team ideation sessions the idea of a mobile app came up regularly. Interacting with clients through mobile app would have a massive impact on client engagement, if done properly. This is where concept 2 falls short on the design criteria. Developing an app is beyond Venture IQ's long term roadmap, indicating that the desktop version of the platform still requires so much development work that the team is not even considering building an app at this moment. The development team is currently unexperienced in building mobile applications. The time-to-launch for this concept is therefore estimated to be around 18 months, by far the longest of all concepts.

Concept 3 (Simplified rating) offers less potential for uncovering strategic motives than the first two concepts. However, the method for obtaining is easily adjusted, simply by altering the onboarding survey. Every new search projects allows Venture IQ to learn more about strategic motivations and gain a better understanding of how these can be uncovered.

The estimated time-to-launch for concept three is promising. It allows plenty of time to strengthen the database behind Catalist and develop the features necessary for this service model.

SELECTION

For the evaluation of the concepts, a list of requirements is formulated as ratable characteristics for each concept. The ratings vary from zero to three. Requirements are summarized as two metrics, Impact and Feasibility, and are evaluated according to the following definitions:

Impact

- 0 - No impact
- 1 - Somewhat improving
- 2 - Considerable improvement
- 3 - Improving the core of Venture IQ's services

Feasibility

- 0 - Not achievable within the foreseeable future
- 1 - Severe development duration and costs
- 2 - Venture IQ's current roadmap will change strongly
- 3 - The concept is implementable within months without major changes to the platform

The impact/feasibility matrix (Figure 3.7) is a widely used method of managing priority in feature design for (digital) products. Using the requirement ratings, the concepts have been positioned in the matrix.

The considerations and evaluation of requirements result in a choice for concept 3, Simplified Rating to be taken into tests with client users and further detailing.

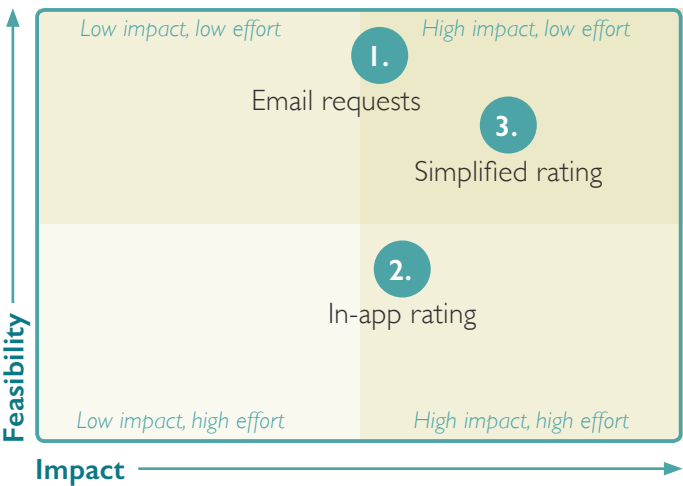


Figure 3.7 - Impact feasibility matrix of the three concepts

	1. Email requests	2. In-app rating	3. Simplified rating
Identifying strategic motives	3	2	2
Simplifying project initiation	1	0	3
Driving engagement	0	3	2
Facilitate collaboration in Catalist	2	1	2
Communicate through Catalist	1	2	2
Impact	7	8	11
Utilize existing technology	3	2	2
Building on current software	2	1	2
Time-to-launch (inversed)	3	1	2
Feasibility	8	4	6

Table 3.2 - Concept evaluation ratings

3.4 DESIGN ITERATIONS

Taking concept 3, ‘Simplified Rating’, into the design phase, the primary challenge is to investigate the possibilities for the format of the intake procedure. This will form new elements of Venture IQ’s service process and lead to more flexibility for clients to initiate projects when they please.

1. PROJECT INTAKE BRIEF

Creating a new project is merely the first step of the redesigned service model. To identify the strategic motivations, define parameters and collect initial sources to start a project, the client user is requested to complete a survey. The responses to this survey will become a foundation for the client project team, but also for Venture IQ analysts.

A first iteration of the intake survey consisted of exploring the knowledge a client team has on the subject before starting a search. What kind of questions can Venture IQ present in the survey to uncover how much the client team already knows about a subject, before the search project type can be defined? This iteration of project briefing surveys consists of basic text documents with open-ended questions. As these briefings concerned real life projects and clients, they were composed together with Venture IQ.

Project briefing questions

What’s the goal of the search

- What is the current bottleneck?
- What kind of target are you looking for?

What is the scope of the search?

- Geography
- Target company stage
- Technological criteria
- No-go areas?

What would be your ideal outcome?

What are search queries that might prove useful?

- Keywords
- Tags for Catalyst
- Segments

Do you have examples of companies you find relevant (or specifically not relevant)?

- Can you explain why?

A set of questions was formulated and composed in a document. Clients were requested to complete this document preceding the dedicated kick-off meeting. This first iteration of the intake procedure is a low-fidelity text document, as integration into Catalyst does not add value in this phase of the design. Low-fidelity concept tests avoid distractions like interface usability issues and cut away development time. Four completed project briefing documents were collected from client teams before their projects’ kick-off meeting. Based on these briefings, two projects were identified as market searches and two as technology searches.

Brief 1 (Market search)

A consultancy firm is looking for ways for their own client to gain access to a new market. This client had a good overview of technological categories and had already created a value chain, followed by a segmentation of available technologies. The market is new to the firm, and the success of the search is not defined as finding new technologies, but finding companies successfully commercializing these. This information was captured through the questions about project goals. The client also provided a list with examples of interesting companies.

Brief 2 (Technology search)

Their response to the first section of the briefing was to find “5-15 technological methods” in this specific search. Furthermore they provided a list of segments, helpful resources like reports and example companies.

Brief 3 (Market search)

This response defined the search as looking for prospects with commercial complementarity to their firm. This client was aiming to increase their foothold in the market for a certain resource, by driving demand through partnerships. Guidelines were provided by means of a segmentation, TRL criteria and target company scale.

Brief 4 (Explorative search)

The fourth briefing was for a client looking for company they can use as a testing ground for new value propositions. The search input consisted of a couple company names and the request to find similar companies and discover on what aspects they differentiate. Additionally some basic criteria were provided concerning target company size, geography and stage.

The responses to the open-ended questions proved to be very valuable in terms of project briefing. This set of questions allows the Venture IQ team to collect information that they can use to start the search, but the information is still unstructured and it remains unclear what the first steps in the search process should be.

2. KNOWLEDGE LEVEL SURVEY

Analysis of clients’ responses to the document briefs points to differences in knowledge levels between client teams. Some teams were able to pinpoint exactly what kind of company they are looking for, where others have defined segments within the intended market but have not been looking at companies yet. Six knowledge levels were identified from the first project briefing test (Figure 3.8).

1. Awareness - The client is aware of an interesting market, technology or trend and is willing to investigate the potential value for their firm.

2. Idea - The client has basic knowledge about the market or technological area and has identified how it might add value to their firm.

3. Segmentation - The client has invested considerable time investigating the intended market or technology and is able to construct a conceptual (or detailed) segmentation of the market.

4. Scope - The client has considered the segments and investigated the potential benefit to their firm. A selection is made of segments that require further investigation.

5. Criteria - Within the relevant segments, the client has set criteria on a company level, like team size, geographic location, technology readiness level, funding, etcetera.

6. Targets identified - The client has identified a number of potential partners and is interested in learning more about these companies through engaging. The client has a clear view of what it is they are looking for and is ready to approach several companies to determine which is the best possible partner.

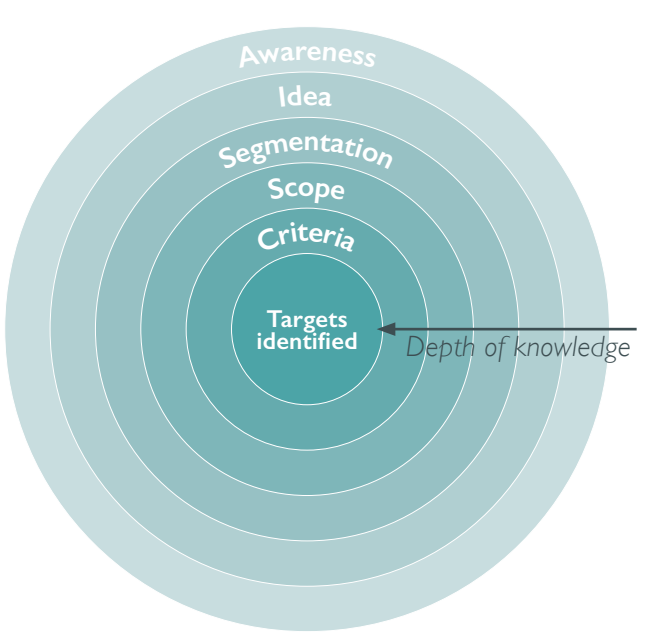


Figure 3.8 - Client team knowledge levels

In this second iteration of the intake procedure clients are presented with a survey to uncover their knowledge level and the strategic motivation of a search. The survey follows the levels in Figure 3.8 and consists of a mix of open ended questions and multiple choice responses. Two tests were conducted by observing client users while they filled in the web-based survey. Respondents were asked to think aloud while going through the questions. Thinking aloud is a widely used protocol for usability testing and requires participants to verbalize their motivations for certain tasks (Ericsson & Simon, 1998). This allows documentation of the usability of a document, product or, in this case, a list of questions and options.

These tests with client lead users led to a third iteration through which Venture IQ is considered able to define the strategic motive and corresponding search type (market/technology/explorative) and define the level of their knowledge at the start of a project.

The final version of the survey (Appendix J) will be taken into the detailing phase.

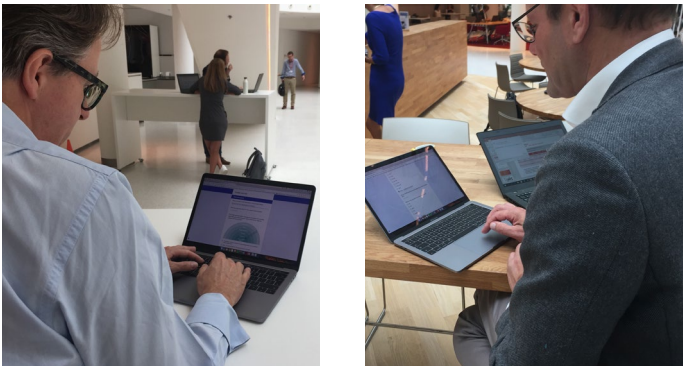


Figure 3.9 - Thinking aloud survey test with client lead users

In reality very few clients engage with Venture IQ before the idea level. The rationale for including this knowledge level in the model is that at the level of “idea” a client already knows the topic is relevant for their specific firm.

3.5 SERVICE MODEL

The service model in Figure 3.10 is proposed as a framework for Venture IQ's future services. The input for this service model is the intake procedure, identifying whether a project is either a market, technology or explorative search. Additionally the client knowledge level is established and analysts undertake the actions to progress to deeper levels.

KNOWLEDGE LEVELS

Knowledge levels are defined as states that slightly differ for each search type, as is seen in table 5. The knowledge levels describe the state a client is in at the point where Venture IQ is engaged for collaboration. This allows Venture IQ to pinpoint exactly what search actions to start with. Beyond scope, definitions are the same for the knowledge level of Criteria and Targets Identified for all three search types. This corresponds with the vision for the identification matrix to apply to the early stages of strategic searches, where it is essential for Venture IQ to define the search type in order to find the appropriate first sources and internal collaborators.

The design iterations showed that the titles of the knowledge levels are highly sensitive to interpretation. To minimize ambiguity these levels need strong definitions that can be communicated among analysts and clients.

Awareness

As stated earlier, in practice very little projects will start out from the Awareness level. This is simply because a client is not yet able to decide whether an innovation is relevant to their firm. The rationale for including Awareness in the model is that there must be a level prior to Idea. The practical implications of this level to Venture IQ's services are currently absent, but this level does offer opportunities for future services where clients are inspired with technology trends that they might not have considered before.

Idea

The client has an abstract idea of a which new market or technology they would like to gain access to, or intends to explore a combination of both. The value of the search is recognized and a decision is made to initiate a project.

Segmentation

At the level of segmentation the client is able to provide a categorization of areas with significant relevance. Depending on the project type, these segments describe areas of application for a technology, customer segments, a value chain, or more concrete, patent tree classifications or SIC-codes (standard industry classification codes).

Scope

The scope builds on the segmentation level, only the client has made a decision on which segments are going to be investigated in depth. To reach the level of scope the client must know of relevant examples of companies or technologies that fit the scope.

Criteria

To come to criteria the areas within the scope must be filled with companies. Up to this point information on these companies is relatively thin. Criteria are used to define the information that is needed to make a informed decision.

Identified targets

The Catalist profiles of the companies within the scope are filled with the information that is needed to run the criteria. Using filter features in Catalist the client is able to select a group of companies that meet the criteria. The client is ready to approach these companies to explore possibilities to collaborate.

CIRCULAR KNOWLEDGE LEVEL MODEL

The model in Figure 3.10 is used to capture Table 3.2 in a format that can be easily presented among collaborators. The model has been formed into a circular shape to indicate the broadness of the knowledge levels. Outer levels mean the knowledge and goals are more abstract and the fields in which companies might be searched is wider. Moving a level deeper means the search team and client have reached more concrete understanding of what it is they are looking for and what the possibilities are.

SEARCH PROJECT RESULTS

Not every project starts at zero, or has to achieve the deepest knowledge level. For example, a large firm might be looking to map a technological sector, in which case a search project will only go as far as segmentation. This requires the service model to offer flexible starting points and goals. These are found in the knowledge-levels. After the results are delivered that were agreed upon, Venture IQ can always offer subsequent search actions.

Identified targets is the final level in this service model, as this is where is decided which potential partners are going to be approached, either by Venture IQ or the client firm itself. Contacting target companies is not considered a search action, rather an additional service Venture IQ is able to provide.

SERVICE MODEL FLEXIBILITY

The service model offers various points of entry and exit in the form of knowledge levels. At the start of a new project the level of entry and desired result are agreed upon between Venture IQ and the client. This flexibility allows Venture IQ to adapt their service more specifically to client needs.

	Market search	Technology search	Explorative search	Actions
Awareness	Client is aware of potentially interesting new market	Client is aware of potentially interesting new technology	Client is aware of a radical new innovation	
Idea	Client intends to investigate the value of the new market to their specific firm or industry	Client intends to investigate the value of a new technology to their firm or industry	Client sees relevancy for their firm and wants to learn more about the options	
Segmentation	Client is confident about their knowledge of the market and is able to identify segments	Client has sufficient knowledge about the technology to identify areas for applications	Client has identified areas of application or markets that require further investigation	
Scope	Client has selected the most promising areas from the segments and intends to investigate those segments further			
Criteria	Client has evaluated enough companies to compose selection criteria			
Targets identified	Using the criteria the client has composed a short list of companies that are highly relevant is made. These companies will be approached for interviews			

Table 3.3 - Knowledge level definitions in different project types

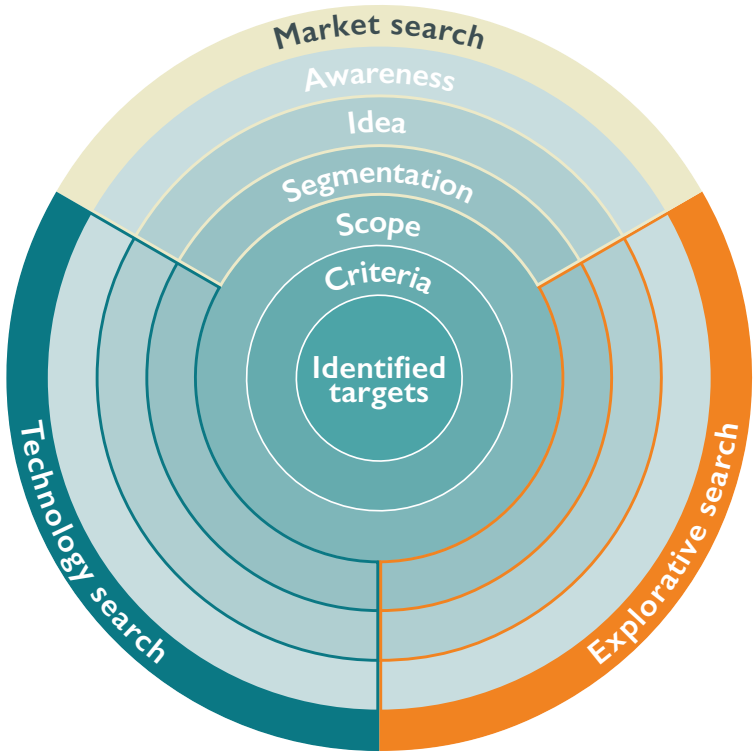


Figure 3.10 - Knowledge level model with search types

ACTIONS

With the knowledge level established, analysts can undertake actions to progress to deeper knowledge levels. These actions in the service model depend on the level that is sought to be achieved and the project type. The actions undertaken to progress in knowledge level are represented in Figure 3.11. For each of the three project types, market, technology and explorative the definitions of the actions are based on findings from the inspiration phase, combined with input from the Venture IQ team.

Each action in the service model consists of search activities performed by Venture IQ. These search activities lead to new information that is shaped into formats that are accessible to clients. So to achieve a new level,Venture IQ provides a suggestion on which the client team can decide to go through to the next phase or do another iteration and keep searching to improve the desired knowledge in that level.

In the actions leading up to segmentation the deliverable will be a categorization of areas to dive into. A client can then approve of the categorization and Venture IQ will start their search to find examples within these segments. Based on the examples of companies the client team can make a choice on which segments to dive into. Once this decision is made the level of Scope is achieved.

The difference between segmentation and scope is that the first is constructed using general sources like technology and market reports, whereas a scope is based on examples of companies.The scope consists of a selection of segments that were described through the companies in them.

When a scope is agreed upon,Venture IQ is able to further define the search and gather the appropriate sources of data to collect as many companies as possible within the selected segments.

When a large amount of companies have been found within the scope, the client can provide a list of criteria they will base their selection on. Venture IQ can then collect all the information for the companies within the segments in their Catalist profiles, after which the client can select and identify the most promising.

ITERATIONS AND SKIPPING LEVELS

The level-action process is not limited to a linear process. Exceptions to the process are likely to occur in the form of iterations. This happens when a client requests additional search actions before progressing to the next level. This can occur when a segmentation is still too abstract, or the client believes more companies need to be found before they can start defining criteria.

Another exception is when levels are skipped, for example, when segments are proposed and the client is immediately able to tell which ones they want to focus on. To illustrate the service process and some exceptions several examples are provided in the next section. They refer to the numbered arrows in Figure 3.11.

EXAMPLES

1. Segmentation and scoping

A large firm specialized in healthcare is looking to explore the opportunities of artificial intelligence (AI). They have little experience with the technology and are not able to specify which parts of their activities it might impact. This is an explorative search, that will start in the knowledge level of idea.The first action is to use a variety of sources like news and technology trend reports to find promising applications of AI in different fields of healthcare. The list of areas where AI is applies is shared with the client team. The client team discusses the segmentation and upon approval of the segmentation Venture IQ starts searching companies for each of the segments. Based on the companies found the most promising segments are selected to reach a scope.

2. Skipping a level

A large firm specialized in the production of raw materials is looking for promising young ventures that are driving growth in new markets.Venture IQ starts out with mapping the market areas, and before the client agrees with the segmentation they have already pinpointed exactly which segments they want to dive into, thus skipping the action that follow the segmentation level and progress directly to scope.This allows Venture IQ to skip a broad company search spanning all areas and immediately dive into a well-defined segment.

3. Iterate

The possibility is always present that a client requires additional information to make the decision to progress with, for example, a segmentation.What follows is a review of the search actions and an iteration to improve results.

4. Companies as a starting point for a search

An electronics manufacturing firm starts a search by providing the names of several companies that are developing promising technologies for virtual reality. Venture IQ is tasked to find more companies like the ones provided.The approach here is to examine the companies provided and return to the level of scope. Information extracted from the companies provided like patent classes and keywords form the input for a thorough search phase.

Note
Examples of search topics and industries are fictional.

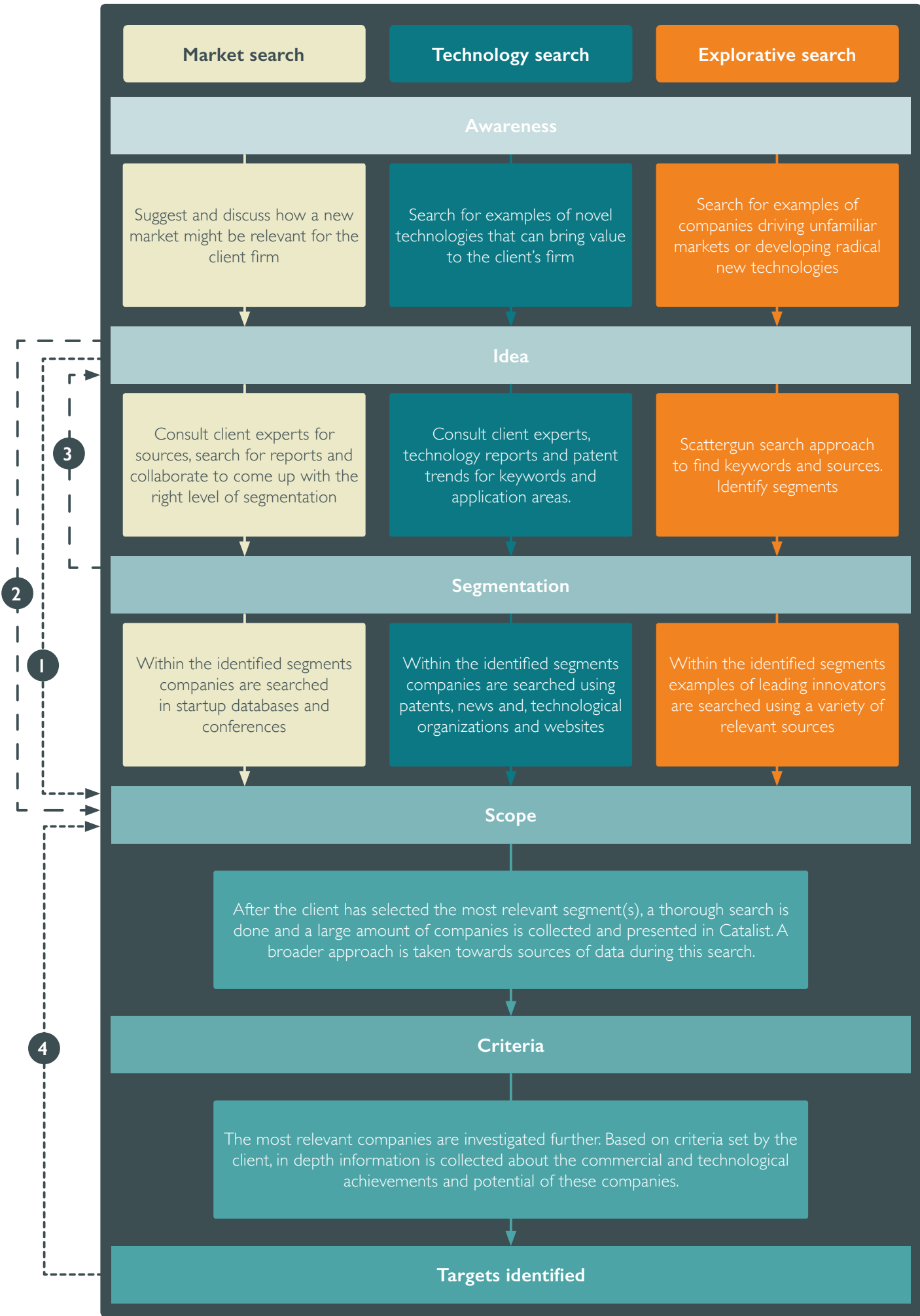


Figure 3.11 - Search actions to be taken to reach deeper knowledge levels

3.6 CLIENT WORKFLOW

This section will elaborate on the chosen concept, simplified rating. It starts out with a visual representation of the intake procedure for new projects. This is followed by the workflow for analyst to define the project type, client knowledge level and select the initial steps to start a search.

INTAKE PROCEDURE

For existing clients, the intake procedure for new projects will change drastically from Venture IQ's current service process. Initiating a new search will become a very low-barrier and online experience. In this experience the starting point is the main menu in Catalyst (Figure 3.12). "New Project" is one of the key features in Catalyst, and can be accessed by either a client lead user or a project based user. This section provides a mock-up of the intake procedure, which steps are supported by brief explanations. A fictitious project is used as an example to explain the intake procedure.

The primary function of the intake procedure is to collect project related information from the very first moment a client user has decided to put it in Catalyst. The client is not required to execute search activities after setting up a project and can always come back to a newly created project to change the information stored. The project intake procedure notifies the user of this upfront to ensure the user does not feels obligated to anything or is afraid service costs will be charged.

Uncovering the project type (market, technology or explorative) and the client knowledge level is the key function for Venture IQ. After a project is set up, analysts can use the responses to define the right approach and amount of work that is needed to deliver the desired results.

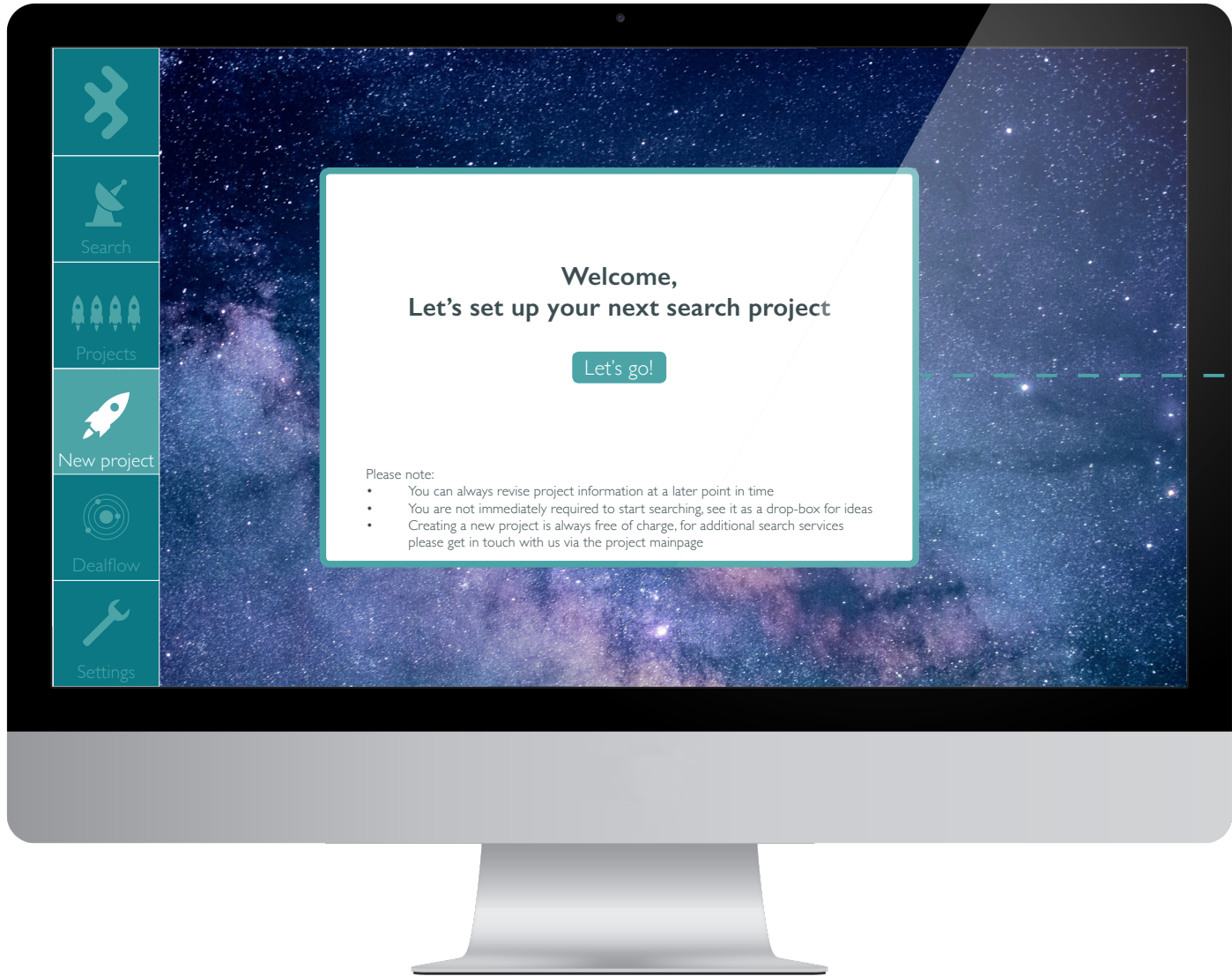


Figure 3.12 - Mock-up of the project intake procedure inside Catalyst

1/7

Please provide a title for your new project

Artificial intelligence in healthcare

What will be the goal of this project?

We are looking for companies that are bringing artificial intelligence into personal healthcare. Our goal is to find areas of application that are interesting to us and to see which companies are making significant progress in bringing their services to market.

What is the strategic motive for this project?

☒ Access to new customers and/or markets

☐ Learning about emerging technologies

☐ Learning about emerging market areas

☐ Unclear

☒ Access to new technologies

☐ Other:

Back

Continue

2/7

Please indicate how familiar you are to the topic of this project already

☐ Awareness - We are aware of trends/developments within a market or technological area of this search

☒ Idea - We have ideas on how a partnership with a company in this field might value for our firm

☐ Segmentation - We have studied the topic and have identified the segments that make up this market or technological area, and know who the frontrunners are

☐ Scope - We have identified the segments that we see as particularly interesting and are ready to investigate these further

☐ Criteria - We have defined the commercial or technological criteria a potential partner must meet

☐ Targets identified - We have identified several companies that are potentially valuable to us and are ready to investigate these further

Back

Continue

3/7

Please indicate what depth of knowledge you wish to achieve through this project

☐ Awareness - To become aware of trends/developments within a market or technological area

☐ Idea - To generate ideas for future partnerships in this field

☐ Segmentation - To get an overview of the segments within this market/technological area and frontrunners

☒ Scope - To define which segments of this market/technological areas we should get a foothold in

☐ Criteria - To define the characteristics of a future partner in this market/technological area

☐ Targets identified - To identify the most promising companies within the field of this search

Back

Continue

4/7

What geographic areas do you wish to be included in this search?

Northwestern europe

Can we include companies that have received funding so far? Why (not)?

Preferably not beyond seed-stage funding

Back

Continue

Project title
The user is required to provide a title for the new project.

Project description
The description will provide the user's colleagues and analysts with a basic understanding of the problem the user is trying to tackle or the idea that forms the input for the project. Project drivers can, for example, be changes in the market, technological advances or internal problems at the users firm.

Strategic motives
This is how analysts can identify the search project type.

Familiarity to the topic
This indicates the starting point of the project within the knowledge level model. Analysts become aware of the clients entry level of knowledge and can respond with appropriate search related actions.

Knowledge goal
The user shares the desired knowledge level he/she intends to achieve through this search. Together with the entry level this shapes the project workload, as analysts can make a judgement on the search actions that are required.

Target properties 1/3
Initial metrics are shared by the client if known, to narrow down search efforts for analysts. Many large firms prefer to partner with ventures in their own geographic area for the ease of collaboration, and others specifically target foreign markets.

Clients might not be interested in companies that have already received funding for various reasons. On the other hand, having received funding might be seen as a sign of potential success.

5/7

Which business stages are interesting for this search?
Please select all appropriate technology readiness levels.

☐ TRL 1 - Basic scientific research to demonstrate basic principles

☐ TRL 2 - Technologies basic principles are observed, practical applications can be invented

☐ TRL 3 - Analytic & laboratory testing of core technology

☐ TRL 4 - Basic technological components integrated to establish that the pieces work together

☐ TRL 5 - Basic components integrated so it can be tested in a simulated environment

☒ TRL 6 - Prototype tested in high-fidelity laboratory or simulated operational environment

☒ TRL 7 - Full prototype tested in operational environment

☒ TRL 8 - Integrated product demonstrated in field-tests, final adjustments in progress

☒ TRL 9 - Final product operated successfully in real-life and ready for marketing & sales

☐ Other (please specify):

Back

Continue

6/7

Please indicate the company size(s) that are relevant

☐ 1-10 employees

☐ 501-1000

☒ 11-50

☐ 1001- 5000

☒ 51 - 200

☐ 5001 - 10000

☐ 201-500

☐ 10000+

What customer orientation should the targets have?

☐ Business (B2B)

☐ Other (please specify)

☒ Consumer (B2C)

☐ Government (B2G)

Please provide customer orientation here

Back

Continue

7/7

Invite team members to collaborate via e-mail

collaborator@firm.com

collaborator@firm.com

collaborator@firm.com

collaborator@firm.com

+

Please share any further comments and documents you find relevant

Please provide customer orientation here

Please provide customer orientation here

Back

Finish

All set!
The new project has been created

Go to project to start searching

Go to project

Home

Target properties 2/3

Users can indicate their preferences for business stages of the companies that are going to be collected by analysts. Very early stage companies (or even pre-business) are difficult to find, whereas TRL 9 companies are commercially operational and, in many cases, are highly visible online and, e.g., industry conferences.

Target properties 3/3

Additional target company properties are captured in the form of company size and customer orientation.

Invite team

The user is able to send an e-mail invitation to colleagues or external experts to collaborate on the project. Collaborators are presented with the same intake procedure upon logging in (or after creating an account), to increase response reliability and check team alignment.

Comments and documents

In this last section the respondent can provide additional comments that might be valuable for the project and share relevant documents with the rest of the team.

Successfully created a new project

The user is presented with a link to the newly created project's mainpage.



Figure 3.13 - Mock-up of a project mainpage in Catalyst

PROJECT MAINPAGE

After the intake survey a project becomes available in Catalyst. The project specific information is distributed over four different tabs.

Main

The mainpage includes all the information relevant to the goal of the project. A description of the project is available and all the target company properties are visible here. A discussion field allows the client team to talk about the goal of the search and suggest changes to the target company properties. This is also where client users and analysts interact and share insights related to the search.

In this particular example, during the intake the user has indicated to be in the idea phase and wants to determine a scope through this search project. This has led to Catalyst automatically showing two extra tabs next to target properties: segmentation and scope. The segmentation tab provides an interface to capture segments that are found during search activities. The scope tab provides an interface

to compare segments according to the companies found in them and select those that have the highest relevancy for the client.

Companies

The companies tab is where the entire list of companies that were found during the search is available. Data visualizations and filters let clients explore this list. Newly found companies are presented in a simplified rating interface, where users can easily provide their feedback on the search results.

Team

This is where a client lead user can manage the search team composition, by inviting team members and external experts through e-mail.

Documents

The documents tab is where client users and analysts can share market reports, scientific journals, online sources and other documents that might contribute to the search.

3.7 SERVICE DELIVERY

With the redesign of Catalist and a new way of working for clients, interaction with Venture IQ will change. The search services they provide will need to be organized around the projects in Catalist. Communication will shift from being scattered across formats like email and phone calls to online.

STARTING THE COLLABORATION

As client lead users are the most important gate at large firms to start innovation searches, they are the ones who decide which projects will be executed with the help of Venture IQ's services. Client lead users have access to the "project queue", where they oversee all current and future projects. When they decide to take on a project they change the status to "Active" (Figure 3.14) and Venture IQ is notified. This is when analysts start collaborating.

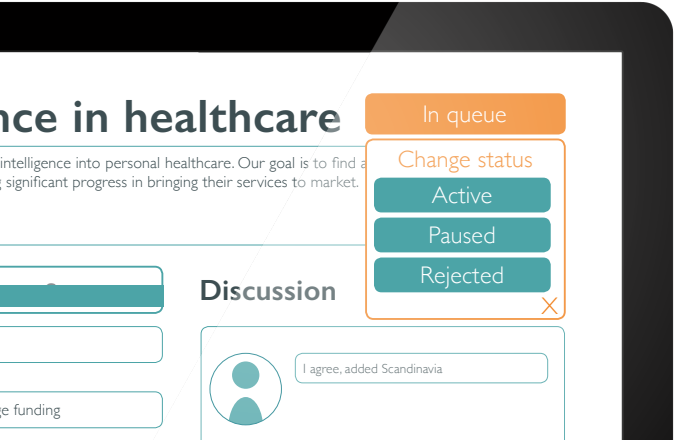


Figure 3.14 - Changing project status

IDENTIFYING A PROJECT TYPE

For analysts a new project starts when it's profile is set to "active" by a client lead user. The profile is composed from the survey responses automatically, and analysts can identify the project type from the questions about strategic motive and the starting- and desired knowledge level. Whether a project is a market, technology or explorative search depends heavily on the client firm's current activities. In the final design this judgement remains to be made by analysts.

A reliable method to automatically identify project types will require advanced data and analytical technologies to recognize a client's current business. Unless analysts are not going to be able to keep up with new assignments, developing this is not worth the effort in the near future.

For the example used in section 3.6, "artificial intelligence in healthcare", the first task after receiving the survey responses is to consider the client's background. If it is a healthcare company, this search is most likely to investigate

different AI technologies. Market segments are well known to the firm, thus it is a technology search. If the client is a software company developing AI capabilities, for example, it is going to be a market search because the healthcare industry is going to be relatively new to them and needs to be mapped first. In both these cases Venture IQ starts with uncovering information that rests within the client's firm by talking to internal experts. However, if both the market and technology are unfamiliar to the client the search enters the explorative mode, starting off with a scattergun approach. The goal here is to find as many companies as possible and uncover what the client finds interesting.

IDENTIFYING THE KNOWLEDGE LEVEL

The intake procedure has proven to be suitable for uncovering the amount of knowledge a client has on the topic and where the project needs to go. In the case of "AI in healthcare" the starting point is an idea, and the desired outcome is a scope. This means Venture IQ is required to help them progress two knowledge levels by undertaking the corresponding actions.

ANALYST PROCESS

As the new project is set to active, Venture IQ receives a notification. Analysts then pinpoint the project type, knowledge levels and the appropriate search actions. For "Ai in healthcare" the example is provided in Figure 3.15.

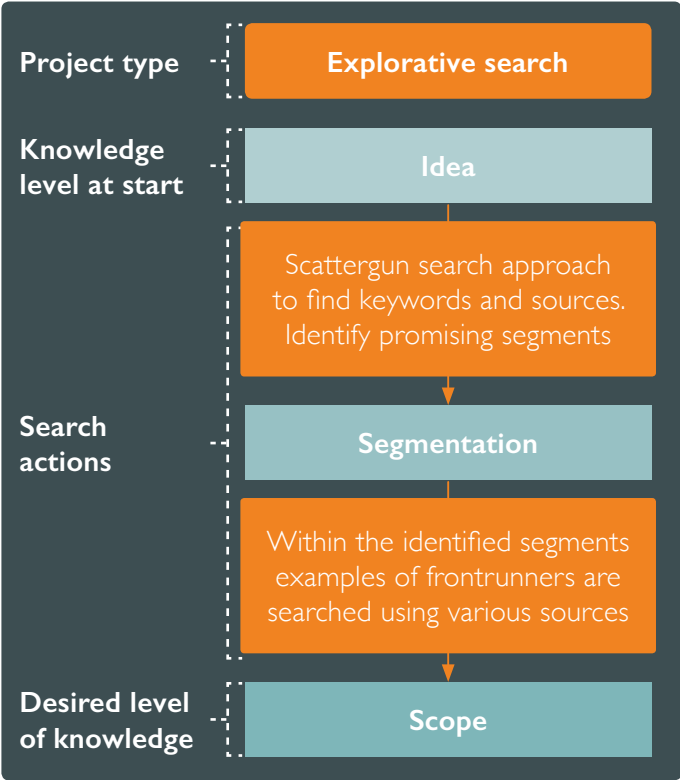


Figure 3.15 - Example of analyst search process

3.8 CONCLUSION

In this conclusion of the design phase the challenges that needed solving are reviewed. Does the redesigned platform solve the how-to's, and on a higher level: will this redesign of Catalist lead to significant changes towards the design vision of making Catalist the go-to platform for strategic CVC searches?

DESIGN VISION AND CHALLENGES

As stated in the design brief the vision for the design phase was as follows:

FOR CATALIST TO BECOME THE GO-TO PLATFORM TO START AND ACCELERATE STRATEGIC CVC SEARCHES

Aspects of this vision were formulated as design challenges. Each design challenge has been taken into ideation, conceptualization and detailing, collectively resulting in the redesign of Catalist and Venture IQ's service model.

Identifying strategic motives

The redesign of Catalist allows analysts to recognize the strategic motives in the earliest stages of a new project. Additionally it provides the starting point for the search and with help of the service model the appropriate search actions are selected.

Simplifying project initiation

Initiating projects will now be facilitated through Catalist, which is expected to significantly lower the barrier to start a new search for existing users.

Driving engagement

Catalist's redesign will make the process of providing feedback easier for project based users, by providing a simplified interface for rating companies. E-mail notifications will notify these users when new companies are found and ready to be rated. These e-mails will link directly to the simplified interface, increasing engagement on the platform.

With the new project intake procedure a higher return rate is expected for project based users. They are now able to suggest new projects to client lead users via Catalist.

Collaboration

Catalist will become a better place to collaborate through the redesign. Clients can share expertise and discuss projects to a greater extent and involve Venture IQ in their considerations.

Communication through Catalist

Due to the fact that Catalist will support discussions on projects, rather than merely single companies, communication is expected to shift from various channels to Catalist. This exchange will become centralized, making Catalist the go-to place to store and find project related information.

ANALYST WORKFLOW

The workflow process for analysts is new to Venture IQ and will function as a blueprint for search projects. The effect of this workflow is that searches become more organized, and Venture IQ is able to improve their estimations of the efforts that are required to help a client.

A key learning from the design phase has been that the terminology and definitions used in search projects is often confusing. The old three-phase process of kick-off, search and deep-dive did provide somewhat of a guiding structure, but did not include definitions of search steps and how they contribute towards achieving the goal of the project. Venture IQ and their clients use words like scope and criteria to refer to nearly everything that is relevant for a search, from planning to geography to technological areas. An added benefit of the new service model is that it provides definitions in the form of knowledge levels and actions, so that Venture IQ can reduce ambiguity.

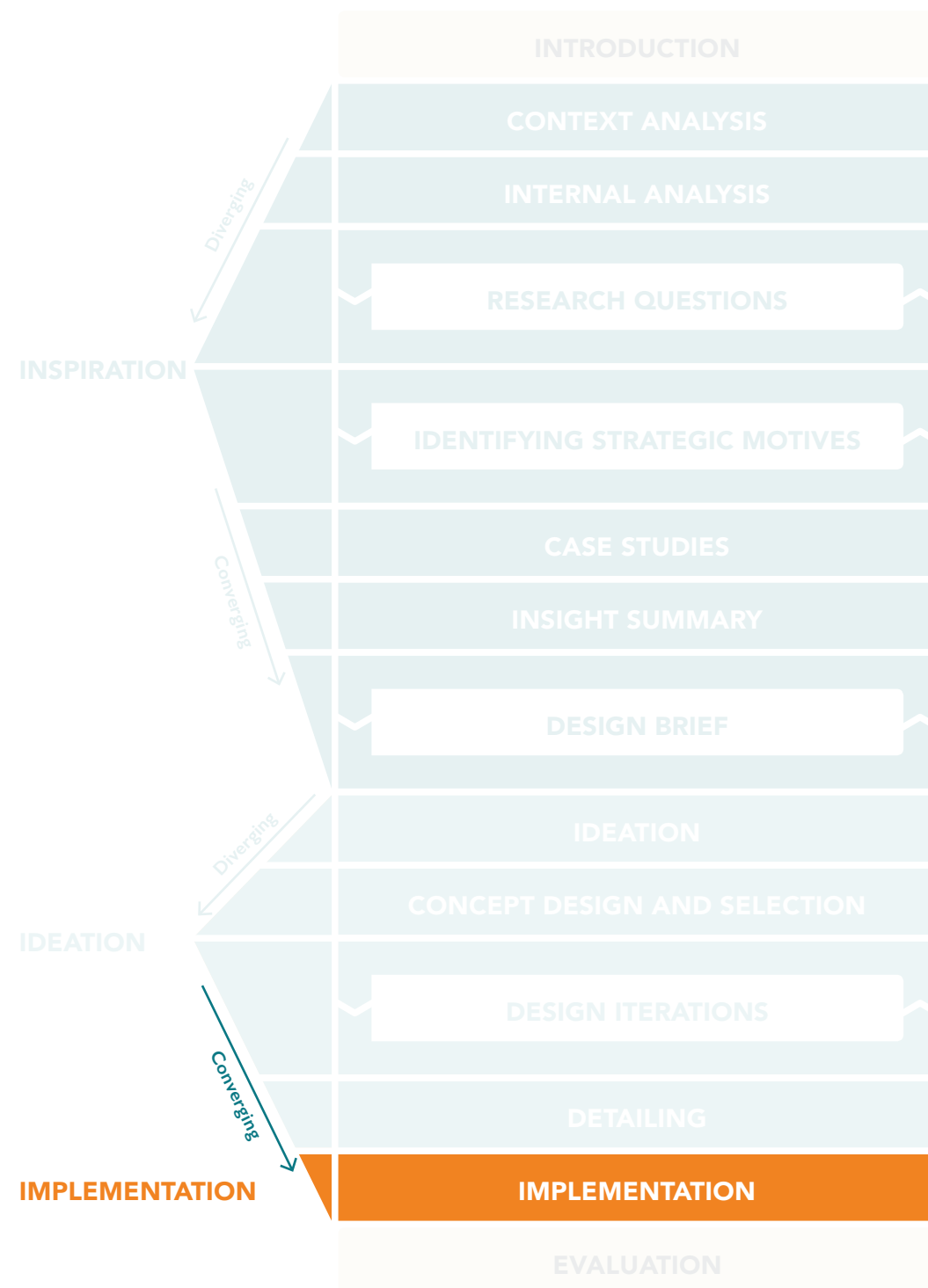
NEXT STEPS

The design will be taken into the implementation phase, where a roadmap is developed for Venture IQ to implement the new service model in their current process. Implementation propositions are made through value proposition design, an implementation roadmap and suggestions for future services that build on this design.

A full-page background image showing a rocket launch at night. A bright orange arc of light curves across a dark blue sky, starting from a launch site on the left and ending on the right. The launch site is visible on the ground, with some lights and structures. The foreground shows a body of water and some land with trees.

4. IMPLEMENTATION

- INTRODUCTION
- VALUE PROPOSITION DESIGN
- IMPLEMENTATION PLAN
- GENERATING BUSINESS
- CONCLUSION



4.0 INTRODUCTION

The implementation chapter sets out to create a positioning for Venture IQ through value proposition design, and thus answering the fifth design challenge: “How to position Venture IQ to fill the ‘Want’ gap in the market”. This results in a basic mock-up of Venture iQ’s homepage and three subscription plans.

A six month plan for the implementation of the redesign is then presented, starting off by using the new service model and client need identification method. Recurring learning processes are included in the planning, ensuring Venture IQ’s organizational learning and confidence in the quality of new features prior to launch.

Moving Catalist to a project based infrastructure and applying a new service model aims at solving Venture IQ’s current issues and offering a better service. The redesign focuses on existing clients, not yet how new business might be attracted. Options are explored to use the new proposition of identifying client needs to attract new clients and increase business generated from firms that are already working with Venture IQ.

4.1 VALUE PROPOSITION DESIGN

The objective in this section is to answer the fifth design challenge: “How to position Venture IQ to fill the ‘Want’ gap in the market”.Through value proposition design a positioning statement is formulated.This is then expressed as a message to explain to clients what value Venture IQ can deliver for them.

How to position Venture IQ to fill the ‘Want’ gap in the market?

VALUE PROPOSITION DESIGN

Throughout this study elements of the value proposition canvas have been collected. This sums up Venture IQ’s promise as a company and what they are able to provide to their customers. Figure 4.1 shows a simplified summary of the customer segments and the value proposition that captures the core of Venture IQ’s business.

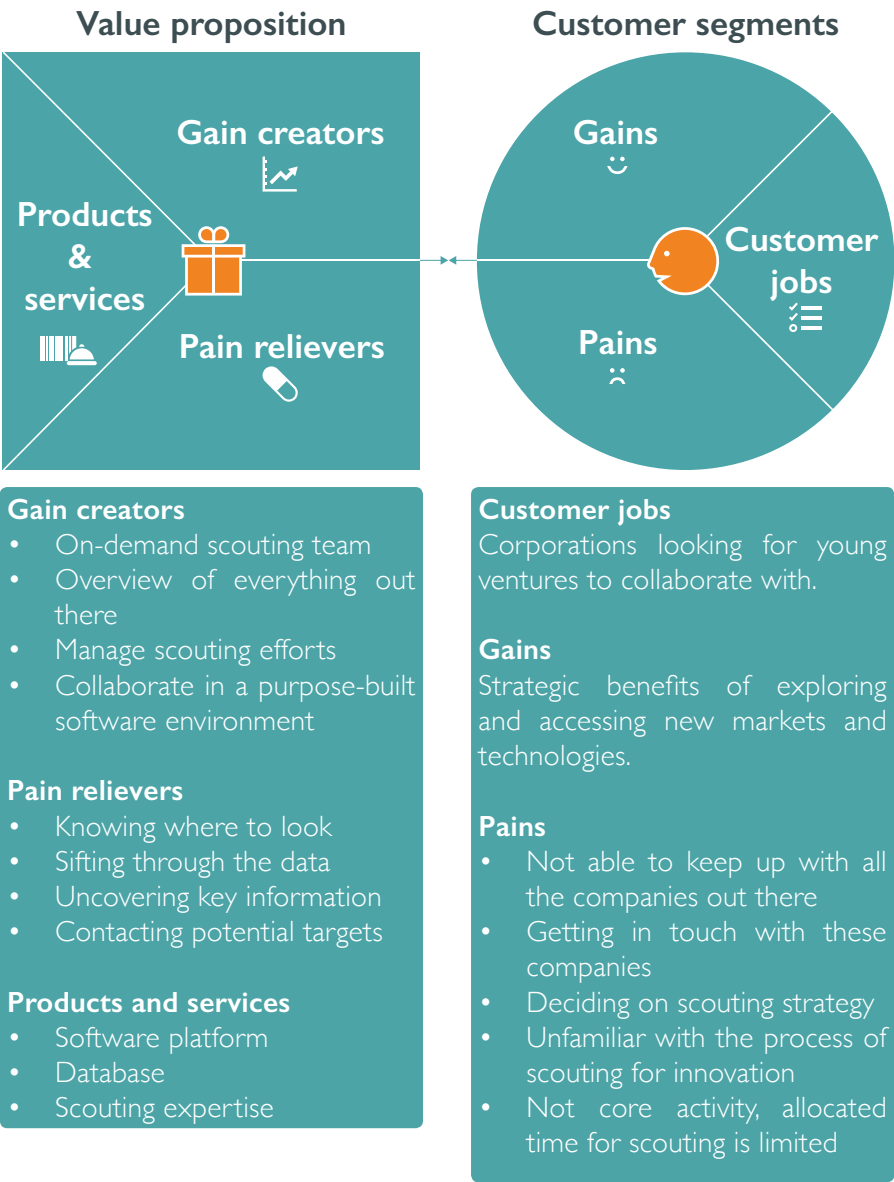


Figure 4.1 - Value proposition Canvas

The summary of Venture IQ’s value proposition is what needs to be communicated to potential new clients and forms the input for the positioning statement.

POSITIONING STATEMENT

The foundation of creating the positioning statement has been laid in the inspiration phase. Using the redesign Venture IQ is able to move into the Want-stage gap that currently exists in the market by better identifying client needs. In this strategy the client comes first, and the positioning statement is used to carry out this vision.

By being able to recognize the client’s strategic motives and (desired) knowledge level Venture IQ has an edge on self-service databases, as they are better at tailoring the search process to the needs of their clients. As opposed to consultancy type competitors that provide fully custom, one-of projects, Venture IQ has the platform through which they are able to increase efficiency in collaboration and service delivery.

Value proposition components

- Who - Venture IQ
- What - Searching young ventures
- Where - Online, globally
- When - Early project phase
- Why - To find frontrunners
- How - Through data and expertise

This has led to the following formulation for Venture IQ’s positioning statement:

For leading corporations looking for innovative ventures, Venture IQ translates their strategic drivers into search results using a cutting edge platform. Venture IQ offers on-demand data expertise to help corporations identify and engage with the frontrunners among millions of companies globally.

MESSAGE

To present Venture IQ’s offering a basic redesign of the website’s homepage is done (Figure 4.2).This page should communicate clearly what Venture IQ has to offer and reel in new clients.The top section presents the visitor with the so called ‘hero image’, an image that represents Venture IQ’s services and captures the visitors attention. In this case the photograph of radio satellite dishes represents Venture IQ’s proposition of finding the gems among millions of data points. Additionally this section provides a menu with links to the rest of the website and a log-in button for catalyst.

Features

Scrolling down “below the fold”, the visitor can view more information about software features and what data is available in the full version.The most important features to explain are the project pages, team collaboration, access to company data and tools for analysis.

Pricing

Below the features section three customer plans are presented.One free version where users can create projects and collaborate. The second version provides access to the Venture IQ database and additional functionality. A third version gives full access and includes analyst services on top of the platform. Clients have different needs and projects are not similarly sized, therefore pricing will be tailored to the client requests.

Note: Pricing plans are fictional

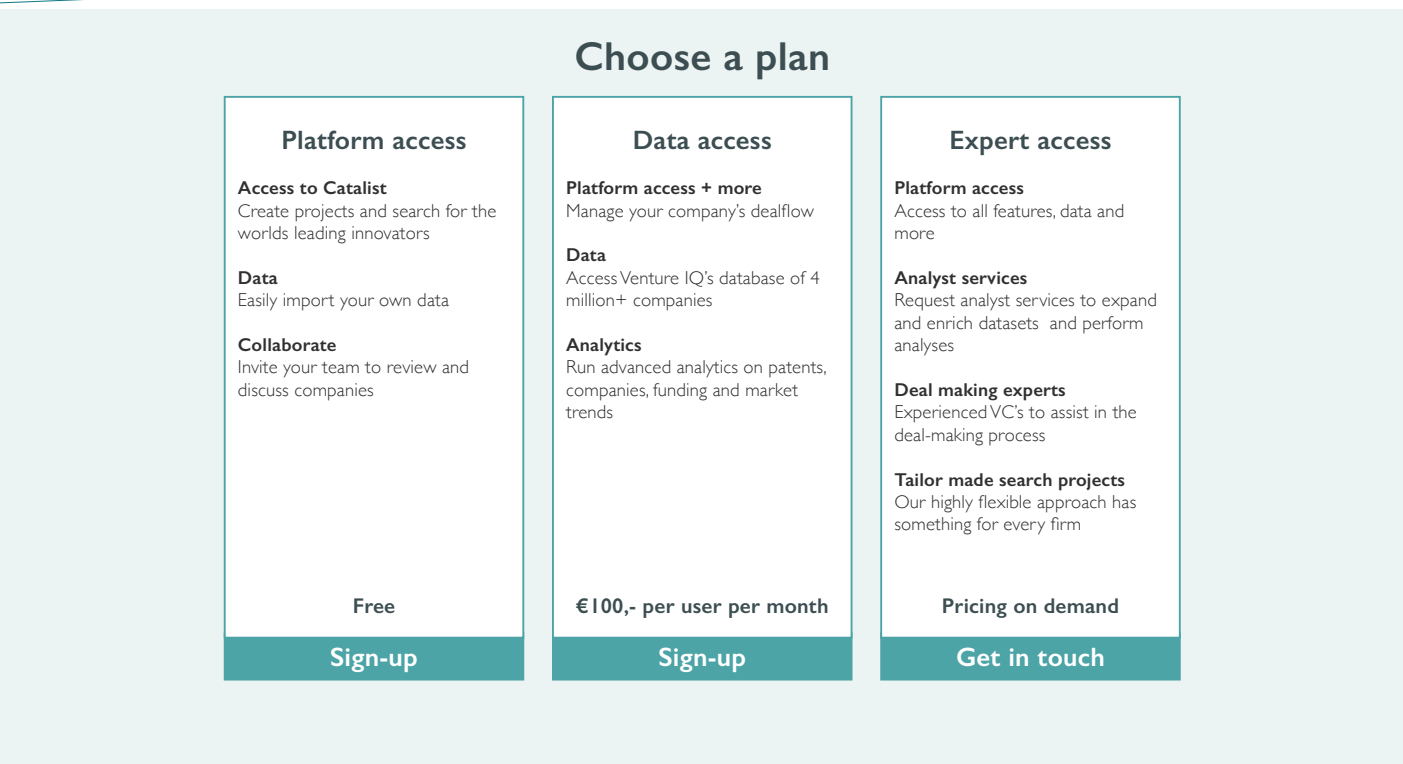


Figure 4.2 - Mock-up of the Venture IQ website

4.2 IMPLEMENTATION PLAN

The proposed design offers many possibilities for Venture IQ's services. This section is dedicated to how the new service model and redesigned platforms can be implemented into daily operations over the course of the next six months.

ELEMENTS OF THE NEW SERVICE

The redesign of Venture IQ's services has two main elements that require a plan for implementation: analyst services and platform developments. In the final design these elements are intertwined but the new analyst service model can be implemented today, and without making changes to Catalyst. Developing the new features for Catalyst is going to take significant effort from the development team.

ANALYST SERVICES

Intake procedure

A first version of the intake procedure can be implemented immediately. Catalyst will need to undergo many changes before the intake survey can be integrated, but analysts are already able to use surveys today. An online version of the survey can be sent to clients that want to start a project. Briefing documents have already been collected for several projects, so it is a small step towards a survey based format.

Service model

With the use of the intake surveys the new service model can also be adopted right away. It will replace Venture IQ's current process visualization and provide a structure to identify strategic motives, knowledge levels and actions to take. This structure can also be useful to explain to clients what it is Venture IQ can do for them.

Reviewing the process

During the early phases of using the new analyst service model, regular a regular review session need to be scheduled to improve the definitions and actions in the service model. The first round will be based on the first projects that are ran using the service model.

Not only the service model will be reviewed but the intake survey will also undergo critical assessment. Regular review of the results from the survey lead to improvements of the survey itself to obtain more useful information during the project intake.

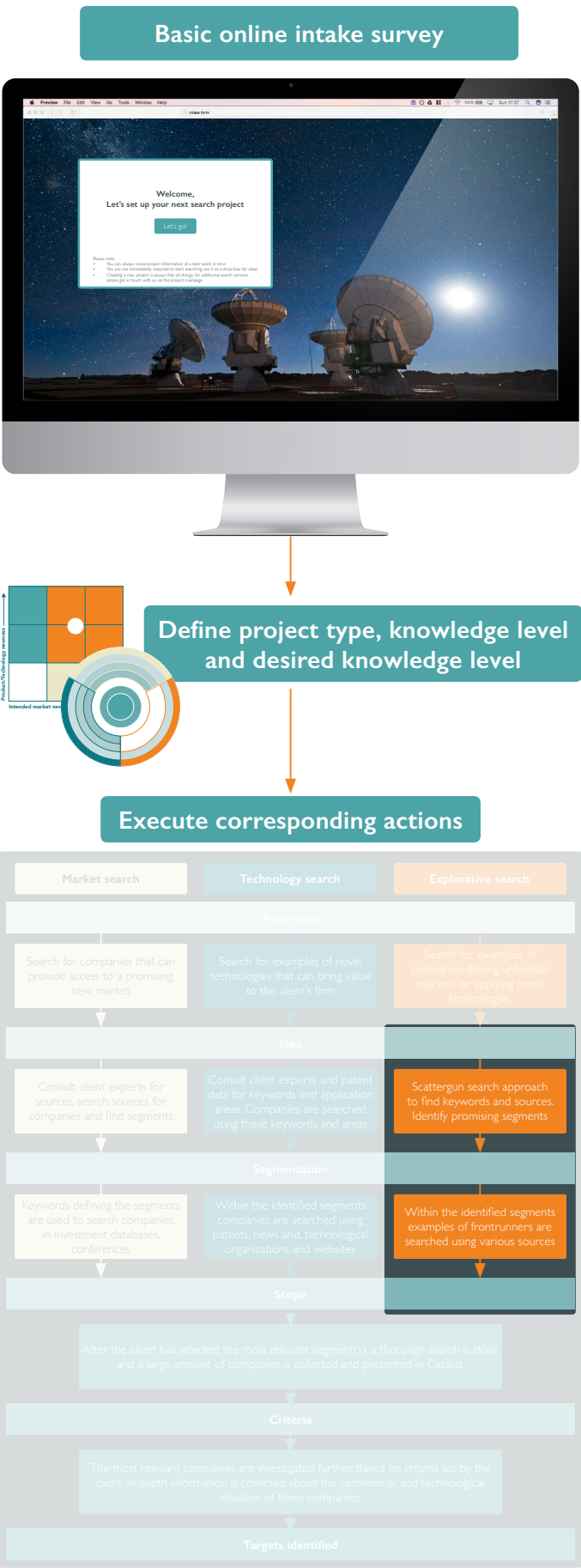


Figure 4.3 - Readily implementable service process

PLATFORM DEVELOPMENTS

Preparations

For the development team to be able to work on the new features for Catalyst the current version needs to be fail proof. Minimizing maintenance tasks will allow the team to focus on new platform features.

E-mail notification system

To drive engagement on the platform clients will be notified of new finds related to the searches they are involved in. These e-mails will be generated automatically after an analysts has linked a group of newly found companies to a project.

Simplified rating interface

One of the key features from the selected concept was to create a simplified interface for rating companies. This interface presents users with the most recent finds for that search and offers a user friendly method for providing feedback.

Project infrastructure

Catalist currently does not feature projects. Clients have access to Collections, which are essentially lists of companies without further information about that group. The first step is to change the setup of the platform to support working on projects, in stead of individual companies. The foundation of this is to create a feature where clients lead users have an overview of all past, current and future projects.

Project interface design

To capture information about each project Catalist will need to feature project mainpages (Figure 3.13). This page will include a section for the companies related to that project, new finds, discussion feed, a team page and a place to share documents that are relevant.

Integration of intake procedure in Catalyst

Several iterations of the intake survey have already been done before integration in Catalyst starts. This will ensure the quality and usefulness of the intake procedure before it's integrated in the platform.

IMPLEMENTATION ROADMAP

The required elements of Venture IQ's future services are captured in the implementation roadmap (Figure 4.4). The first steps after preparation of the current platform will focus on increasing engagement on the current platform by setting up simplified rating and email notifications. This is followed by the development of a new infrastructure where clients and analysts work on projects instead of individual companies. The final stage of implementation is integrating the intake procedure into Catalyst, first enabling clients lead users to start new projects fully on their own, and next to collect ideas for search projects from colleagues throughout their firm.

This roadmap is a guideline for reaching milestones in the implementation of new platform features and development, test and launch planning are estimates.

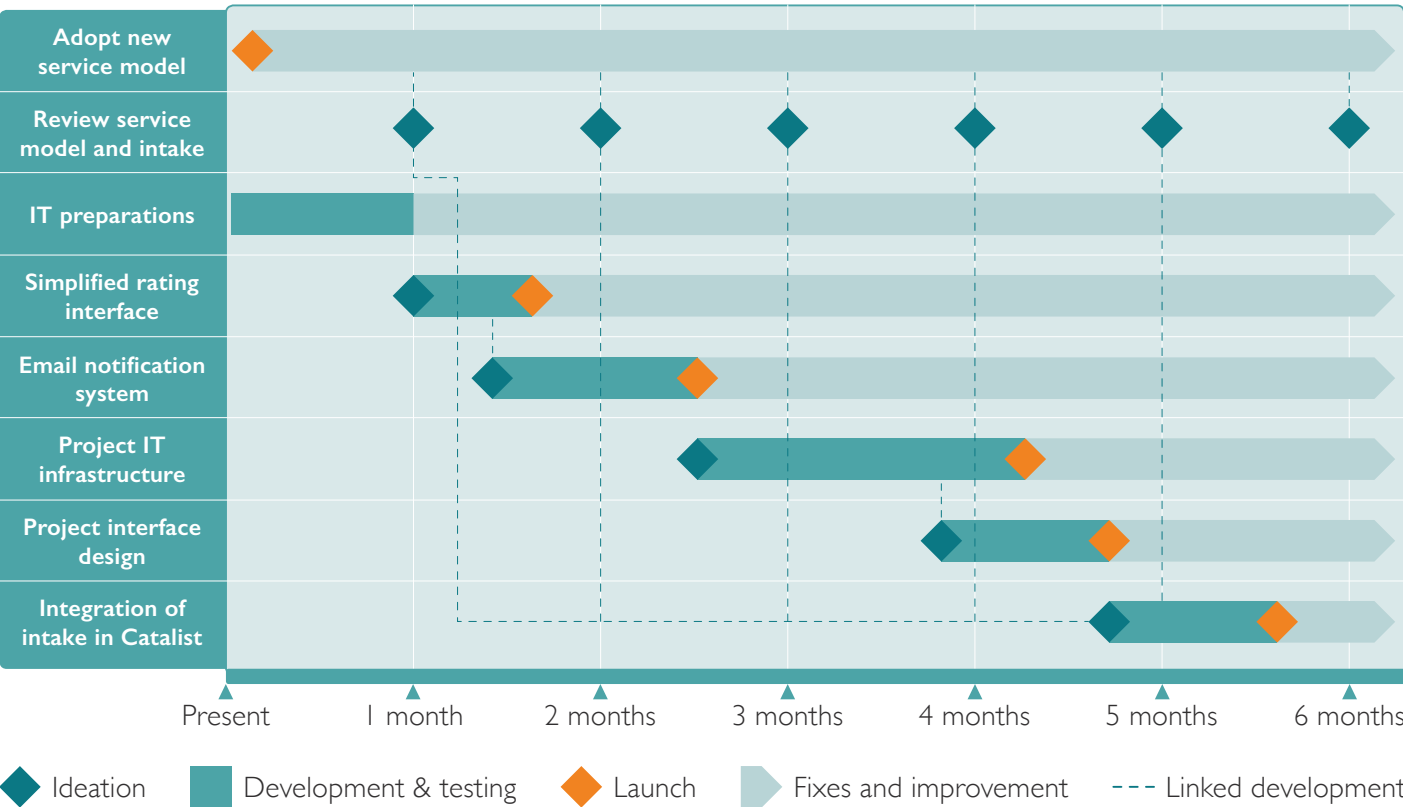


Figure 4.4 - Implementation roadmap

4.3 GENERATING NEW BUSINESS

Moving Catalist to a project based infrastructure and applying a new service model aims at solving Venture IQ's current issues and offering a better service. The redesign focuses on existing clients, not yet how new business might be attracted. This section explores how the new proposition of identifying client needs can be used to attract new clients and increase business generated from firms that are already working with Venture IQ.

ATTRACTING FUTURE CLIENTS

The proposed redesign targets clients that are already working with Venture IQ and have the intention to start a new project.

To engage potential clients that learn about Venture IQ the barrier to try out the services is significantly lowered. A similar project initiation procedure is accessible through

Venture IQ's homepage (Figure 4.5). The procedure is started simply by pressing "find your next innovation partner" or the icon above it. No account is needed to start the process of creating a new project.

After completing the intake procedure the client is presented with an explanation of Venture IQ services that can help the client to achieve their goal. When a client is truly interested in following through with the project an account can be created free of charge. For new clients it firstly a method to collect ideas for search projects, and secondly a way of getting acquainted with Venture IQ's search offerings.

For Venture IQ this low-barrier onboarding approach collects data on potential new clients, and offers the opportunity to convert these to new business.

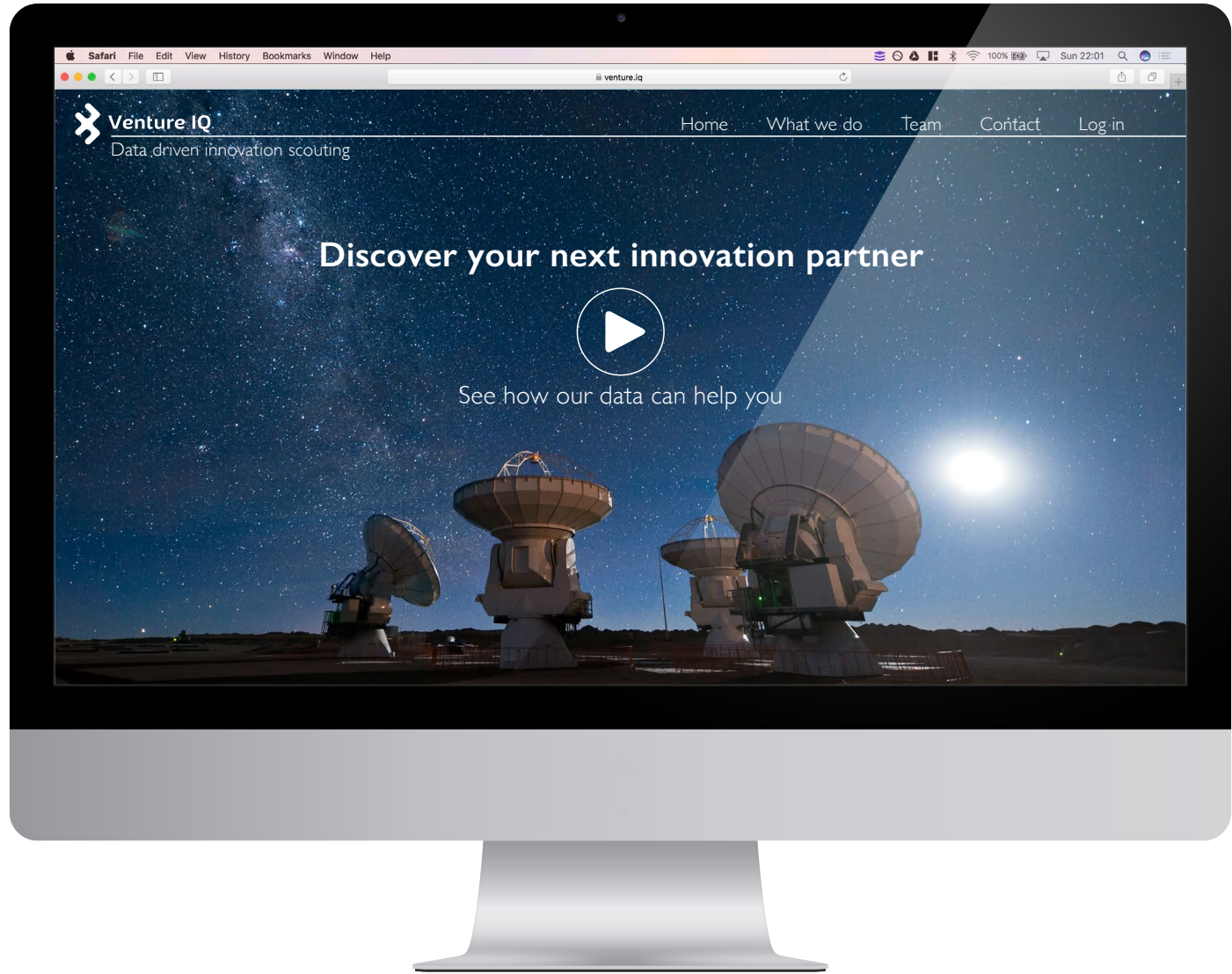


Figure 4.5 - A new homepage that invites visitors to take the intake survey

RETAINING EXISTING CLIENTS

Venture IQ has an established group of clients for whom they frequently carry out search projects. These clients commit to long partnerships with the goal to continuously search for innovation. With Venture IQ improving their search process and efficiency, it is likely that more searches will be carried out for each client.

In reality most projects enter the knowledge level model at the level of idea or deeper. Very little projects that Venture IQ has carried out so far had only awareness as a starting point. Venture IQ therefore can not know what topics a client is aware of, but a great opportunity lies in increasing awareness and following this up by ideas.

Keeping track of clients' project queues lets Venture IQ see which clients are running out of ideas for search projects. Venture IQ can then respond to this lack of ideas by providing trends using company and market data (actions that lead to the awareness level). A step further is to provide examples of innovations that play into these trends, thus providing a client with new ideas. As these ideas are already logged in Catalist the barrier to converting it into an active project will be reduced, thus driving additional demand for Venture IQ's services.

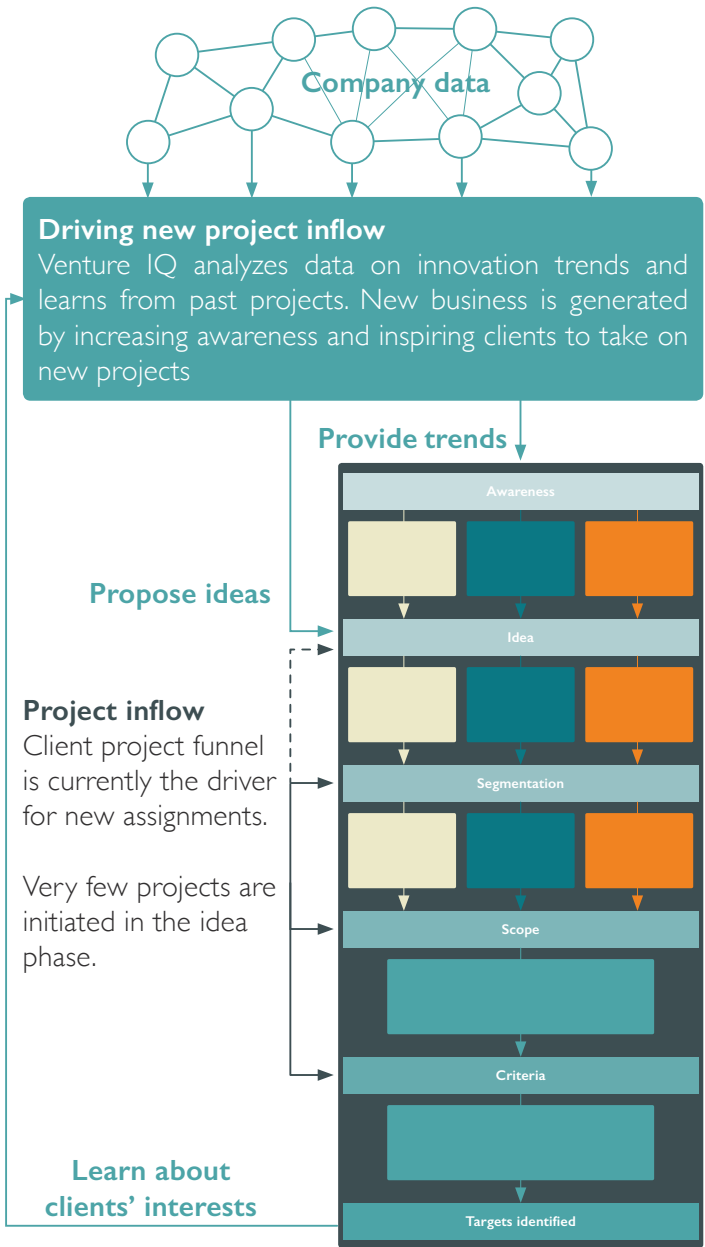


Figure 4.6 - Origins of new projects

4.4 CONCLUSION

Proposition

Although the value proposition, positioning statement and message have been drafted in this chapter; they still require significant work. Realizing a successful business offering is a continuous process, but a starting point is required. Some iterations are needed but a consensus must be found on what Venture IQ has to offer for large firms.

Service implementation

A relatively easy implementation can be done for the new service model, as it does not require new platform features or integrations. The new structure for organizing search actions is expected to improve Venture IQ's estimation of project durations, resource allocation per project and thus overall operational efficiency.

Iterating on the service model and improving efficiency further allows Venture IQ to free up more resources for platform developments over time.

Software developments

Developing new features for Catalist is going to require significant time and resources from the entire team. Therefore the current state of Venture IQ's services should be running smoothly before overhauling the platform. Venture IQ is still an early stage company with a limited amount of clients. Although the amount is limited, these clients can provide a valuable source of input for the redesign of the platform.

Note

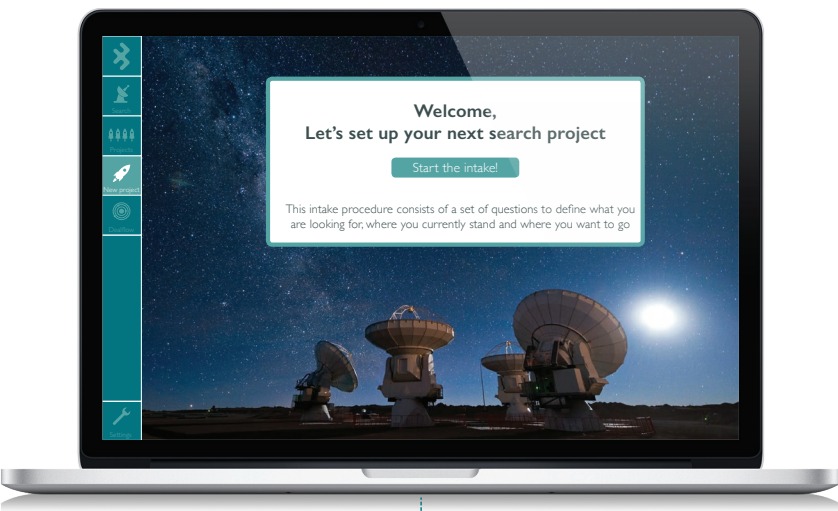
On page 91 the poster deliverable is depicted. This summary of the project outcomes can be used to present the new service model to analysts.

THE OBJECTIVE

Large firms are increasingly looking at startups and scale-ups to accelerate their innovation activities. This project set out to design a platform and service model for Venture IQ, a company that uses data to help large firms find their next innovation partner.

DATA-DRIVEN INNOVATION SCOUTING

DESIGN OF A COLLABORATION PLATFORM FOR FINDING INNOVATIVE COMPANIES



THE OPPORTUNITY

This thesis studies the strategic motivations for large firms to engage in partnerships with young ventures, and aims to design a service model for an intermediary that puts the needs of a large firm at the core.

PLATFORM DESIGN

An online platform is designed where large firms are free to create and collaborate on search projects. This platform offers a novel experience of interaction with Venture IQ's search expertise. The key design feature of the platform is an intake procedure for new projects. The procedure consists of a series of questions that cover all the information that Venture IQ analysts need to start a search. Additionally, project information is captured in a format that allows collaborators (people from the client firm, analysts and external experts) to review and adjust the goals of a project.

THE SERVICE MODEL

The intake survey captures two types of information about a project that are essential to structuring the search process. Firstly it captures what type of search it will by uncovering the strategic motives for the client firm to embark on this search.

- Market search** - The client firm intends to gain access to new or adjacent markets to leverage their current technologies, products or services
- Technology search** - The client firm intends to gain access to novel technologies that can increase value of the firm's current market
- Exploration** - The client firm intends to gain access to, or knowledge about unfamiliar markets and the technologies, products or services that are shaping them

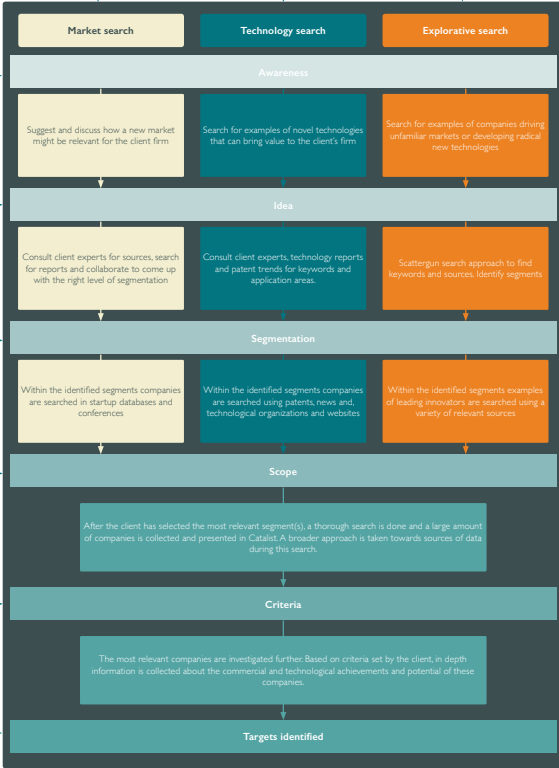
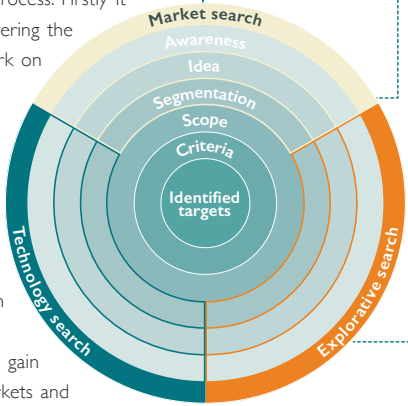
Secondly it defines the depth of knowledge the respondent has on the topic of the search ranging from being aware of an innovation up to having identified companies that will be approached to discuss partnerships.

With these characteristics defined, Venture IQ can choose the appropriate actions from the service model and start an effective search process.

INTAKE RESPONSES

SEARCH TYPE

DEPTH OF KNOWLEDGE



T.J. Deurvorst Data-driven Innovation Scouting 12/09/2017 MSc. Strategic Product Design	Committee Prof. dr. H.J. Hultink Dr. ir. E.A. van den Hende
	Company Venture IQ

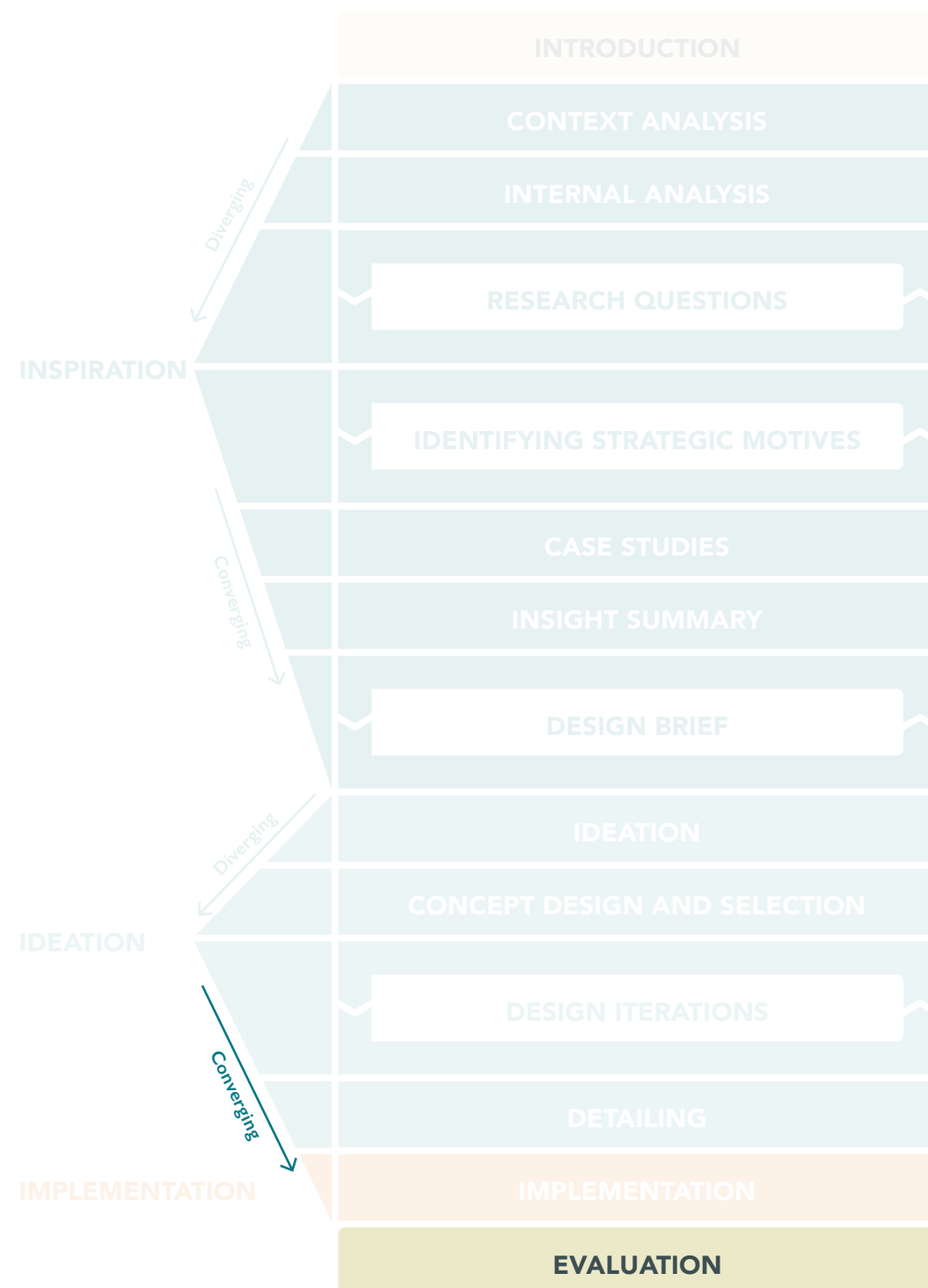




5. EVALUATION

CONTRIBUTION, IMPACT AND LEARNINGS

- Academic contribution
- Contribution to practice
- Personal evaluation



5.0 INTRODUCTION

This chapter looks back on the results of this thesis on three levels. The first sections dissect the contributions to academic research and the limitations to this study, and explores the opportunities for further research.

In the section for practical implications the impact of the final design is evaluated related to the client company. A list of recommendations is provided to guide the implementation and future use of the new service model and redesign of the platform. The impact of the intermediary service model on innovation in a broader sense is evaluated. Here, the implications for others are evaluated, consisting of large firms, young ventures as well as other intermediaries. Lastly Venture IQ holds sustainability dear and is able to make a positive impact on the environment through responsible scouting services.

The chapter and document is concluded in a section where the author reflects on the process of this graduation project on a personal level. The place of this project within the domain of the faculty of Industrial Design Engineering is evaluated along its three pillars of people, technology and business, followed by a reflection on the research and design process and collaboration with the client company.

5.1 ACADEMIC CONTRIBUTION

The theoretical background of this project lays in models for (open) innovation processes from previous studies. As a framework for the inspiration phase the Want, Find, Get, Manage model by Gene Slowinski was used. In the context of open innovation intermediaries two additional theoretical models have emerged. This section evaluates impact of these models, limitations to this study, and suggests further research to improve these models.

THEORETICAL MODELS

Want, Find, Get, Manage

The WFGM model has been used as a framework for the early stages of this project. Its usefulness to describe the process of CVC has been thoroughly tested in practice, and in the context of open innovation it has proven to be of similar value. It has been the way of identifying a gap in the market in the 'Want' phase. This has led to the vision for Venture IQ to adopt a more customer centric approach and search for innovative ventures more efficiently. As early stage interactions take place in the 'Want' and 'Find' phases, this is where the new service model and the redesigned platform are expected to create value.

Project type identification matrix

To better identify client needs in the early phases of strategic searches the project type identification matrix was constructed, based on the innovation risk matrix by George Day (2007). This is a tool to measure the 'newness' of an innovation project relative to the firm executing it. The matrix was translated to be applicable to innovation search projects, and a conceptual typology of project types was formulated.

Day's theory uses scaled questions to identify a projects newness related to market and technology. These questions are not applicable to measure newness of innovation projects and therefore needed translation.

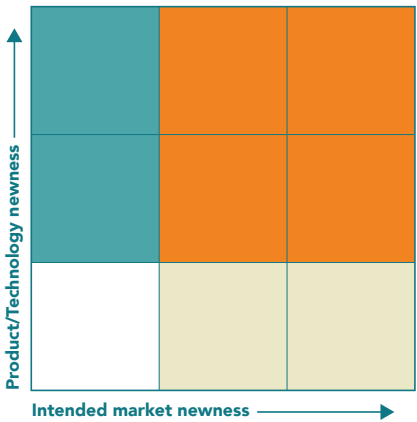


Figure 5.1 - Project type identification matrix

However, newness in innovation search projects, like those carried out by Venture IQ, is shrouded in ambiguity and semantics meaning reliable identification of a project type is complex. In the final design the matrix has become a guide for analyst to support the choice for one of the three project approaches, rather than being a method for measuring a project's newness.

The project types are considered to be valuable, as significant differences exist in the search for a new market or a new technology. Explorative searches, for example, have more of a scattergun approach and are hard to structure. This will remain the case in the new service model, but now these types of projects can be recognized in an early stage, allowing for Venture IQ to manage expectations and allocate the right amount of resources.

Knowledge level model

The knowledge level model is used at the intersection of Want and Find, where the search strategy is devised. The model is used to identify the current knowledge level of the client team and instructs the search team on the corresponding actions to find suitable external partners.

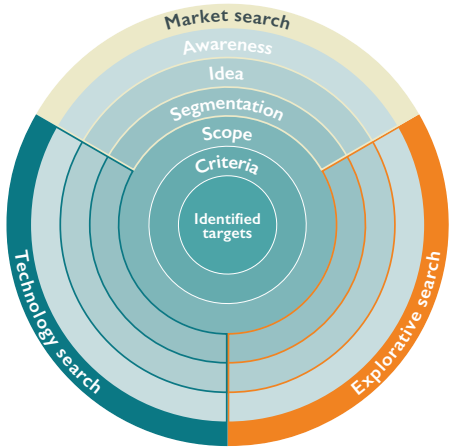


Figure 5.2 - Knowledge level model with search types

This model includes six levels of knowledge, which is considered a lot. The outermost level, awareness, is currently unlikely to be relevant in practice. Clients will not engage in CVC if they are not aware of new technologies and see a need to learn more. This is field of opportunity for intermediaries, rather than one for reaction.

It is expected that several levels will see overlap in practice, thus reducing the search steps that will be required to progress. Iterating and going back and forth between knowledge levels will be important, as new information leads to insights that are relevant to higher levels.

ACADEMIC IMPLICATIONS

Want, Find, Get, Manage

The WFGM model has been used widely as a framework for open innovation. The context of open innovation intermediaries however is fairly new to this model, nonetheless it has proven to be valuable during various phases. For one it is very well suited to define the phase that different intermediaries focus on. The competitive analysis based on the WFGM model offered a method to identify a gap in the market.

Project type identification matrix

George Day's project identification matrix was initially used to learn about firms' portfolio diversity. It let's firms map their innovation projects to uncover the associated risks across the full range of their portfolio. In this study Day's matrix and methodology was used to work back to uncovering a firms strategic intentions for a new project. The initial goal was to devise a method of measuring 'newness' of a market or technology relative to the firm's current activities. Although measuring 'newness' was later achieved through the knowledge level model, Day's matrix gave insights into different project types and strategic motivations for firms to embark on a search for external innovation. The typology of strategic motivations is a good starting point in recognizing what kind of innovation a large firm is looking for.

Knowledge level model

The model that was constructed to measure stakeholders' knowledge arose during the ideation phase. From a series of project briefing documents various types of knowledge depth were identified that are valuable to decide on the appropriate starting point for a new search project. Teams that include experts in the field start their innovation search from a different position than teams that don't.

Aggregating theoretical models

The difference between the project identification matrix and the knowledge level model is that the first looks at the field of interest relative to the firm, where the second looks at the people that are going to run the search project.

Combining the models logically leads to comparing a project's newness to the firm versus newness to the project team, provoking a team to rethink its composition and to extract additional knowledge from their organization to benefit the search.

LIMITATIONS

Theoretical models

Many scholars have studied open innovation processes and developed their own theoretical models. During the literature review nine models were investigated, but many

more exist. Although it provided a solid foundation for this study, the WFGM model is among a seemingly flooded space of OI models. This study has not looked into the application of other OI models in the field of open innovation intermediaries. It therefore remains unclear which OI model is best suited for intermediaries, or if the development of new model is required for intermediaries to organize establishing partnerships between large firms and young ventures.

Large firms

Although this study was conducted in collaboration with an open innovation intermediary, the amount of large firms that were involved in this study is limited. Strong differences exist between these firms. Some firms don't have dedicated teams for search projects, others have years of experience and know exactly what they are looking for. This study has not accounted for the differences between participating firms and their organizational structure and experience.

Search projects often take months, and new search projects are not initiated on a regular basis. This has posed limitations to parts of this study that required quick and iterative testing.

SUGGESTIONS FOR FURTHER RESEARCH

Definitions

Further iterations are recommended on the knowledge-level to get the definitions of the levels straight. At the end of this study the definitions of the knowledge-levels still leave room for (mis)interpretation.

Quantitative studies on knowledge levels

To truly validate the general applicability of the knowledge level model a quantitative study is recommended. Large firms organize their search efforts in various ways and the people in these teams are not always experts in the field. A possibility is present that perceived knowledge depends on the experience of the respondent.

Young ventures

The focus of this project was on the needs of large firms in their search for innovation partners. Open innovation intermediaries can form the bridge between large firms and young ventures. The potential impact of intermediaries on large firms is evident, but implications for young ventures that have the desire to be found has not been studied in depth during this project.

5.2 CONTRIBUTION TO PRACTICE

The origin of the assignment for this project lies with Venture IQ, an intermediary in open innovation. The goal of the project was to study how this company can improve their services to connect large firms to young ventures. This section assesses the impact of this project on Venture IQ, other intermediaries and the modern innovation ecosystem in general.

IMPLICATIONS FOR VENTURE IQ

Service model

The newly designed service model has the objective to structure the search process along the needs of the client. The first step is to identify the client’s strategic motives for the search, followed by uncovering how much knowledge they already possess on the subject. The proposed service model allows Venture IQ to tailor a search project specifically to a client’s situation, thus better answering a client’s needs.

The challenge for the redesigned platform is to ensure clients feel heard during the project intake. It should communicate that every piece of information they share contributes to the project, and that the information is being translated into actions.

Efficiency

In the new service model every search action contributes to the purpose of progressing to the next knowledge level. With this in mind analysts can structure their search efforts and assess their activity to increase the efficiency of the search.

The design intends to increase meaningful interactions with and between clients by simplifying the way feedback is provided and collaborators can contribute to the project in general rather than individual companies. As obtaining client feedback on companies is a struggle in the current version of Venture IQ’s services and feedback on the general process was not collected at all, the redesign offers significant possibilities to increase search and collaboration efficiency.

Flexibility

The new service model works with knowledge levels, rather than phases. With these knowledge levels it becomes more clear what the starting point of a search project is and what level the client hopes to achieve. These properties are different in every project and identifying this allows Venture IQ to assess the duration of the search and how much work is needed to progress to subsequent levels. The deliverables for a search can be defined more clearly, allowing client expectations to be managed.

As Venture IQ strives to work with a flexible group of analysts, the new platform offers a number of improvements. Firstly all the information related to a search project is stored in Catalist and accessible at all times. Analysts who are new to a project get an overview of the goals, boundaries and client motives along which they can structure their search efforts.

Secondly, the service model is able to accurately describe the status of a project. An analyst that is put on a project is able to see what knowledge level the client is at and what search actions are up next to progress to the next level. This is expected to take part of the load of project management and communications off the limited amount of full-time staff.

Shift to digital interaction

In line with the founders’ vision the redesign of the service model and platform will lead to a shift towards digital interaction and platform-based value delivery. Although Venture IQ’s search technology needs significant work before clients can search without help, the redesign lays out the infrastructure on which a scalable digital product can be built.

The redesigned service model allows client’s to create new projects themselves. Starting a project no longer requires time-consuming kick-off meetings and related planning issues.

RECOMMENDATIONS

Service model

The implementation roadmap already stated that the new service model will undergo regular review sessions. As analysts are getting to know the process new insights arise that should be shared with the rest of the team. A central reviewing method should be implemented for analysts to log and share their experiences in between review sessions. This log should also facilitate comments on the intake procedure and the survey questions, so that regular updates are made and the intake procedure is smoothened out before it is integrated in Catalist.

Data strategy

Aside from the developments needed on the platform, the underlying database requires a strategy to become more comprehensive. Continuous manual data collection is not a viable way of building a database and adding value to that information. The competitive space of self-service databases is crowded and differentiation is low. For a software company to stand out among relatively large software companies like CrunchBase and CB Insights Venture IQ will need a strong strategy to add value to its platform and data.

Customer centric approach

During observations it became clear that an intermediary like Venture IQ needs to be aware of the strategic context of a search in order to draft an efficient process. The redesign positions Venture IQ to do just this, but a customer centric approach should be advocated. Shifting to digital is expected to make the process more efficient, but it is important not to loose the quality of customer service and personal interactions the company has been able to maintain thus far. It is therefore recommended that interactions on the platform are personal, and that clients realize the services are custom.

IMPLICATIONS FOR OTHERS

Large firms

For large firms working with Venture IQ the redesigned platform will mean more efficient search processes and collaboration. The new platform, with the vision of “becoming the go-to platform for starting and accelerating strategic CVC searches”, client users will have their projects organized in Catalist instead of scattered across channels. Collaborators are easier to involve and discussion about scope and criteria are shifted from time-consuming meetings to online interaction. This is not saying that meetings are no longer required, Catalist is becoming the place to share insights, discuss and provide feedback without having to be in the same room.

The new service model can also be adopted by large firms themselves to structure their scouting efforts. However, Venture IQ is able to provide data and specialized analytics, and is seen as the “accelerate” in the design vision.

Young ventures

The effects of Venture IQ’s improved services is to accelerate the process of connecting large firms with young ventures to establish partnerships. Young ventures with an innovative proposition should show up on Venture IQ’s radar and therefore the radar of large firms. For young ventures there are many benefits in partnering with established firms, for example access to funding and new customers.

Other intermediaries

Venture IQ is already engaged in partnerships with other open innovation intermediaries to engage with a larger ecosystem of large firms and get access to sources of innovative companies. Other intermediaries, mainly of the consultant type, can benefit from Venture IQ’s methods for early stage need identification and effective search methods. The platform should enable multiple organizations to collaborate on the same project and request support from Venture IQ’s specialized services.

SUSTAINABLE IMPACT

So far a significant amount of search projects have been carried out in the energy sector. Venture IQ has gained significant experience in the field so far and is helping utilities and other large firms accelerate their transition to clean energy. Venture IQ has gained substantial knowledge and experience with clean-tech startups, which they can use to promote sustainable innovation among the ecosystem of large firms, partners and young ventures.

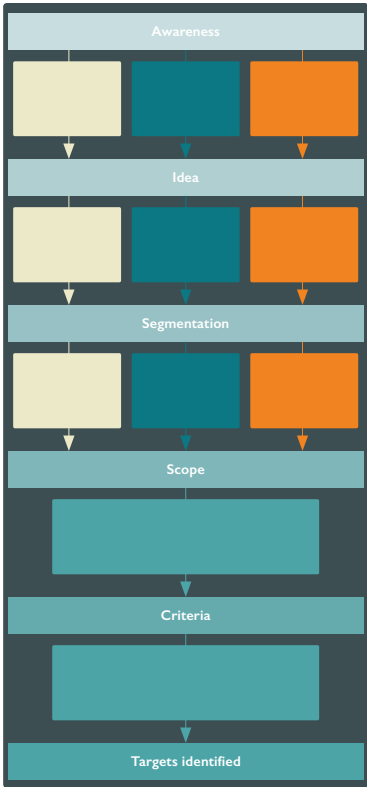


Figure 5.3 - Service model

5.3 PERSONAL REFLECTION

In this section I look back on the graduation project and experiences at Venture IQ. I have found it to be a highly complex assignment in a business-to-business environment that I knew little about upfront. Nonetheless I am very content that the outcome is a design that will push Venture IQ forward in becoming a leading innovation scout, and still is readily implementable.

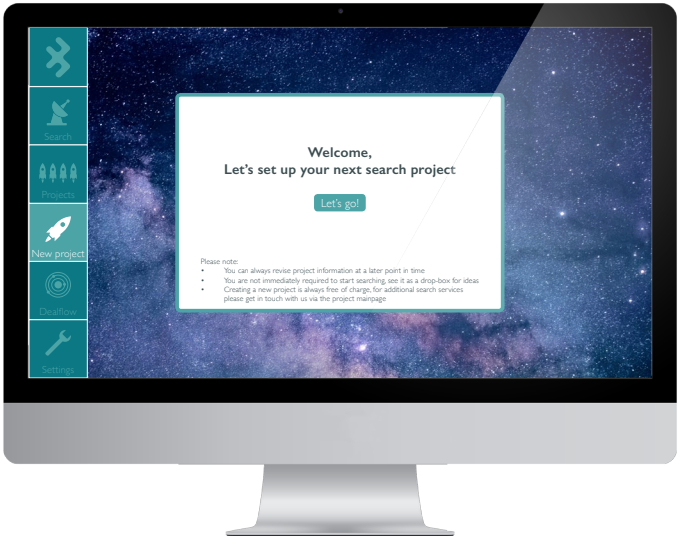


Figure 5.4 - Design of the intake procedure

During my early contact with Venture IQ the assignment was unclear, mostly because of my limited knowledge of innovation scouting. A discovery phase took place, where I got to know the company, its activities and explored the world of open innovation and intermediaries. These explorations were formed by being part of the innovation scouting process and experience it first hand. A company this young is still inventing its value and each new search project provided learnings and insights. During the exploration the scope of the project turned to Venture IQ's working process, as their search process had not been comprehensively analyzed.

Through earlier studies carried out by Ellis and Erik-Jan on establishing strategic partnerships, I started investigating the Want, Find, Get, Manage model by Slowinski (2005). When I started looking further into the literature about open innovation and corporate-startup collaboration I got desperately lost in all the existing frameworks, theories and previous studies. So many scholars have constructed their own models, but in the end I always returned to the WFGM model. For the full duration of my graduation project this model has been a guide to structure my thinking about large firms' needs and struggles and recognizing what the opportunities are for intermediaries.

In the search for a model that could be applied to open innovation intermediaries I encountered the innovation risk matrix by George Day (2007). This matrix provided a method to map innovation search projects and find similarities among projects. The categorization of the three project types made very good sense to everybody it was presented to, but the true value to the search process remained unclear for a long time. During the design phase it was combined with the knowledge levels to form actions, which showed a direct consequence of the project types. Identifying a project as explorative indeed needs a different approach than a technology or market search. This is the foundation of the proposed service model for helping large firms find their next innovation partner.

The key feature of the service model is the redesigned intake procedure. This was tested with clients, which provided tonnes of new insights. This process has shown me that a huge value lies in testing concepts, no matter at what resolution. Even if it's as simple as sending a survey in a text document it leads to insights and the ability to improve the design. To start testing early has been one of my most important learnings, as I now know that I have struggled with the inspiration phase for too long. Going out with a first design is truly valuable to learn more about the people that will be using it.



Figure 5.5 - Faculty of Industrial Design Engineering, Delft (Wikimedia Commons)

The three pillars of people, business and technology have never been more important for me than during this project. In the context of open innovation intermediaries it is easy to focus on business and technology, as the end-consumer is so far away from what an intermediary does. Design thinking has led me to approach large firms not as firms, but as people and try to define what the needs of

those people are in the context of their work. During my years at the faculty of Industrial Design Engineering the focus of projects has nearly always been consumers, so a slightly different mindset was required for this project.

I enjoy projects that revolve about team work over individual projects, and in my opinion brainstorming with people that have the same depth of knowledge is extremely valuable. I am happy to have found that teamwork at Venture IQ, even though it took some time to get used to not working with fellow design students. It has also been a project that has taught me that I need hard deadlines and need to feel pressure to structure my work and perform better. When given a problem to work on individually I can easily get lost by making it more complex than it should be. This is why I need to ask for advice sooner, and take more initiative to start a discussion with the people around me.



Figure 5.6 - Venture IQ office, Amsterdam

Throughout the project Venture IQ has been essential for me to engage with large firms for research purposes. The people from these firms have been a great help in gathering data, conducting interviews and gathering feedback during concept tests.

During my graduation project I have been part of the analyst team at Venture IQ. This allowed me to get a great view of what it's like to be in the role of innovation scouting, and experience how large firms engage in corporate venture capital and strategic partnerships. During my work as an analyst, I have been lucky to work on a wide variety of projects, ranging from online marketing technologies, to storing energy in salt to finding state-of-the-art applications for precious metals. My time at Venture IQ has taught me that innovation is ubiquitous and ever-changing. I have found it really cool to learn about so many young companies in such a short time, and see what they're capable of.

Keeping up with all of the innovations out there is not an easy task. I am confident the solution lies in technology, but the human side of it cannot be neglected. A company like Venture IQ is in the perfect position to combine high-tech tools with human collaboration with the goal of creating valuable partnerships.

Lastly, I hope to visit the Venture IQ office in a year from now and overhear one analyst ask another:

"At what level are we for that technology search for Google? We'll show them how it's done."

REFERENCES

- Baller, S., Dutta, S., Lanvin, B. (2016). The Global Information Technology Report 2016. World Economic Forum.
- Batterink, M. H., Wubben, E. F., Klerkx, L., & Omta, S. W. F. (2010). Orchestrating innovation networks: The case of innovation brokers in the agri-food sector. *Entrepreneurship and regional development*, 22(1), 47-76.
- Brown, T. (2008). Design thinking. *Harvard business review*, 86(6), 84.
- CB Insights (2017). 2016 Global Corporate Venture Capital Report. Retrieved from <https://www.cbinsights.com/research-corporate-venture-capital-report-2016>.
- Chesbrough, H. (2006). Open innovation: a new paradigm for understanding industrial innovation. *Open innovation: Researching a new paradigm*, 400, 0-19.
- Chesbrough, H., & Brunswicker, S. (2013). *Managing open innovation in large firms*. Berkeley, CA: Fraunhofer Verlag.
- Chesbrough, H., 2003a. *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Harvard Business School Press, Boston.
- Christensen, C. M. (1997). The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail.
- Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). Disruptive innovation. *Harvard Business Review*, 93(12), 44-53.
- Day, G. S. (2007). Is it real? Can we win? Is it worth doing? Managing risk and reward in an innovation portfolio. *Harvard business review*, 85(12), 110-120.
- Dealroom (2017). 2016 European Venture Capital Report. Retrieved from <https://blog.dealroom.co/wp-content/uploads/2017/01/2016-European-Venture-Capital-Report.pdf>.
- Dushnitsky, G., & Lenox, M. J. (2005a). When do firms undertake R&D by investing in new ventures? *Strategic Management Journal*, 26(10), 947-965.
- Dushnitsky, G., & Lenox, M. J. (2006). When does corporate venture capital investment create firm value? *Journal of Business Venturing*, 21(6), 753-772.
- Enkel, E., Gassmann, O., & Chesbrough, H. (2009). Open R&D and open innovation: exploring the phenomenon. *R&D Management*, 39(4), 311-316.
- Ericsson, K. A., & Simon, H. A. (1998). How to study thinking in everyday life: Contrasting think-aloud protocols with descriptions and explanations of thinking. *Mind, Culture, and Activity*, 5(3), 178-186.
- Ernst & Young (2008). Global corporate venture capital survey 2008–09. Retrieved from [http://www.ey.com/Publication/vwLUAssets/SGM_VC_Global_corporate_survey_2008_2009/\\$FILE/SGM_VC_Global_corporate_survey_2008_2009.pdf](http://www.ey.com/Publication/vwLUAssets/SGM_VC_Global_corporate_survey_2008_2009/$FILE/SGM_VC_Global_corporate_survey_2008_2009.pdf)
- Financieel Dagblad (2017). 17 feb 2017. 'Nederland moet nummer 1 start-up-hub van Europa worden'. Retrieved from <https://fd.nl/ondernemen/1188047/nederland-moet-nummer-1-startup-hub-van-europa-worden>.
- Holzmann, T., Sailer, K., & Katzy, B. R. (2014). Matchmaking as multi-sided market for open innovation. *Technology Analysis & Strategic Management*, 26(6), 601-615.
- Howells, J. (2006). Intermediation and the role of intermediaries in innovation. *Research policy*, 35(5), 715-728.
- Imaginatik & MassChallenge (2016). The state of startup/corporate collaboration 2016. Retrieved from https://cdn2.hubspot.net/hubfs/1955252/SCC_2016/Startup_Corporate_Collab_2016_Report.pdf
- Kienhuis, H. & Stavenga, L. (2016). State of the Dutch Tech Startup & VC Landscape. Retrieved from <http://rivervp.com/wp-content/uploads/2016/10/State-of-the-Dutch-Startup-VC-Landscape.pdf>.
- Kaplan, R. S. (2003) "Q&A with Robert Kaplan And David Norton on Strategy Maps and IT's Link to Corporate Strategy". Retrieved from <http://www.cio.com/article/2441871/it-organization/q-a-with-robert-kaplan-and-david-norton-on-strategy-maps-and-it-s-link-to-corporate.html>.
- KPMG (2016). KPMG Venture Pulse Q4 2016 Report. Retrieved from <https://home.kpmg.com/xx/en/home/insights/2015/10/venture-pulse.html>
- Kumar, J., Herger, M., & Campbell, A. (2013). *Gamification at work: Designing engaging business software* (pp. 528-537). Aarhus, Denmark: Interaction Design Foundation.
- Lichtenthaler, U., & Ernst, H. (2008). Innovation intermediaries: why internet marketplaces for technology have not yet met the expectations. *Creativity and innovation management*, 17(1), 14-25.

- Mankins, J. C. (1995). Technology readiness levels. White Paper, 6(6), 1995.
- Mettler, A., & Williams, A. D. (2011). The rise of the micro-multinational: How freelancers and technology-savvy start-ups are driving growth, jobs and innovation. *Lisbon Council Policy Brief*, 5(3), 1-28.
- Mocker, V., Bielli, S., & Haley, C. (2015). Winning together: A guide to successful corporate–start-up collaborations.
- Napp, J. J., & Minshall, T. (2011). Corporate venture capital investments for enhancing innovation: challenges and solutions. *Research-Technology Management*, 54(2), 27-36.
- Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2014). *Value proposition design: How to create products and services customers want*. John Wiley & Sons.
- Rice, M. P., O'Connor, G. C., Leifer, R., McDermott, C. M., & Standish-Kuon, T. (2000). Corporate venture capital models for promoting radical innovation. *Journal of Marketing Theory and Practice*, 8(3), 1-10.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, 25(1), 54-67.
- Schwab, K. (2017). *The fourth industrial revolution*. Penguin UK.
- Siegel, R., Siegel, E., & MacMillan, I. C. (1988). Corporate venture capitalists: Autonomy, obstacles, and performance. *Journal of Business Venturing*, 3(3), 233-247.
- Spitsberg, I., Verti, M. J., Brahmandam, S., & Coulston, G. W. (2015). Capitalizing on Emerging Technologies: A Path to Creating Opportunities in New Markets. *Research-Technology Management*, 58(4), 17-27.
- Taneja, H. (2015). Why startups are more successful than ever at unbundling incumbents. *Harvard Business Review*, 18.
- Teece, D. J. (2000). *Managing intellectual capital: Organizational, strategic, and policy dimensions*. OUP Oxford.
- Volans (2016). Investing in Breakthrough Corporate Venture Capital. Retrieved from <http://archive.volans.com/project/investing-in-breakthrough-corporate-venture-capital/>.
- Wessel, M. (2012). Why big companies can't innovate. *Harvard Business Review Blog*.
- Winch, G. M., & Courtney, R. (2007). The organization of innovation brokers: An international review. *Technology analysis & strategic management*, 19(6), 747-763.
- Witzeman, S., Slowinski, G., Dirkx, R., Gollob, L., Tao, J., Ward, S., & Miraglia, S. (2006). Harnessing external technology for innovation. *Research-Technology Management*, 49(3), 19-27.
- Yanagisawa, T., & Guellec, D. (2009). The emerging patent marketplace. *OECD Science, Technology and Industry Working Papers*, 2009(9), 0_1.
- Yang, Y., Narayanan, V. K., & De Carolis, D. M. (2014). The relationship between portfolio diversification and firm value: The evidence from corporate venture capital activity. *Strategic Management Journal*, 35(13), 1993-2011.
- Yin, R. (1994). *Case study research: Design and methods*. Beverly Hills.
- Zhou, K. Z., Yim, C. K., & Tse, D. K. (2005). The effects of strategic orientations on technology- and market-based breakthrough innovations. *Journal of marketing*, 69(2), 42-60.

FRAMEWORKS FOR OPEN INNOVATION:

- Chatterji, D. (1996). Accessing external sources of technology. *Research-Technology Management*, 39(2), 48-56.
- Chesbrough, H., & Crowther, A. K. (2006). Beyond high tech: early adopters of open innovation in other industries. *R&D Management*, 36(3), 229-236.
- Chiaroni, D., Chiesa, V., & Frattini, F. (2011). The Open Innovation Journey: How firms dynamically implement the emerging innovation management paradigm. *Technovation*, 31(1), 34-43.
- Igartua, J. I., Garrigós, J. A., & Hervás-Oliver, J. L. (2010). How innovation management techniques support an open innovation strategy. *Research-Technology Management*, 53(3), 41-52.
- Lichtenthaler, U., & Lichtenthaler, E. (2009). A capability-based framework for open innovation: Complementing absorptive capacity. *Journal of management studies*, 46(8), 1315-1338.
- Sims, N., Harrison, R., & Gueth, A. (2001). Managing alliances at Lilly. *IN VIVO-NEW YORK*, 19(6), 71-77.
- Slowinski, G. 2005. *Reinventing Corporate Growth: Implementing the Transformational Growth Model*. Alliance Management Group Press, Gladstone, NJ.
- West, J., & Bogers, M. (2014). Leveraging external sources of innovation: a review of research on open innovation. *Journal of Product Innovation Management*, 31(4), 814-831.
- Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of management review*, 27(2), 185-203.

ADDITIONAL SOURCES FOR WFGM TASK SET

Bierly, P. E., Damanpour, F., & Santoro, M. D. (2009). The application of external knowledge: organizational conditions for exploration and exploitation. *Journal of Management Studies*, 46(3), 481-509.

Foss, N. J., Lyngsie, J., & Zahra, S. A. (2013). The role of external knowledge sources and organizational design in the process of opportunity exploitation. *Strategic Management Journal*, 34(12), 1453-1471.

Hogenhuis, B. N., van den Hende, E. A., & Hultink, E. J. (2016). Unlocking the innovation potential in large firms through timely and meaningful interactions with young ventures. *International Journal of Innovation Management*, 1750009.

Hogenhuis, B. N., van den Hende, E. A., & Hultink, E. J. (2016). When Should Large Firms Collaborate with Young Ventures? Understanding young firms' strengths can help firms make the right decisions around asymmetric collaborations. *Research-Technology Management*, 59(1), 39-47.

Hultink, E. J., & van den Hende, E. (2014). Report on collaborative innovation management practices.

Li, D., Eden, L., Hitt, M. A., & Ireland, R. D. (2008). Friends, acquaintances, or strangers? Partner selection in R&D alliances. *Academy of management journal*, 51(2), 315-334.

Lopez-Vega, H., Tell, F., & Vanhaverbeke, W. (2016). Where and how to search? Search paths in open innovation. *Research Policy*, 45(1), 125-136.

Minshall, T., Mortara, L., Elia, S., & Probert, D. (2008). Development of practitioner guidelines for partnerships between start-ups and large firms. *Journal of Manufacturing Technology Management*, 19(3), 391-406.

Slowinski, G., & Sagal, M. W. (2010). Good practices in open innovation. *Research-Technology Management*, 53(5), 38-45.

Witzeman, S., Slowinski, G., Dirkx, R., Gollob, L., Tao, J., Ward, S., & Miraglia, S. (2006). Harnessing external technology for innovation. *Research-Technology Management*, 49(3), 19-27.

FIGURES & SOURCES

Cover and chapter images, pages 10/11, 18/19, 54/55, 80/81, 92/93, 106/107. Royalty free, obtained from www.unsplash.com

1. INTRODUCTION

1.1 - Venture IQ office	14	Own design, modified photograph
1.2 - Assignment breakdown	15	Own design
1.3 - Pillars of design thinking	16	Own design, inspired by IDEO
1.4 - Project approach	17	Own design

2. INSPIRATION

2.1 - Business platforms that accelerate entrepreneurship	22	Own design
2.2 - Traditional versus open innovation processes	23	Own design, inspired by Chesbrough (2003)
2.3 - Types of Open Innovation	23	Own design
2.4 - Motivations for CVC	24	Own design, inspired by MassChallenge
2.5 - Exploration and exploitation as strategic motives	25	Own design, inspired by Minshall et al.
2.6 - Portfolio balance	25	Own design
2.7 - Intel's balanced and diversified portfolio of 286 investments ()	25	www.intelcapital.com/portfolio
2.8 - Frameworks for Open Innovation	26	Own design
2.9 - Tasks for a large firm during the Want, Find, Get, and Manage stages	27	Own design
2.10 - Sources of capital per business stage	30	Own design, inspired by Volans
2.11 - Newly active CVC units per year globally	30	Own design, data from CB Insights
2.12 - CVC participation in venture investments	30	Own design, data from CB Insights and Dealroom
2.13 - Large Dutch firms initiating CVC activities	31	Own design
2.14 - Examples of sources of startup capital in the Netherlands	31	Kienhuis & Stavenga, 2016
2.15 - Howell's typology compared to the WFGM framework	32	Own design
2.16 - Competitive landscape along the WFGM framework	33	Own design
2.17 - Overview of key competitors, based on company profiles	35	Own design
2.18 - Venture IQ's current search process	36	Own design
2.19 - Venture IQ's services in the WFGM framework	37	Own design
2.20 - Dealflow status options	38	Own design
2.21 - Catalist feedback page (example for Airbnb)	38	Catalist

2.22 - Venture IQ data sources	39	Own design
2.23 - Venture IQ technology roadmap	39	Own design, based on VIQ roadmap
2.24 - The opportunity gap of customized data-driven services	40	Own design
2.25 - Value Proposition Canvas	41	Own design, based on Osterwalder et al. (2014)
2.26 - Project identification matrix	42	Own design
2.27 - Selected case study projects positioned in the matrix	44	Own design
2.28 - Subjects of the nine search projects included in the case study	45	Royalty free, obtained from Unsplash and others
2.29 - Catalist user types	48	Own design
2.30 - Origin of insights	50	Own design
2.31 - Elements of the design brief	53	Own design

3. IDEATION

3.1 - Ideation process, Vision - challenges - brainstorm - mind maps	58	Own design, modified photograph
3.2 - Mind map of the first how to - Identify strategic motivations	59	Own design, modified photograph
3.3 - Mind map - facilitating dynamic scoping	60	Own design, modified photograph
3.4 - Mind map - communicating progress and insights	60	Own design, modified photograph
3.5 - Mind map - driving engagement	61	Own design, modified photograph
3.6 - Estimated time-to-launch for each concept	66	Own design
3.7 - Impact feasibility matrix of the three concepts	67	Own design
3.9 - Thinking aloud survey test with client lead users	69	Own design, photographs
3.8 - Client team knowledge levels	69	Own design
3.10 - Knowledge level model with search types	71	Own design
3.11 - Search actions to be taken to reach deeper knowledge levels	73	Own design
3.12 - Mock-up of the project intake procedure inside Catalist	74	Own design, royalty free template
3.13 - Mock-up of a project mainpage in Catalist	77	Own design
3.14 - Changing project status	78	Own design
3.15 - Example of analyst search process	78	Own design

4. IMPLEMENTATION

4.1 - Value proposition Canvas	84	Own design, based on Osterwalder et al. (2014)
4.2 - Mock-up of the Venture IQ website	85	Own design
4.3 - Readily implementable service process	86	Own design
4.4 - Implementation roadmap	87	Own design
4.5 - A new homepage that invites visitors to take the intake survey	88	Own design
4.6 - Origins of new projects	89	Own design

5. EVALUATION

5.1 - Project type identification matrix	94	Own design
5.2 - Knowledge level model with search types	94	Own design
5.3 - Service model	96	Own design
5.4 - Design of the intake procedure	98	Own design
5.5 - Faculty of Industrial Design Engineering, Delft	98	Wikimedia Commons
5.6 - Venture IQ office, Amsterdam	99	Own design, photographs

TABLES

Table 2.1 Overview of key competitors, based on company profiles	35	Own design based on Appendix A.
Table 2.2 Project type characteristics	43	Own design
Table 2.3 Summary of insights	51	Own design
Table 3.1 Concept compositions	62	Own design
Table 3.2 Concept evaluation ratings	67	Own design
Table 3.3 Knowledge level definitions in different project types	70	Own design