



Utilizing and fostering experimentation in organizations

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This study was conducted for dentsu Finland, a global marketing company operating in 143 markets. The study aimed to identify essential challenges in experimentation and investigates innovation, strategic agility, organizational culture, and prerequisites for experimentation. The purpose was to define experimentation as an approach, to identify key factors that impact implementation of experimentation, and to acknowledge how to foster a culture of experimentation in organizations.

Based on the findings of the study, two concrete frameworks were proposed as solutions for mapping, fostering, and developing an experimentation culture. These frameworks can be utilized to overcome organizational challenges, to improve strategic agility in various functions of a company and to improve how sustainable customer value is created.

Companies in the marketing industry are facing challenges due to an everchanging customer demand and behavior. In this landscape, customers are expecting frictionless experiences, especially online, which forces firms to develop their competences in technology and data. Furthermore, organizations must redesign their value chains and experiment with new business logics, to survive in this competitive landscape and to create customer value.

This research was based on a literature review and semi-structured theme interviews with ten leaders of dentsu Finland, conducted online during 2020-2021. To collect a suitable sample of interviewees (n=10), a purposive sampling method was used to identify interviewees with certain characteristics and backgrounds. Furthermore, a convenience sampling method was utilized to access participants easily and quickly from a larger set of employees at dentsu Finland. Participants were recruited based on data saturation, where data was collected until no new themes added insight to previous findings. All semi-structured theme interviews were synthesized into common themes through an open coding method, in order to have better control over insight, to find directions, and to saturate concepts based on their properties.

This study confirms that firms must develop processes and tools for innovation to validate concepts with customers quickly, efficiently and at low cost. Through experimentation, an iterative, incremental approach for innovation, companies can conduct simultaneous tests to investigate causal relations in results. To successfully conduct experiments, it is vital that firms accept failing, consolidate adequate resources, and measure results in alignment with their strategy as a part of core operations of an organization.

Interviewed practitioners verified that firms must identify new ways to collaborate and use experimentation to improve efficiency of operations. Additionally, psychological safety, analytical thinking, leadership, and employee empowerment should be prioritized.

Experimentation may be complex to grasp but can be successfully used in any business through a strategic approach and adequate organizational structures. To innovate, it is thus crucial that firms actively promote and have courage to experiment. By establishing proper managerial and organizational structures, it is possible to develop a culture of experimentation to drive sustainable business growth.

Keywords: experimentation, company culture, innovation, organization, growth

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Denna studie genomfördes för dentsu Finland Oy, ett globalt marknadsföringsföretag med verksamhet på 143 marknader. Studien strävar efter att identifiera väsentliga utmaningar inom experimentering samt utreda innovation, strategisk flexibilitet, organisationskultur och förutsättningar för experimentering. Syftet är att definiera experimentering som tillvägagångssätt, identifiera nyckelfaktorer som påverkar implementering av experimenteringen, samt bekräfta hur en kultur av experimentering skall främjas i organisationer.

Baserat på resultaten av studien presenteras två ramverk som fungerar som lösning för att kartlägga, främja och utveckla en experimenteringskultur. Dessa ramverk kan utnyttjas för att möta organisationsutmaningar, förbättra strategisk flexibilitet i olika funktioner i ett företag och förbättra hur kundvärde skapas.

Företag inom marknadsföringsbranschen möts av utmaningar på grund av en kontinuerlig ändring i kundbeteende och -förväntningar. I detta landskap förväntar sig kunder friktionsfria upplevelser, speciellt på nätet, vilket tvingar företag att utveckla sina kompetenser inom teknologi och data. Dessutom måste företag omorganisera sina värdekedjor och testa nya verksamhetslogiker för att överleva inom detta konkurrenskraftiga landskap och för att skapa kundvärde.

Studien är baserad på en litteraturrecension samt semistrukturerade temaintervjuer på nätet med tio ledare från dentsu Finland under åren 2020-2021. För att samla in ett ändamålsenligt sampel av intervjuobjekt användes ett subjektivt urval för att identifiera personer av en viss karaktär och med en specifik bakgrund. Därutöver användes ett bekvämt urval som sampelmetod för att enkelt och snabbt få tillgång till deltagare ur en större grupp av anställda hos dentsu Finland. De intervjuade rekryterades genom en datamättnadsmetod, där data samlades in tills inga nya teman gav mervärde till tidigare resultat. Alla intervjuer sammanställdes till generella teman genom öppen kodning, för att ha en bättre kontroll över resultaten, för att hitta nya riktningar och för att mäta koncept enligt deras egenskaper.

Denna studie bekräftar att företag måste utveckla sina processer och verktyg för innovation för att validera koncept snabbt, effektivt och med små kostnader. Via experimentering, en iterativ och inkrementell approach, kan företag utföra test simultant för att utforska orsaker och relationer i resultaten. För att framgångsrikt utföra test är det vitalt att företag godkänner förluster, tillhandahåller ändamålsenliga resurser och mäter resultat i linje med sin strategi och som en central del av funktionerna i ett företag.

De intervjuade bekräftar att företag bör identifiera nya sätt att samarbeta och använda sig av experimentering för att göra företagsverksamheten mer effektiv. Dessutom bör psykologisk säkerhet, analytiskt tänkande, ledarskap och mer rättigheter för anställda prioriteras.

Experimentering kan anses vara komplex att begripa men kan framgångsrikt användas av olika företag genom en strategisk approach och adekvata organisationsstrukturer. För att göra innovationer är det viktigt att företag aktivt framhäver experimentering och vågar experimentera. Genom att skapa ändamålsenliga ledarskaps- och organisationsstrukturer är det möjligt att utveckla en kultur av experimentering för att driva hållbar företagstillväxt.

Nyckelord: experiment, företagskultur, innovation, organisationer, tillväxt

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Utilizing and fostering experimentation in organizations

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Tämä tutkimus on toteutettu dentsu Finland Oy:lle, joka on globaali 143 maassa toimiva markkinoinnin yritys. Tutkimuksen tavoite on löytää tärkeimpiä haasteita ja edellytyksiä kokeilemisessa. Tavoitteena on myös määrittää kokeilua lähestymistapana, tarkastella seikkoja, jotka vaikuttavat kokeilukulttuurin implementointiin, ja tutkia miten kokeilukulttuuria kehitetään organisaatioissa. Lisäksi tutkitaan kokeilemiseen liittyviä avaintekijöitä, kuten innovaatiota, strategista ketteryyttä sekä yrityskulttuuria.

Löydösten perusteella esitetään kaksi konkreettista viitekehystä, jotka toimivat ratkaisuna kokeilukulttuuriin kartoittamiseen, kehittämiseen ja ylläpitoon. Viitekehysiä voidaan käyttää ratkaisemaan organisaatioiden haasteita, parantamaan strategista ketteryyttä yritysten eri toiminnoissa sekä parantamaan kestävän asiakasarvon tuottamista.

Yritykset markkinointialalla kohtaavat haasteita jatkuvan asiakaskäyttäjymisen ja -vaatimusten seurauksena. Tässä ympäristössä asiakkaat vaativat kitkattomia kokemuksia, erityisesti verkossa, mikä pakottaa yrityksiä kehittämään teknologia- ja datakvykykkyyksiään. Lisäksi organisaatiot joutuvat suunnittelemaan arvoketjujaan uudelleen ja kokeilemaan uusia liiketoimintamalleja, jotta ne pysyvät kilpailukykyisinä ja pystyvät tuottamaan asiakasarvoa.

Tämä tutkimus perustuu kirjallisuustutkielmaan ja puolistrukturoituihin teemahaastatteluihin verkossa, jotka järjestettiin dentsu Finland Oy:n kymmenen johtajan kanssa vuosina 2020-2021. Sopivan otannan keräämisessä (n=10) käytettiin harkintaan perustuvaa otantamenetelmää, jolla varmistettiin, että haastateltavilla oli tietyt ominaisuudet ja tausta. Lisäksi hyödynnettiin mukavuuteen perustuvaa otantamenetelmää, jotta löydettäisiin sopivia haastateltavia isommasta joukosta dentsu Finland Oy:n henkilöstöstä helposti ja nopeasti. Osallistujia rekrytoitiin kylläisyysperiaatteella, jossa tietoa kerättiin, kunnes löydökset eivät tuoneet uusia aiheita tutkittavaksi. Kaikki haastattelut kategorisoitiin yleisiin teemoihin ja jäsenneltiin koodauksen avulla, jolla saatiin parempi hallinta tuloksista, löydettiin tutkimuksen suunta ja konseptien saturaatio ominaisuuksien perusteella.

Tämä tutkimus osoittaa, että yritysten pitää kehittää prosesseja ja työkaluja innovointiin kokeillakseen konsepteja asiakkaiden kanssa nopeasti, tehokkaasti ja maltillisin kustannuksin. Kokeilulla, joka toimii iteroivana, vähittäin kasvavana lähestymisenä innovointiin, yritykset voivat toteuttaa testejä yhtäaikaaisesti ja tutkia syy- ja seuraussuhteita tuloksissa. Onnistuneiden kokeilujen toteuttamisessa on elintärkeää, että yritykset hyväksyvät epäonnistumisia, järjestävät riittäviä resursseja ja mittaavat tuloksia, jotka ovat linjassa strategian kanssa ja osa yrityksen ydintoimintaa.

Haastatellut ammattilaiset vahvistavat, että yritysten tulisi etsiä uusia tapoja tehdä yhteistyötä ja käyttää kokeiluja tehokkuuden parantamiseksi toiminnassaan. Lisäksi tulisi priorisoida psykologista turvallisuutta, analyttistä ajattelua, johtajuutta sekä työntekijöiden voimaannuttamista.

Vaikkakin kokeileminen saattaa olla monimutkaista sisäistä, voi sitä onnistuneesti käyttää kaikissa yrityksissä strategisen lähestymistavan ja sopivien organisaatorakenteiden avulla. Innovoidakseen, on tärkeää, että yritykset tuovat aktiivisesti esille kokeilemisen mahdollisuuksia ja uskaltavat kokeilla. Luomalla asianmukaisia johtaja- ja yritys rakenteita on mahdollista kehittää kokeilukulttuuri, joka ohjaa kestävän liiketoiminnan kasvuun.

Avainsanat: kokeilu, yrityskulttuuri, innovaatio, organisaatio, kasvu

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1 Introduction

Companies are facing major challenges in the marketing industry, as customer demand and behavior quickly changes. This has resulted in that consumers become more accustomed to frictionless commerce and interactions with brands. This area has become of utter relevance especially as of the COVID-19 pandemic, and firms have therefore put efforts on driving innovation and developing competences in technology and data. With these in order, firms truly can provide and foster sustainable growth (dentsu 2020b). Furthermore, the competitive, digital landscape is changing how companies are creating customer value and firms are forced to develop competences and processes to create sustainable business (Küng 2017, 204-205).

The global business environment is rapidly changing, as technology allows new opportunities to provide customers with value online. This has made markets very unpredictable, and large investments and resources are needed to differentiate and make sustainable company growth (Küng 2017, 204-205). Market changes are also inevitable and a continuous part of business life (Holten et al. 2020, 394), thus, leadership plays a crucial role in driving and sustaining change (Vora 2013, 625).

The current landscape, facing heavy technological change and demanding customers, is also forcing companies to optimize internal processes (Karim & Arif-Uz-Zaman 2013, 169) and put efforts on iterative learning (Mansoori 2017, 812). This means that firms must learn how to cope with failing to gain insights, and validated learning, that is crucial for business growth (Ries 2011, 8-9).

This has led to that organizations are redesigning and developing their value chains and experimenting new business logics (Küng 2017, 28). At the same time firms continuously are looking for solutions to make production more effective and reduce an excess waste of resources (Stone 2012, 114). Additionally, a focus on innovation is crucial, as businesses constantly are challenged by the outbreak of new technology, business models, and value creation logics. Therefore, companies are striving to quickly come up with new innovations and turn them into reality (Doz & Kosonen 2008, 63-64). In the current business landscape, product innovation has been considered the most important struggle of a modern company (Bharadwaj 2018, 15).

Well-established organizations have recognized that they must follow trends to be able to provide customers with value (Küng 2017, 205). Furthermore, companies are changing parts of their supply chain to provide high-quality products faster, at the speed of customer demand (Karim & Arif-Uz-Zaman 2013, 169-170). Services developed today should be mobile, on-demand, and customers are expecting free content when and where they want it (Küng 2017, 37-38). This vicious, growing, market means that various channels need to work closely

together as industry borders become more porous and new lean companies enter the market (Küng 2017, 22).

Large enterprises, such as Google, Apple, Facebook, and Amazon, are therefore looking for new ways to create value beyond their core business, to strategically answer changes in industries. These companies have become extremely skilled in utilizing data to create personalized experiences that boosts attraction, increases differentiation and user engagement. (Küng 2017, 65)

To sufficiently create customer value and growth, organizations are moving towards establishing multidisciplinary teams, that involve employees with a wide range of competences (Doz & Kosonen 2008, 72). These flexible teams combine knowledge, experimentation, and innovation to construct new concepts in agile ways (Küng 2017, 116-117). These teams should, however, focus on scalable solutions that are aligned with strategy and find an adequate balance between making considered choices, yet still experimenting agilely (Doz & Kosonen 2008, 32-35). It is important to acknowledge that changes in organizational culture evolves progressively over time, and that it may require vast efforts for employees to adapt to new environments (Pakdil & Leonard 2015, 727).

When moving a company towards agile principles, it is crucial that managers know how to motivate, engage, and convince employees (Taherimashhadi & Ribas 2018, 208). Equally important is focusing on office environments, employee well-being, and satisfaction as a lack of proper prerequisites can result in vast costs for organizations and societies. As of these aspects, a growing interest in lean office design has risen (Bodin Danielsson 2013, 168).

1.1 Research purpose and goal

This research, conducted for dentsu Finland, investigates key issues of experimentation including organizational culture, leadership, and implementation prerequisites. Findings are taken in use in the case organization but can be valuable to organizations in any industry that strive to improve, explore, or develop a culture of experimentation.

Dentsu is a global marketing corporation operating in 143 markets that aims to provide clients world-class solutions and services, unlocking new opportunities for growth and transformation across entire customer journeys. Dentsu employs over 66 000 marketing experts, serving 11 000 clients out of which 85 are among the world's top 100 advertisers. (dentsu 2020a)

The purpose of this research is to investigate what experimentation is, factors impacting utilization of experimentation, and how experimentation can be implemented in organizations to drive growth. Experimentation is a current topic within dentsu globally, and research in this field is crucial to support ongoing initiatives. Furthermore, successful global companies have proven better answering customer needs by experimenting new business models (Küng 2017, 28), which act as a secondary driver for this study.

This study aims to answer the following research questions:

Question 1: How is experimentation defined in academia and by interviewed practitioners?

Question 2: What key factors impact utilizing experimentation?

Question 3: How can experimentation be fostered in organizations?

This study answers the research problem statement through defining key concepts such as experimentation and organizational culture and summarizes collected data from qualitative sources. The research is conducted in co-operation with the case organization as a part of an experimentation initiative.

This paper examines concepts in leadership, business development and growth in an experimentation context. A broad variety of peer reviewed articles, academic literature and university course materials are utilized to answer the research statement. Additionally, university lectures are incorporated in analysis and the theoretical framework

The research involves conducting semi-structured theme interviews through convenience and purposive sampling supported by a theoretical frame based on literature. By interviewing top leaders of dentsu Finland, this study strives to map potential issues and challenges that impact experimentation in a fierce, competitive, global market. All interviewees have a solid background in business development, change management and innovation at dentsu Finland, and contributed by giving insights based on their vast experiences. By utilizing qualitative data, academia and marketing industry specific insights, this study presents concrete frameworks that support developing experimentation in a Finnish corporation.

To conclude the research, interview data is coded and categorized in themes in content analysis. The theoretical framework is based on a literature review and this paper is made in collaboration with the case organization. The research process is divided into three phases; 1. reviewing existing literature, 2. forming new insights and 3. concluding findings and results.

Study results are presented as pragmatic proposals, giving indicatives on best practices through real case examples and reviewed literature. Main conclusions summarize tenets and tangible experiences from businesses with knowledge in agile tools and experimentation. Findings can be applied to any firm and industry as insights are presented in a broad format.

To validate research processes, literature, methodology and concluded findings, an active collaboration is held with the supervisor and the case firm, the so-called principal. Study reliability can be achieved by incorporating previous research and quantitative data collected outside of the case organization. Findings are deliberately kept general and can thus be applied to any firm or industry.

The role of this research is to holistically, through an unbiased approach, investigate areas with both academic and business value. This study ensures that that no crucial, business sensitive data is compromised and that findings explicitly are based on the theoretical

framework and collected data. The principal, involving several contact persons at the case company, supports in potential queries. Regular meetings are scheduled with the supervisor at Laurea, University of Applied Sciences in Espoo, Finland, to spar areas and answer questions during the research process.

2 Context and key principles of utilizing and fostering an experimentation culture

A theoretical framework is based on theory, a big idea that tries to gather and explain through other ideas. Additionally, theories of methods guide researchers to comprehend and help answering research questions (Collins & Stockton 2018, 2). Theories consider concepts logically and through meaning, usually through a narrative approach, providing scholars with means to explore and emancipate through intellectual materials (Collins & Stockton 2018, 3).

In this chapter an essential foundation is laid by setting a context and a basic knowledge through academic resources. As a theoretical framework guides qualitative studies (Collins & Stockton 2018, 4), this study is based on large amounts of academia that thoroughly set boundaries and give inspiration to conducting qualitative research.

In its essence, theory guides researchers to develop goals, refine research statements, detect potential threats, and show relevancy of a research (Collins & Stockton 2018, 4). As the topic of experimentation is highly relevant in competitive markets (Küng 2017, 28), current literature and studies are considered to maintain a topical approach and to keep this study relevant for business use, also in the future.

2.1 Experimentation through A/B testing and other methods

Experimentation can be described as a business practice and discipline that strives to continuously innovate through experiments. In contemporary markets, online and offline experimentation capabilities are available to all organizations as third-party technologies advance (Thomke 2020, 13-14). Experimentation is designed based on test and control groups with a random assignment of subjects for each group. This division attempts to investigate cause and effect relationships in an outcome of a test (Davenport & Kim 2013, 5).

To pre-validate improvements on a web page (Treisman et al. 2016, 503) and to test success of improvements on conversion rates (Fox 2017, 10-11), experiments can be run before they are published to all customers (Wilson 2010, 180). To be able to test different design approaches it may be helpful to test different outcomes. Some tools for testing include A/B testing, where two versions of a tool are tested, or content experiments that include testing combinations of components on a platform (Treisman et al. 2016, 503).

As an example, field experiments can be used where a design of a web page is adjusted through an independent variable. This variable, running in its normal environment, can then

be analyzed through dependent variables. Often this implementation is conducted through an A/B test where two versions of a campaign are compared based on their performance. (Wilson 2010, 181)

An A/B test is a common experiment, where two experiences are set up: the control, A, and the treatment, B. The control, also considered the champion, reflects the current system, whereas the treatment represents a modification of something to improve. In an online setting, the modification could be visual changes to the user interface, changes in underlying back-end systems, or introducing a new feature. (Leavy 2020, 6)

In an A/B test, companies select two contesting designs of a web page and direct users to both versions until statistically valid results are found. Often the metric to improve is a certain conversion rate, but it is also possible to compare a new versus an existing design (Beasley 2013b, 201). Furthermore, these modifications try to improve parts of customer experience that a company values the most. In practice, this can also mean optimizing sales, click-through-rates or time users spend on a site (Leavy 2020, 6).

A/B testing as a method, strives to distinguish differences between competing approaches and to isolate results in a detailed manner. As there are numerous tenets of A/B testing that can be utilized, it has been proven that it may be worthwhile to include A/B testing in a strategy of an organization (Fox 2017, 11). With A/B tests, changes can successfully be tested to evaluate adequacy of components and underlying effects to systems. Similarly, it is possible to cross-validate impacts, as tests can run at a larger scale (Savia et al. 2018, 88).

Drivers of growth must consider next targets and require a detailed development plan with hard evidence, such as historical data, that supports all pre-assumptions (Biloshapka & Osiyevskyy 2018, 24). Therefore, one should be cautious with guesses and assumptions on best terminology, design, and solutions in digital services. When validating concepts through conventional usability testing, artificial conditions are often created, under which specific tasks are completed. This means there are possible biases involved and thus, usability test should carefully be planned. Therefore, A/B testing is suitable as an objective solution, as it allows for minor, isolated changes to a site which may have a significant effect on conversion rates. For example, a single change in content can solely have an impact on user experience and directly impact the measurable conversion rate (Fox 2017, 12).

In a basic configuration of an A/B test (Ryall & Casselman 2019, 770), that to a large extent is utilized by internet firms (Savia et al. 2018, 85), organizations develop two versions of an application, for example two website designs, and publish both to identify changes in key metrics. Through analysis it is possible to distinguish optimal solutions and implement the winner (Ryall & Casselman 2019, 770). Furthermore, it gives a unique opportunity to implement controlled, randomized field experiments. Mass experimentation can today fully be arranged through digital channels at little or no cost. Additionally, randomization can be implemented with ease, and changes to environments made accurately and homogeneously.

This is a reason A/B tests often are said to be least invasive and allows for iterative improvements (Savia et al. 2018, 85).

In its essence, A/B testing introduces users with two randomly assigned choices when using a live production site and automatically takes out the artificial environment challenge. Furthermore, tests are fully objective, as users are unaware of their behavior being monitored. The site is programmed to randomly assign one option to an individual user and track statistical data that can be applied to a conversion rate ratio. (Fox 2017, 11-12)

According to Ries (2011, 143-147), experiments such as A/B tests, should be based on metrics that are accessible, auditable, and actionable. All methods, however, have a key issue in common which is that there is a customer or market uncertainty. By gaining early knowledge on how customer value is created, through rigorous testing of hypotheses, business success can be achieved. These principles differ remarkably from traditional methods, where business models are approached discovery driven. Furthermore, experimentation allows for business model innovation as personal assumptions can be tested and developed (Ryall & Casselman 2019, 767). Similarly, experimentation guides designers to think through an incremental approach and prepares practitioners to have hypotheses or opinions trashed (Fox 2017, 12).

As of this experimentation mentality especially in digital innovation, A/B testing commonly is used to improve a firm's key metrics. A/B testing involves a scientific method where hypotheses are weighted and tested with real users to detect trustworthy causal relationships. This method is commonly used at conglomerate corporations such as Facebook, Google, and Amazon, who all launch tens of thousands of A/B tests every year. Their tests involve changes in user interfaces, adjustments to algorithms, modifications to apps or other systems. (Ryall & Casselman 2019, 770)

To successfully conduct A/B testing, it is crucial that testers try as much as possible and follow a scientific method. This method should include crafting a hypothesis, obtaining relevant results, and empirically drawing conclusions. In an optimum setup, only one variable is tested simultaneously, as testing numerous aspects at once may skew correlations and results. (Fox 2017, 10-11)

To designing an experiment, Beasley (2013b, 201) suggests four phases. Firstly, one should define and target a page that must be improved. Secondly, a key metric is set to measure the impact of an experiment. Thirdly, one or more designs should be designed of a page to be tested. Finally, the experiment is executed by adding code to targeted pages.

In general, A/B tests are most efficient on pages where users can interact, and on pages with a high bounce rate. Additionally, A/B tests are commonly seen on pages such as advertising landing pages and self-contained pages that focus on user interaction. (Beasley 2013b, 201)

To select pages suitable for A/B testing, companies should look at important pages that allow users to complete a measurable action. To publish A/B tests, specialized A/B testing tools

allow firms to edit designs of live pages, which means the appearance of the user interface, for example, images, texts, and arrangement of elements can be adjusted without large resources. (Beasley 2013b, 202-203)

A common challenge in A/B testing is aligning organizations to co-work. Although A/B testing is a proven approach when optimizing websites, one should always consider the scope of the operation. If a company wants to modify text, colors, images, or reorganize page elements, it is advised to use a specialized tool for A/B testing, which allows individual practitioners to apply changes. (Beasley 2013b, 203)

For each tested variation, conversion rate should be calculated and analyzed through a confidence interval. It is, however, relevant to mention that test results should not obsessively and endlessly be reviewed. Most importantly, it is advised that firms let a test run for 24 hours to verify that data is collected properly. Furthermore, it is possible to configure A/B testing tools to inform when a test is complete and has reached statistically significant results. Another option is to calculate a sample size estimation to approximate how long a test should run, although it may be unpredictable to know how large the difference in conversion rate will be. (Beasley 2013b, 205-206)

To decide when a test should end, practitioners should define a tolerance for risk and analyze what improvement a test version has given. Approving pages at a 95% significance, for example, is often appropriate to make decisions upon. (Beasley 2013b, 206-207)

A key benefit of A/B testing is that firms can make decisions based on data. Furthermore, it can have a significant impact on revenue that can be calculated in millions of dollars. A/B testing also solves issues such as relying on legacy thoughts, opinions, or solutions, as it brings data to the table and directly helps decision-making. Similarly, it may eliminate biases and limitations in abilities on evaluating value of ideas. (Ryall & Casselman 2019, 770-771)

Although A/B tests demonstrate clear advantages, for example by giving behavioral insights in a consumer's real environment, it is suggested to utilize a practice set and exclude users with unsuitable web browsers (Savia et al. 2018, 88). Furthermore, it is important to acknowledge that A/B testing does not give an answer on why a certain page works better than the other, but rather explains that users took interactions differently (Beasley 2013b, 201).

When crafting experiments, practitioners must identify controlled variables and variables of independent types. Through these, experiments can be implemented in form of for example qualitative interviews, prototypes, A/B tests, and smoke tests. Only through data analysis and statistical tools, results can be efficiently analyzed compared to a hypothesis (Bortolini et al. 2018, 5). According to Ries (2011, 8-9), results should strive to confirm experiment hypotheses through validated learning. Similarly, should an experiment result in negative outcomes, companies may perform a so-called pivot. In a pivot, firms radically change an aspect of a business model and create a new hypothesis to be tested in a new experiment.

Giving up only occurs when no test or experiment generates any viable, sustainable business models (Bortolini et al. 2018, 6).

Another option is to run so called multivariant tests, that split pages into parts. These sections, all with an alternative design, are then randomly shown to users until a best performing component can be found. (Beasley 2013b, 205)

A common rule of thumb is that for every single combination of a page, 2 000 users should be exposed to the version daily each month. This means a test with four versions would require 8 000 daily visits for the test to be successfully completed. Despite this rule of thumb, it is often hard to exactly estimate how long a test must run. For example, a large difference can quickly be valid in a matter of days, but the same test may take longer on sites with few users. (Beasley 2013b, 205)

Literature in this chapter by Beasley (2013b, 205), Bortolini et al. (2018, 6), Wilson (2010, 180), and Ries (2011, 8-9) underlines efforts on A/B tests and experimentation to gain understanding on new business opportunities and validation of concepts. Ryall, Casselman (2018, 770-771) and Savia (2018, 88) explain benefits of A/B testing, which can be seen essential in experimentation. Fox (2017, 10-11), however, reminds practitioners that running multiple tests simultaneously may distort results.

Leavy (2020, 6), suggests that A/B test modifications should improve parts of customer experiences that a company values the most. Treisman (2016, 503), Biloshapka and Osiyevskyy (2018, 24) on the other hand highlight pre-validation of improvements and a use of pre-assumption as drivers of growth. Through these previous studies a correlation between the concept of A/B testing and experimentation is evident.

2.2 Developing an experimentation culture in organizations

An experimentation culture involves a learning mindset where all experiments are seen as resulting in valuable insights, both where experiments fail and succeed (Leavy 2020, 7). In an experimentation culture, companies build an organizational culture that encourages employees to analytical thinking (Davenport & Kim 2013, 196). In a culture of experimentation at a greater scale, companies put experimentation at the core of business functions and invest in culture through shared values and skills (Leavy 2020, 7-8).

To sufficiently react to market changes many firms create working methods and tools for innovation (Doz & Kosonen 2008, 16). These tools may function through a sprint-like approach that develops and tests innovative concepts quickly with real end-users and customers (Doz & Kosonen 2008, 63-64). Today, all levels of executives across industries are aware of the importance of being updated in digital experimentation. It is therefore said that experimentation should no longer be a task for technical specialists or data analysts, but rather something that is integrated in all organizations (Leavy 2020, 3).

With an agile foundation in place, experimentation can be conducted based on data and hypotheses. Firms, however, need to have the bravery to trust consumer data when trying out new concepts (Doz & Kosonen 2008, 64-65) as new experiential opportunities may be linked to a firm's current core business but also be a total, holistic pivot (Doz & Kosonen 2008, 68). Furthermore, as companies have great abilities to gain large customer samples, it means a large amount of user interactions data can be stored. This enables great opportunities to conduct simultaneous experiments and validate ideas quickly and adequately, at minor costs (Leavy 2020, 6).

When transforming an organizational culture towards a customer centric approach and philosophy, each customer must be treated according to their profit opportunities. This means that there is a reliance on company learning capabilities by non-managerial employees and big data implementation, before a larger resource intensive transformation, supported by top management, can happen (Johnson et al. 2019, 175-176). To evolve and make these changes successfully, a complete redesign of an organization might be required. In practice, this can mean gradually changing members of management teams or letting competences go, e.g., through finding another more suitable position within a firm (Doz & Kosonen 2008, 106-107). Another aspect of an organizational redesign is to divide a business in individual profit and loss entities, where smaller teams focus on specific areas of business with budgetary responsibilities (Doz & Kosonen 2008, 81).

Changing a structure of an organization will not automatically result in positive results (Doz & Kosonen 2008, 184). It is quite evident that a change in employees' titles and positions solely does not impact growth, until a new mindset and experiments with results are put in action (Doz & Kosonen 2008, 116). Therefore, a commitment clearly needs to be stated and communicated to employees (Doz & Kosonen 2008, 207).

A common problem in this transition, however, is that organizations often directly pursue from market research to product launch without including experiments. It is, therefore, crucial for firms to acknowledge that concepts that worked for other companies perhaps are not fully applicable in another context. Therefore, it is advised to combine data analytics with controlled business experiments, however, keeping in mind that the greater the novelty of an innovation, the less adequate, supportive information is available. (Leavy 2020, 4)

For customer centric teams to fully function, it is required that they have enough mandate, which makes tangible work valuable and fosters a collective commitment, belonging and appreciation among employees (Doz & Kosonen 2008, 210). These units become highly valuable especially when a corporation gets too large and slow (Doz & Kosonen 2008, 6). Therefore, companies are establishing specific sub brands to speed up innovation and streamline decision-making (Doz & Kosonen 2008, 81).

Nevertheless, it is important for companies to understand that when employees rapidly and frequently conduct experiments, unavoidably most tests fail where the champion performs

better than the challenge (Leavy 2020, 7). To succeed, this digital transformation must impact the core of a business, emphasize experimentation and learning. This is of absolute relevance, as many companies forget to utilize learnings and slowly lose their competitive edge and never reach a winner state (Biloshapka & Osiyevskyy 2018, 26). Similarly, however, it is also crucial that firms evolve a culture with a learning mindset where all experiments are seen resulting in valuable learning. In other words, this means that the ones that fail, succeed, and failures are not mistakes but experiments that generate little new information (Leavy 2020, 7).

A low failure rate could imply that a firm is not willing to take required risks in experimentation. It is, therefore, important that the culture allows large scale testing even if there are resource issues. Fortunately, experimenting has never been cheaper and easier to conduct. (Leavy 2020, 7)

In experimentation, digital technologies should be integrated to the core of a business model to improve customer and business value (Biloshapka & Osiyevskyy 2018, 26). A business model indicates to what extent a company is creating and delivering customer value, in a sustainable manner. In newly established firms, the business model is often flexible and built upon experimentation. This means that hypotheses forming a first business model are subject to validation of a constant market. Similarly, startups often develop their business model based on learning through experimentation (Bortolini et al. 2018, 1-2).

A key aspect of digital transformation is developing digital business models by improving existing ones or disrupting current business models completely. As technology is deeply embedded in digital business models, it may lead to disruptive opportunities that earlier were not possible. Digital transformation goes beyond technological advancement, and may also involve opportunities in, for example, improving supply chains or other functions. (Hinterhuber & Nilles 2021, 2)

Digital transformation is linked to agility, as companies are responding to new norms and act quickly to reach goals to stay alive in a digital world. This transformation is emphasized, especially due to an increased pressure from competitors and customers. (Nath et. al 2021, 1)

To succeed as a cross-functional team, strategies continuously must be revised to follow up on status and development areas (Doz & Kosonen 2008, 105). By allocating resources in a company in a flexible way, resources can be used where they perform best and where they help an organization the most (Doz & Kosonen 2008, 106). Furthermore, firms should create suitable hypotheses that practically answer questions about a suggested action. It has also been proven that organizations often are unable to prepare hypotheses, which directly has an impact on tests not answering strategically significant issues properly (Leavy 2020, 5).

Solving issues and new types of communication has been enabled by advancements in online interactions (Treisman et al. 2016, 479). This indicates that digital experimentation also has a

potential to evolve research and development of a company and can transform whole industries and impact product innovation. In other words, controlled experimentation can change ways of decision-making and how business is made (Leavy 2020, 4).

During the past decades, many companies have experimented with complex online interactions that are built on advanced technology. This has provided opportunities for firms to experiment aspects that are involving numerous stakeholders (Treisman et al. 2016, 479-480). Although markets praise large disruptive innovations, it has been proven that the largest progress can only happen by implementing many smaller improvements through a cumulative approach. This combined with delivering massive digital experimentation in high velocity can result in a large impact (Leavy 2020, 5).

A good rule of thumb is to focus on experiments that are conducted in a large and risky manner. This may gain information on changes in direction, although the experiment may be missing a high level of precision. Furthermore, if the anticipated effect is extensive, the effective sample scope can be smaller (Leavy 2020, 6). Nevertheless, experiments can eliminate advanced dynamics of customer behavior and focus on data validity. Experiments can be conducted in online media and mobile environments, creating big data that solve critical business issues (Hofacker et al. 2016, 95).

Reviewed literature in this chapter explains the relevancy of experimentation and how experimentation can be utilized as a part of a business's culture and core strategy. Doz and Kosonen (2008, 16) underlines that companies are forced to create new working methods for innovation to successfully react to change. Doz and Kosonen (2008, 116), however, also stress that changing structures of organizations solely cannot impact results.

Leavy (2020, 3), Johnson et al. (2019, 175-176) claim that executives must be involved in digital experimentation and transformation initiatives. Similarly, Biloshapka and Osiyevskyy (2018, 26) highlight that technology should be integrated to the core of a business model in experimentation. Treisman et al. (2016, 479-480) adds to this by explaining how advanced technology plays a part in experimentation and how various stakeholders must be involved.

In cultures of newly established firms, Bortolini et al. (2018, 1-2) state that business models are usually built on experimentation through learning and forming a hypothesis. Additionally, Hofacker et al. (2016, 95) highlight a culture and approach that solve critical business issues.

2.3 The role of leadership in experimentation

Today, there is no longer a bottleneck in technological issues, but rather challenges to build a true experimentation culture that includes common beliefs, values, and behaviors, driving broad testing at scale. Therefore, leadership must ensure that there is a strong learning mindset, regular rewarding, modesty, a strong ethical foundation, trust, appreciation of exploration and a culture that allows for new leadership models. For these key aspects to be successful in an organization, experimentation must be put at the core and investments

should be done in three main areas: processes, management, and culture (Leavy 2020, 8). Additionally, managers should make judgements on how to combine insights with strategic decision-making (Johnson et al. 2019, 163) and acknowledge reactions of employees related to the process and perceived value of a change (Holten et al. 2020, 393).

Although major transformations can only happen through progressive experimentation (Doz & Kosonen 2008, 210), it is important to recognize that not all experiments are successful. It is therefore crucial for leaders to communicate that experiments may fail. To adequately execute experimentation, action-driven investigations are needed to sufficiently utilize resources in a firm for maximum potential (Doz & Kosonen 2008, 156-157).

Owning experimentation capabilities in a firm is crucial to be able to optimize customer experiences and stand against competitors. This is seen especially in markets where traditional companies without a digital foundation, such as brick-and-mortar stores, are challenged by digital competitors (Leavy 2020, 8). Investigating exploration of new growth potential requires a proactive managerial approach and emphasizes exploitation of market dynamics, to sustainably increase shareholder wealth. Similarly, this leadership culture puts effort on prioritizing and selecting most fruitful growth drivers. Nevertheless, without proactivity, the leadership team is unable to expect successful exploration of new growth potential (Biloshapka & Osiyevskyy 2018, 25).

As for changes in current markets, leadership must address key issues in their firm. Firstly, employees must be told how experimentation is aligned with the company's overall strategic goals. Secondly, systems must be put in place that allow resources and a structure allowing experimentation in a larger scale. Finally, leadership must live by the same rules as all employees, being subject to their personal ideas to tests. This is becoming of utter relevance as we have seen an explosion of touch points over the decades. The only way to stay relevant and keep up with quick changes and learn is through experimentation programs run at a large scale. (Leavy 2020, 9)

Managing change is also crucial when applying improvement areas to achieve business excellence. An effective change management process involves establishing directions by strategic planning and consolidating people in a motivating and inspiring atmosphere. Additionally, change management entails administrative tasks such as planning, budgeting, and organizing employees. In change management, leadership must address tasks such as empowerment of employees and encourage people to comprise change and cope with fears or resistance (Vora 2013, 630).

Equally important is building a culture of autonomy, a term, which can be defined as people's need to feel they have choices. Leadership has a great impact on how autonomy is felt, and this can be seen especially when goals and timelines are identified. For example, leadership should communicate how targets have a meaning and avoid setting excess pressure on

employees. When autonomy works sustainably in a company, this should only happen when people are acting because they choose to, not because they must. (Fowler 2014, 3)

Another crucial aspect is relatedness which can be explained as a need to care about others and feeling cared about by others. Relatedness is also linked to sensing a connection with others without any motives, and recognizing they are contributing to something larger than themselves. To maintain a sustainable relatedness, it is crucial to ask employees how they feel about a project or goal assigned to them, and truly listen to their answer. Furthermore, leadership should pay attention to developing individual employees' goals and help them link their goals to a moral purpose. (Fowler 2014 ,3)

Lastly, efforts must be put on competences that involve learning new things, and a feeling of employee flourishing. Managers can drive employees to grow and learn, for example by making learning resources available and by setting learning goals. Leadership should also drive a conversation on learnings, and how these will help individuals and co-workers in their everyday work. (Fowler 2014, 3)

Managers have vast opportunities on applying these practices in daily work. By ensuring autonomy, relatedness, and competences when crafting messages within a firm, it can create long-lasting effects in experiencing motivation at work and elsewhere. (Fowler 2014, 4)

Literature in this chapter explains leaderships' role in experimentation. Leavy (2020, 9) describes how all employees, including leadership, should live by same rules in terms of experiments. Similarly, Doz and Kosonen (2008, 156-157) state that leaders must communicate failed tests, whereas Johnson et al. (2019, 163) explain how managers should strive to combine experiment findings with strategic decision-making.

Biloshapka and Osiyevskyy (2018, 25) emphasize a certain proactivity through which leadership can detect potential for growth. Fowler (2014, 3) adds upon this by stating that managers should communicate meanings of growth targets and avoid setting pressure on individual employees.

2.4 Redesigning organizations for growth through experimentation

Being only agile and reactive is not sufficient today, as many companies already strive to streamline processes and efficiently correspond to customer needs. Therefore, companies carefully need to select where to invest and focus on developing areas of strategic importance (Doz & Kosonen 2008, 130). Similarly, companies should put efforts on rigorous testing and developing a true desire to identify underlying truths of projects (Ries 2011, 283).

With highly efficient processes, strong relations with stakeholders and partners this can be secured. Strong business units with sufficient autonomy give them a mandate to make decisions, but also foster a willingness to learn from experiences and develop competences within a team (Doz & Kosonen 2008, 123). This leads to sustainable strategies that can evoke

new innovative business models (Doz & Kosonen 2008, 143), through lean initiatives that quickly and courageously can be tested with real customers (Doz & Kosonen 2008, 63-64). This approach gives organizations superpowers, where individuals gain competence in constructing relevant hypotheses for testing (Ries 2011, 280).

For mature companies to sustainably grow, it is critical to maintain energy, drive and commitment to core business (Doz & Kosonen 2008, 167). This, as employees may become skeptical towards leadership skills and management if a lack of proper focus on current business exists. On the other hand, a lack of motivation may lead to employees becoming passive, because of a firm rarely making changes (Doz & Kosonen 2008, 168).

Organizational power relies heavily on managers, as they can set action, empower, and impact emotions of employees. Conversely, a divided management can evoke negative emotions among personnel that in worst case may result in long-term damages to a company's growth (Doz & Kosonen 2008, 139). Therefore, it is crucial that senior management develop and invest in experimentation systems and create conditions for experimentation that allow quick testing in organizations (Ries 2011, 35-36).

When redesigning an organization, leadership is a key lever that can initiate and enable actions (Doz & Kosonen 2008, 183). Although organizational changes may come with trauma, potentially temporarily harming business, there are ways to implement changes with minimal risk. For example, management should start with small, sensible changes that are easy to motivate to employees. This allows employees to adjust to changes, though giving firms opportunities to make quick strategic changes where necessary (Doz & Kosonen 2008, 184). Although it may be wise to make changes gradually, leadership should acknowledge that the pace and velocity of change differs. This means that companies must have capabilities to innovate both incrementally and through a transformational approach (Küng 2017, 67).

To successfully design an organization, firms often set strategies before considering what competences and actions are necessary. This may be an efficient approach as changing a firm with many set methods and processes directly can hinder agility (Doz & Kosonen 2008, 183). This may many times be strengthened by beliefs that a current business model will function in all eternity. Therefore, companies should follow industry trends, perform competitor analysis, and put resources on research and development (Doz & Kosonen 2008, 143). This can be ensured by setting a strategy that considers environments that constantly changes (Küng 2017, 11). Additionally, continuous experimentation should be utilized to quickly find out viability of new business opportunities (Doz & Kosonen 2008, 210).

By reviewing the literature of this chapter, one gets a fundamental understanding on how organizations should be organized for experimentation and growth. According to Doz and Kosonen (2008, 130), a large number of companies are channeling efforts on improving processes, thus, firms must have competences to make quick strategic changes.

Ries (2011, 35-36), emphasizes developing and investing in experimentation systems that give organizations experimentation opportunities. Additionally, Küng (2017, 11) highlights setting strategies that consider a constant market change, a belief, that can be considered crucial when restructuring an organization for growth.

2.5 Growth hacking as an approach to develop frictionless digital solutions

Improving business processes is crucial for firms as markets are becoming more volatile, advanced, and uncertain. By utilizing process improvement methods, companies can sustain their competitiveness, through agile process improvement methods. (Bammert et al. 2020, 1)

By improving underlying business processes, companies can enhance an organization's products or services. This is performed with an aim to reduce resources, such as time and money, but also improve quality and flexibility. These methods referred to as business performance improvements, or BPI's, require a continuous approach where others aim for a broader transformative change (Bammert et al. 2020, 1-2). Another way to create sustainable value for shareholders is to continuously develop a current business model or designing new models for new potential customers (Biloshapka & Osiyevskyy 2018, 22).

As technological change is exponential, organizations must prove market development and show sustainability in its operations. Companies in their start-up phase strive to transform entrepreneurial findings into profit and bring new concepts to markets as sustainable firms. Therefore, organizations are identifying agile and low-cost marketing solutions to take products or services quickly to the public. (Conway & Hemphill 2019, 163-164)

This concept, also called growth hacking, functions at the intersection of marketing and product development, and takes advantage of digital solutions. Additionally, it uses technologies to quickly spread digital experiences. Growth hacking is highly focused on acquiring users and customers, but also activation, retention and upsell (Conway & Hemphill 2019, 165-166). Furthermore, firms are facing issues in their businesses such as ambiguity, volatility, and complexity, which has caused that process leadership must handle internal and external processes and rapidly changing customer needs carefully (Bammert et al. 2020, 2).

When deciding what marketing channels should be used to grow in a start-up company, the main goal has a great impact. For this purpose, five key metrics have been suggested that includes an entire customer lifecycle, commonly referred to as AARRR. Acquisition is defined as the channels through which users enter the site, Activation as the first happy user experience, and Retention as a procedure where users visit the site more than once and come back. Referral, on the other hand is described as how users are referring to others about a specific product, and Revenue as a monetization behavior such as a purchase. (Conway & Hemphill 2019, 166)

Growth hackers are prioritizing loyalty and customer retention and embed this in their business strategy. Similarly, a skilled growth hacker understands that developing products is

expensive and is therefore looking to gain user feedback on concepts, with minimal efforts. Tests, analysis and conversion rate optimization should thus be a core of growth hacking. (Conway & Hemphill 2019, 172)

Other focus areas and measurements to evolve and shape growth are presented by Biloshapka and Osiyevskyy (2018, 23), that emphasize four key areas of focus. These focus areas are financial performance, drivers of growth, exploring growth opportunities, and integration of digital technologies. When looking at the financial performance of a company, one should ensure that managers clearly communicate and test a set of hypotheses for growth. In other words, it is crucial that management acknowledge what factors impacted growth in the first place (Biloshapka & Osiyevskyy 2018, 23).

To maintain a sustainable business, retention has been seen as a key metric for any firm. By analyzing this and the Product Market Fit, or PMF, companies can gain insights on how viable a certain product is, and if there is customer need that is served. This analysis can efficiently be conducted through a multi-disciplined team, consisting of marketers, developers, engineers, and data analysts, who use tools such as Google Analytics, Mixpanel and Optimizely as a part of the process. (Conway & Hemphill 2019, 174-175)

Nevertheless, it is crucial to understand that although growth hacking is highly focused on digital marketing, there is a need to use traditional marketing channels to combine the physical and digital landscape (Conway & Hemphill 2019, 175). Furthermore, a company's business operation should be evaluated through two perspectives: end-customer value in effectiveness, and what business value it gives in efficiency. Customer value involves experiential and utilitarian needs, as well as desires of customers. In other words, it should investigate if the company is providing a superior value proposition and give what is most critical for end-customers. The business value considers profitability of the firms and to what extent owners are receiving return on their investments through customers who appreciate the company's offerings (Biloshapka & Osiyevskyy 2018, 21).

A key measurement of a business model's success can be looking at happy customers, but equally important is looking at current state and forecasts of the company's growth. Similarly, one may also look at shareholder wealth and embracing how the leadership of the company finds new areas of business growth. (Biloshapka & Osiyevskyy 2018, 22)

Studies show that companies should seek to both separate and relate business model concepts and strategy. This means that a business model should reflect a firm's strategy and that companies should strive to define how customer value is created, as well as how this value is translated into company revenue and profit. (Bortolini et al. 2018, 3)

A value proposition, defined as a summary of products and services offered to customers, is highly linked to organizations that are looking for a scalable business model. The initial business model is usually very vague and refers to an idea on how to provide value to

potential customers. In new businesses and startups, success is linked to the agility and how fast tests and experiments are conducted. Additionally, it is important to emphasize that these experiments should result in learnings and evolve the business model. (Bortolini et al. 2018, 3-4)

To create a business vision, it is important to facilitate a creative process, which involves producing and ideating ideas for an entrepreneur to act upon. These ideas should only be abandoned if an experiment proves negative results. Based on all ideas, hypotheses on how value should be provided to customers can be designed. (Bortolini et al. 2018, 4)

Reviewed literature of this chapter considers improving processes when striving to find opportunities of growth. Bammert et al. (2020, 1), for example, explains what issues companies are facing and the importance of internal and external process leadership.

Bortolini et al. (2018, 3-4) states that a focus must be put on learnings through experimentation which help organizations evolve their business models. Conway and Hemphill (2019, 172) add upon this by highlighting that practitioners should strive to gain user feedback with minimal efforts. Additionally, Biloshapka and Osiyevskyy (2018, 22) state that business models continuously should be developed or reinvented for new potential customers.

2.6 Agility and strategic paralysis in organizations

For companies to successfully develop systematic agility; strategic sensitivity, leadership unity, and resource fluidity must be considered (Doz & Kosonen 2008, 96). Furthermore, firms should break down traditional silos through cross-functional teams, where collaboration happens through a wide variety of competences (Ellis & Brown 2017, 10). In hierarchical organizations, entities often face resources that do not communicate or collaborate. Employees with strategically important skills are locked in, thus no fluidity between roles teams can occur (Doz & Kosonen 2008, 98).

Mobilization of employees can be challenging, as managers may hoard good competences and have difficulties letting go of good talent internally. Although allowing mobility of employees may be a great way to keep personnel motivated and learning new skills, senior executives may not support relocation within a company (Doz & Kosonen 2008, 107). This often occurs when a company's performance indicators are declining (Doz & Kosonen 2008, 108). Another way to keep employees motivated is to recognize creative contributions in experimentation, where employees are encouraged to create independently (Küng 2017, 114).

Strategic sensitivity can only function in a quickly changing environment, where organizations are willing to make changes through healthy experimentation (Doz & Kosonen 2008, 99), and rapidly test and evaluate promising ideas (Ellis & Brown 2017, 11). These strategic decisions can be made through unifying tools, methods and processes that support growth in flexible ways of working (Doz & Kosonen 2008, 99).

Although firms must have a strategic long-term vision (Doz & Kosonen 2008, 133), companies also need to be willing to allocate resources in short-term agile changes. This may be a challenge for investors, as it can be hard to see differences between strategic agile change and operations in reactive confusion. Therefore, it is crucial to have set performance indicators, discipline, and transparency, that actively is communicated to stakeholders (Doz & Kosonen 2008, 101-102). Similarly, leadership should be ready to calculate implications of risks when a firm develops its business (Küng 2017, 176).

A side effect of a firm's growth may result in so called strategic paralysis, where excessive focus is put on operational success rather than strategic agility (Doz & Kosonen 2008, 122). Many companies also fall for the curse of success, a challenge occurring especially in firms with sustainable business growth. Additionally, it may become hard to change fundamentals of business models if various, rooted, processes and methods are already in use. In other words a focus on only making current business better, will destroy strategic agility over time (Doz & Kosonen 2008, 124-126) and business can be stuck in neither growing nor dying (Ries 2011, 147). As a result of this, lean companies often approach change through so called pivoting, where a company's strategic direction is changed when a market requires (Küng 2017, 36). Additionally, a successful pivot directs companies on a path towards sustainable business (Ries 2011,150).

Because of the organizational challenges described above, companies should focus not only on ongoing operative work, but also on a long-term perspective (Doz & Kosonen 2008, 133). With ambitions on developing strategic agility, long-term visions are necessary, but with a careful balance between acting agilely and having a stable and well-defined strategy (Doz & Kosonen 2008, 130-131). Similarly, companies should avoid creating products customers refuse to use, and focus on avoiding waste in product development (Ries 2011, 47).

Too many successes may result in employee passivity and emotional apathy which directly incapacitates the energy and business of a company. This apathy is a side effect that may hinder not only renewal, but also result in hoarding, or even imprisoning resources and a lack of courage in development. (Doz & Kosonen 2008, 126)

Conventionally it is said, however, that the more agile a company is, the less organizational design hierarchy there is. With less formal entities, systems and structures automatically come greater opportunities to evolve and form new business models (Doz & Kosonen 2008, 186-187). In this context, these business models simply can be defined as revenues generated from value propositions through offered products (Küng 2017, 28).

It is important to recognize that once a firm's agility is lost, it may take substantial efforts to regain. Having competences to execute one process only is not enough, but a firm must have strategic sensitivity, resource fluidity, and leadership unity embraced to successfully grow. An equal focus on all of these is most effective to truly become a strategic agile firm (Doz &

Kosonen 2008, 127), a competence, that businesses must have to stay competitive in a continuously changing business landscape (Ellis & Brown 2017, 17).

In this chapter the prerequisites and strategies in terms of agility are described. Doz and Kosonen (2008, 96) explain the importance of developing a systematic agility, where Ellis and Brown (2017, 10) focus on benefits of using cross-functional teams powered by employees of a wide range of competences.

Ellis and Brown (2017, 11) highlight an ability to rapidly experiment and evaluate ideas through an agile process, which is of utter relevance when staying competitive in a changing landscape. Furthermore, Küng (2017, 36) and Ries (2011, 150) explain the basics of pivoting, that enable switching direction to develop sustainable business growth.

2.7 Co-creation and multidisciplinary teams in experimentation

By involving users in initial stages of the design process, co-design can be applied where a group of users and designers are connected to collectively craft criteria, ideas, concepts, or a prototype of a product (Ryall & Casselman 2019, 769). In business model validation, or BMV, there is an emphasis on experimentation with limited resources and engaging with customers often and quickly, to validate feasibility and viability of a business model. Similarly, business model validation highlights a need for experimentation to reveal similarities from customer feedback, building minimum viable products, and failing fast. (Bortolini et al. 2018, 2; Bortolini et al. 2018, 11)

These methods have been proven critically important, especially in software development research. Studies show that multidisciplinary and self-organized teams should develop products fast and flexibly through an iterative process. Furthermore, companies should develop products through incremental deliveries in close collaboration with customers and by quickly responding to change (Bortolini et al. 2018, 12). This can be achieved through participatory methods that focus on involving customers as partners in the design process and testing hypotheses on customer desires (Ryall & Casselman 2019, 769).

By reviewing the literature of this chapter, one gets an overview of how to co-create a minimum viable product and impact gathering customer feedback. Ryall and Casselman (2019, 769) underline an importance of involving potential users at an early stage of product development, which allows for testing hypotheses on customer desires.

Furthermore, Bortolini et al. (2018, 12) defines key concepts of business model validation, involving experimenting of business models with real users of a product. Resources by Bortolini et al. (2018, 12), Ryall and Casselman (2019, 769) verify the link between experimentation and business model development.

2.8 Utilizing big data to understand emerging market opportunities

In marketing, big data analytics, or BDA, refers to technologies and statistical methods that marketers utilize to make conclusions about end-users and competitors. Becoming data-driven allows organizations to gain a better understanding of costs, sales, and emerging market opportunities, but there are aspects that managers must consider. For example, leadership should be aware of new sets of data analytics tools, which rapidly appear (Johnson et al. 2019, 163). Furthermore, as it has become increasingly hard to draw conclusions and create insights that are actionable, it has been suggested that user data always should be a combination of quantitative and qualitative information. This involves various methods of analysis, for example, technology analysis, heuristic analysis, web analytics, and usability testing, that can be used to test users on growth related hypotheses. (Conway & Hemphill 2019, 167).

Analytics combined with marketing data, allows practitioners to measure the success of marketing initiatives by giving a return on investments (Johnson et al. 2019, 164). This means that marketing managers are continuously introduced to new concepts in technology, such as machine learning, advertising optimization, and predictive modeling. These concepts must be comprehended and should be implemented to act as decision-making tools (Johnson et al. 2019, 165). Furthermore, these tools help marketers align with product innovation and marketing strategies to preserve the brand (Johnson et al. 2019, 168).

In a study by Johnson et al. (2019, 168), marketing managers indicate that big data analytics in marketing has a key role to inform about product innovation and marketing strategies, especially in digital native companies. This has been seen as a result of digitally native firms already having infrastructures in place that feed teams with structured insights data. Furthermore, the study suggests that marketing managers are aware of decision-making tools such as customer lifetime value analysis, data visualization, and tracking social media behavior (Johnson et al. 2019, 168).

An increasing number of new sources and types of data sets are available for marketers as more interactions with end-users are happening. These interactions, often obtained in social media, online and through handheld devices, can easily be tracked. Consumers have, therefore, become a continuous generator of structured transactional data and unstructured data based on a user's behavior. (Hofacker et al. 2016, 89)

Big data, which has gained an increased interest in the marketing industry, can be characterized by its volume, velocity, and variety. The volume of big data refers to the sample size or bigness, velocity describes the rate at which data grows, and variety relates to the variety of new formats and types of data that is generated (Hofacker et al. 2016, 89). Handling large amounts of data and utilizing it has also been seen a key challenge for start-ups. (Conway & Hemphill 2019, 167). In marketing, marketers use big data to help decision-making and conduct campaigns. Furthermore, it is said that big data drastically has changed

marketing, and how it is managed today. Although traditional qualitative research methods, for example interviews and focus groups, are great at finding problems, big data can be used to improve this process (Hofacker et al. 2016, 90).

Business process management is a science of analyzing how work is conducted in organizations, with an intention to ensure consistent results and grasping improvement opportunities. Similarly, leadership may use so called nudging, which strives to improve decision-making without financial incentives or direct restrictions. (Bammert et al. 2020, 3-4)

The theory behind nudging is called dual processing, which utilizes facts on how people make decisions and process information. This processing is based on two modes of how the human brain processes information; system I and system II. System I is activated automatically and needs little cognitive effort as it happens unconsciously. System II, on the other hand, is controlled, analytic and requires active cognitive efforts. System I processes data quickly and can be altered by nudging, which means that there are methods to effectively change behaviors and decisions (Bammert et al. 2020, 4). In online experiments, it has been proved that digital nudging is a useful foundation for agile methods, which reduces weaknesses of other business performance improvements (Bammert et al. 2020, 14).

As of the digital world, consumers today are having an increasing number of alternatives to select from, which creates problems. Previously, retailers typically would document all purchases in a list, but today digital retailers have immense opportunities to track activities such as purchases, number of site searches, clicks, number of items added to shopping cart, cart abandonment among others. This means we now have explicit digital records of all activities that happens in digital channels, as customers progressively consume online. Internet of things, or IoT, accelerates this trend as it produces data from a larger spectrum of usage, including applications such as vacuum cleaners, cars, refrigerators, and washing machines. (Hofacker et al. 2016, 92)

Although big data has some clear benefits, explaining what consumers did, it is still missing to answer why. In other words, it misses important aspects such as motivations, cognitions, emotions, and attitudes among customers, which only indirectly can be concluded from the data set. Another common issue is that variables of data may be recorded multiple times in databases maintained by the company, and when new variable data is inserted not all versions are updated. This may lead to conflicts, where it may be hard to distinguish which version is more current. Although, while you may have a complete data set without variables, measurement, or sampling errors, it may still be hard to conclude causal relationship through correlational research, between variables. For example, product reviews, price and discounts are not sole aspects that influence purchase decisions. Other factors may be the competitor landscape and advertising. (Hofacker et al. 2016, 93-94)

When companies are collecting real time data, it is crucial to identify at what point the relevancy of the data set no longer is valid. Often this validity can be confirmed through data

mining and lab experiments. As data scientists strive to work around dissimilarities and issues through mathematical tricks, other practitioners use A/B testing and consumer behavior research to perform experiments. Studies show that the larger the data set, the easier it is to find irrelevant correlations. Therefore, experimentation can be seen as a great antidote against bias errors caused by lacking variables. (Hofacker et al. 2016, 94)

Big data has a potential to increase consumer awareness on privacy concerns. Accessibility and the significance of personalization also involve major privacy concerns, and consumers are often not aware of what data is collected. As mentioned previously, data is collected and produced at all stages of a user's journey, and therefore, many findings should be considered exploratory, giving insights and direction rather than confirmation of hypotheses. Furthermore, environments enabling big data also allow for thorough testing, and often include external validity. (Hofacker et al. 2016, 95)

The focus of this chapter has been to explain relevance of big data to recognize opportunities to be able to sustainably grow in a market. Johnson et al. (2019, 163), explain that leadership must be aware of available data tools that should be utilized when becoming data driven. Additionally, Bammert et al. (2020, 4) explains key concepts of human decision-making and processing of information, which is relevant especially when coping with user behavior data.

Conway and Hemphill (2019, 167) lists a wide variety of big data related methods that can be used to test hypotheses when aiming for company growth. These methods have become crucial as Hofacker et al. (2016, 89) state that customers act as a continuous generator of various data based on their behavior. Hofacker et al. (2016, 94) also highlights that experimentation can work as an antidote against bias and irrelevant correlations in data.

2.9 Web analytics and usability testing to increase user understanding

By utilizing user data, marketers can gain insight on how users are obtained, how they respond to marketing offers and how products are purchased. With this data, marketing executives, especially in B2B, can pinpoint challenges related to aspects that impact abandonment before purchase. By looking at three key topics, analyzing the adequacy of content, identifying design effectiveness, and investigating site performance, these problems can be identified. (Wilson 2010, 177)

By utilizing usability testing together with data analytics, firms may uncover problem areas to be addressed. As companies analyze data, analytics data may prove and provide indications to recognized patterns. Therefore, it is important to recognize that web analytics should not be a sole channel of research (Beasley 2013a, 162). Furthermore, usability testing can help find flaws in user behavior tracking. This missing tracking cannot be added retroactively, but it can be implemented and analyzed after a short period of time (Beasley 2013a, 165).

Although data analytics can be a great way to prepare questions for an interview, it has been proven that there is no right way to connect data analytics in tasks for usability testing.

Usability testing is rather expensive, and it is often not possible to cover an entire web site during a session. Therefore, it is crucial to select pages that for example have higher pageviews and include these in a usability test. In a usability test, participants are then asked to interact with that page based on specific tasks. (Beasley 2013a, 162-163)

Nevertheless, by looking at analytics, firms can obtain signals on potential issues and identify the scale of a problem. Data analytics guide practitioners to specific areas to be improved, which may be a page or section of a web site that should be considered. In this type of usability inspections, a negative aspect is that findings often are not created on evidence from actual users, but rather show insights based on an expert's judgement. Despite these facts, user behavior data can still illuminate facts and make a description of issues more compelling. (Beasley 2013a, 167)

Through data-driven development, pages can be designed proficiently and create a satisfying experience for users. Web analytics as an approach is great for learning about web site usage and how pages are consumed. By using clickstream data, it is also possible to identify how marketing proposals are reacted to and allow for leadership to adjust web pages according to data to improve visitor interaction. (Wilson 2010, 178)

Although data analysis has proven benefits, it may be hard to predict the impact of a change in terms of conversion rate. One simply may state a goal with a metric that either can be increased or decreased. This phenomenon is a challenge that may be hard for stakeholders to acknowledge especially if they are used to exact estimations or results. Sometimes, it may be useful to implement changes iteratively in smaller scale to mitigate risks and analyze effects of these adjustments separately. (Beasley 2013a, 169)

Information on how users are interacting with a web site, commonly referred to as clickstream data, is collected by tracking clicks on a firm's web page. Clickstream data can also be defined as a sequence of clicks taken by users of a web site. For site visits and interactions to be collected, a web analytics software must be installed on the web site. (Wilson 2010, 177)

Often, these metrics can be connected to a database via browser cookies or other information, which mean marketers gain a full view on a single users' behavior over time. Studies show that usability and performance issues on web sites are common, thus it is advised that all web pages' performance must be examined. (Wilson 2010, 177)

By analyzing user behavior data, firms can answer what causes users to abandon their visit. Furthermore, analysis of navigational paths can help marketers understand consumed content and interconnections between pages. This can give great indications on how to lay out web sites that are friendly and inviting, minimize struggles, and are aligned with preferences and expectations. Studies also show that users have specific expectations especially related to the

navigation of a web site. This also implies that sites with an adequate navigational experience can develop a strong online brand. (Wilson 2010, 178)

Observations from analytics data do not fully explain the magnitude of problems found, but they can indicate the scale of a problem which helps you understand how common it is. Although a finding may not be very common, finding issues is still valuable and can help organizations prioritize tasks according to how often they are encountered by users. (Beasley 2013a, 166-167)

The literature of this chapter was selected to review how web analytics and usability testing methods can be utilized to understand user behavior. The intention has been to prove how an increased user behavior understanding may impact developing a sustainable business growth and how user data is related to experimentation.

Wilson (2010, 178) explains how web analytics data can help design user experiences so that web sites minimize struggles and match preferences and expectations. Beasley (2013a, 166-167), however states that analytics data fully cannot explain the scale of a problem found, but rather indicates a magnitude of a problem to be understood. Therefore, usability testing should be combined with data analytics to uncover problem areas (Beasley 2013a, 162).

2.10 User behavior metrics and conversion rate in experimentation

Today, e-commerce and user experiences are increasingly important on web sites as companies strive to improve the buyer-seller connection. Clickstream data allows marketers with mechanisms to improve web site performance. Additionally, it provides insights on how and where users spend their time, and how much they purchase. Nevertheless, it is crucial that while this data is being tracked, it should also be collected and examined adequately. By combining collected clickstream data with other information about visitors, for example through demographic and location-based evidence, great insight can be identified. (Wilson 2010, 179)

Often a before and after approach can be an efficient way to understand how key metrics, for example visits, leads, conversion rate and cost per lead, have changed when a web site has been developed through experiments. This type of analysis can increase these metrics, but also impact purchase behavior, map products that are relevant to customers, and enhance cross-selling activities. As for these performance improvements, one may expect an increase in conversion rate and revenue per customer. Furthermore, customer life lifetime value can also be increased by changes in navigation design. (Wilson 2010, 179)

In practice, web analytics tools collect clicks and keystrokes from individual users of a web page. Every time web site files are requested, all requests are logged and entered to a file on a server. Alternatively, a JavaScript tracking code can be embedded which allows tagging of interactions. As tagged pages are loaded in the browser of a user, the web analytics software automatically records all hits that are read from files on a server. (Wilson 2010, 180)

By combining clickstream data and web analytics, a web site can be developed to guide users through the buying process and direct them to conversions. As users are facing positive experiences, it may result in users retentively coming back for a purchase. In today's competitive marketing environment, utilizing this insight is critical. (Wilson 2010, 185)

In online marketing, a key principle is the term of conversion rate. Conversion rate indicates customer engagement and is a ratio that measures the number of times a goal was successfully reached divided by the overall number of users on a site. In an e-commerce setting conversion rates are self-evident, where a firm measures how many users converted a visit into a purchase of at least one product. (Fox 2017, 9)

In a study by Wilson (2010, 184), it is shown that conversion rates can be impacted by both adjustments on a web page and by using marketing techniques that strive to improve the experience of consumers. Clickstream and web analytics tools in combination have proven benefits and provide great learnings when analyzing user behavior. Furthermore, analysis can be conducted to map how users move through a site by investigating key performance metrics. Another finding by Wilson (2010, 180) is that improvements in marketing campaigns or the user interface of a web site can be tested through experiments, such as A/B tests, before all users are exposed to changes. These entirely controllable tests, striving to improve performance metrics such as conversion rate, can often be implemented as incremental changes that may have a huge impact over time (Wilson 2010, 184).

The usefulness of tracking conversion rates is closely tied to the overall goals of an organization. It is, however, important to acknowledge that a conversion analysis must consider audiences and customers carefully. (Fox 2017, 9)

This chapter has reviewed literature that exemplifies user behavior metrics, such as conversion rates, and how they relate to experimentation. Examined academia underline an importance of analyzing adequate metrics that provide great learnings about customers.

Wilson (2010, 179) explains how user behavior data is tracked, but highlights that it must be examined thoroughly. This type of analysis can be beneficial especially as companies conduct experiments, such as A/B tests, where a clear comparison on key metrics can be performed (Wilson 2010, 179). A typical measurement is the so-called conversion rate, which according to Fox (2017, 9) should be closely tied to overlying goals of a company.

2.11 Lean thinking in experimentation

A startup company, often described as a company designed to develop products or services in a competitive, uncertain market, has a goal to find a sustainable business model that produces customer value. The main objective is also to find a business model that is repeatable and scalable. (Bortolini et al. 2018, 1)

The Lean Startup methodology provides a process for validating business models quickly and iteratively, based on fast iterations. As creating new firms has been proven a difficult, complex, and risky process; startups are forced to cope with uncertainty in many areas such as product, people, finances, and competitiveness. A reason for startup firms failing is often a lack of systematic processes and competences to understand markets. Additionally, failure may also be caused by not recognizing customers and failing to validate customer hypotheses early enough in a design process. (Bortolini et al. 2018, 3)

The lean startup methodology proposes experimentation with a goal to create a minimum viable product, instead of creating very comprehensive plans within a company. The minimum viable product, or MVP, is an effort to provide customers with innovations quickly to save costs related to innovation. The cycle of developing a minimum viable product, is iterated until customer needs are met and may help companies reduce time and opportunity costs associated with a particular innovation. (Ryall & Casselman 2019, 766)

To continuously develop a company's business model, startups should take light and uncomplicated methods in use to gain customer feedback. This can be achieved by repeatedly developing simple prototypes of products (Bortolini et al. 2018, 4). The Lean Startup methodology by Eric Ries (2011, 22), guides organizations to a so-called build-measure-learn process, which in practice involves iteratively conducting experiments, when investigating a suitable business model.

Data-driven tests of hypotheses are beneficial especially in nascent, uncertain phases, of development of a digital business. In contemporary competitive landscapes, where consumer needs continuously change, it is crucial for firms to develop new products or services quickly, in an effective and sustainable manner. Furthermore, organizations should have abilities to manage and optimize new product development simultaneously as successful outcomes are delivered. (Ryall & Casselman 2019, 766)

When small and medium-sized enterprises create new products, it is crucial to develop competences to be able to build products that meet customer needs. Additionally, small, and medium-sized enterprises are focusing on gaining visibility to markets and customers demand to reduce uncertainty. In comparison, large enterprises for example, often focus on innovations and improvements in strategies, structures, and systems to increase competitive advantage. (Ryall & Casselman 2019, 766)

As mentioned, lean is applied to reduce uncertainty when developing products and evoke interaction with customers. When using data-driven testing, firms can gain an adequate understanding of innovations in a market and consumer readiness. It is, however, crucial that processes of product development are flexible, which involves reacting upon feedback and with a capacity to adjust or pivot offerings. When there is a high ambiguity, lean as a principle is applied best through a minimum viable product, but also through a definition called the minimum viable interaction. The minimum viable interaction refers to a process,

where firms instead of building entire web pages, craft a wire frame or prototype of a specific business aspect that is to be measured. This can be valuable especially as A/B tests may require large samples of users to reach statistically valid results. For example, startups may never reach a point where A/B testing is possible. (Ryall & Casselman 2019, 770-772)

According to Ryall and Casselman (2019, 767-768), lean thinking has five essential principles. The first principle states that customers are the ones defining the value of a product. The second and third principles are interconnected where each step of the value process must be identified, in principle 2, and all production processes constantly must flow as defined in principle 3. The fourth approach implies that customer orders impact the process of production, followed by the fifth standard, which suggests that a production process continuously should strive to eliminate waste (Ryall & Casselman 2019, 767-768).

When entrepreneurs operate through the lean startup model, business models are formed through early and continuous customer feedback. The model allows for testing a minimum viable product and strive to remove ambiguity. As an entrepreneur, key tenets of lean focus on experimentation, consumer feedback, iterative design, and a decrease in planning. Similarly, lean attempts to design for great user experiences through agile development, user input and quick decision-making. This is especially highlighted in lean user experience. (Ryall & Casselman 2019, 767-768)

Customer development entails a focus on validating business models through hypotheses that are connected to a problem that is to be solved. Additionally, it includes validating markets, verifying features of a product, and investigating user acquisition methods. Through light interviews or testing users, it is possible to obtain feedback with little resources. For example, a paper prototype can work as a minimum viable product, something that is the least required asset to gain learnings. Another principle is Get Out Of the Building, or GOOB, which suggests interaction with users at an early stage outside the walls of a company premise. (Ryall & Casselman 2019, 769)

This chapter is based on literature that explains key tenets of lean thinking which can be seen as a main driver for experimentation. According to Bortolini et al. (2018, 1) the main target of newly established companies is to find a business model that is scalable and allows continuous development of prototypes (Bortolini et al. 2018, 4). Ryall and Casselman (2019, 766) emphasize finding ways to innovate through a minimum viable product at low costs, whereas Ries (2011, 22) highlights a thorough process to find a sustainable business model through iterative experimentation.

2.12 Future research to predict markets and give competitive advantage

In a competitive landscape, where businesses face both globalization and changes in consumer behavior (Kropsu-Vehkapera & Isoherranen 2018, 429-430), businesses are putting

efforts on constant product innovation (Küng 2017, 8). Furthermore, companies are forced to adjust company functions (Albright 2004, 40).

Simultaneously, it is crucial for companies to acknowledge that there are tools available to discover trends and impacts through foresightfulness in future research (Albright 2004, 42). Foresightfulness can be applied to any business and aims to distinguish relevant patterns and act upon these (Jalonen et al. 2017, 7). Operating in a foresightful manner reduces chances of being blindsided, but also gives firms better tools to manage expectations within a company. This approach is becoming of utter relevance, as businesses are having issues staying competitive. Furthermore, maintaining a continuous competitiveness is becoming harder, as markets develop quickly and changes in technology and legislation emerge (Albright 2004, 40-41).

Future research results in valuable scenarios and documents possible futures, giving insights to larger context and business environments. This can be ensured through consolidating multidisciplinary skills (Jalonen et al. 2017, 32) and by supporting management decision-making with a comprehensive scanning process. This process should strategically look at external powers such as economics, politics, social phenomena, and regulations to truly recognize a business climate (Albright 2004, 42).

Functioning through a foresightful approach includes defining a business challenge to be solved, which gives means to select suitable research methods and tools (Jalonen et al. 2017, 15). In environmental scanning, for example, strategic and tactical plans are aligned to predict markets and give a competitive advantage. In practice, this often teaches organizations to shape current processes to better face external forces, through improved structures and strategies of a firm. Furthermore, it may be required to consolidate a specific environmental scanning unit, which is involved as an integral part of decision-making in a company (Albright 2004, 40-41).

Nevertheless, it is still crucial to recognize biases that impact future research (Jalonen et al. 2017, 12-13). Our human brain functions in two modes, in system I and system II (Bammert et al. 2020, 4), which impact how we react and sense to insights. Biases are impacted by our background and experiences, but also environmental aspects such as our surroundings. This means everyone is exposed to shared interests of a community. (Jalonen et al. 2017, 12-13)

When looking for future trends, it is crucial that firms identify unknowns, which lays a foundation for decisions to be made before accurate knowledge is available. Companies must, in other words, therefore be ready to face challenges due to a lack of data and too much information that may be hard to comprehend and actionalize (Jalonen et al. 2017, 15-16). This process educates organizations into strategic response to external forces (Albright 2004, 39) and exemplifies how future thinking is integrated to systems thinking where all is connected (Jalonen et al. 2017, 25).

Although external forces impact futures of a company extensively, it is crucial to analyze internal information, such as databases and reports. By investigating these, potentially large transformations can be found (Albright 2004, 43). These findings should be communicated throughout the company as tangible scenarios (Ogilvy & Schwartz 1997, 1) and involve key management (Albright 2004, 42).

Gathered information should be channeled into concise findings that directly are reported to the management of a firm, who can then take appropriate actions (Albright 2004, 42) and answer strategic issues (Ogilvy & Schwartz 1997, 1). In practice, this means presenting concrete statements with a clear focus and few details. To efficiently communicate study results, it is advised to present these in person to the leadership of a company, allow direct questions, and give options to impact the flow of information (Albright, 2004, 42-43).

To successfully conduct future research, initiatives should involve a diverse group of members that include a variety of roles, cultures, and disciplines (Ogilvy & Schwartz 1997, 2). Furthermore, it is important to prioritize issues that are most likely to impact business and identify early warnings beforehand (Albright 2004, 43). This can be achieved through a set time frame and asking an adequate focal question (Ogilvy & Schwartz 1997, 2). At the same time, companies should identify current competences, flexibility, and resources to map prerequisites and suitability towards environmental scanning (Albright 2004, 41).

Looking for market changes should be an ongoing process that involves looking at all types of signals that may impact business through transformative or innovative phenomena (Jalonen et al. 2017, 25). Additionally, data analysis should be performed systematically and look for patterns to be grouped in common themes. These themes are then translated into topics that can be further analyzed and ideated into new solutions and potential opportunities (Jalonen et al. 2017, 24).

Future research should involve outcomes that firms consider desirable and identify crucial, missing data. By successfully using various tools to uncover insights, for example through seizing exercises, insights can be developed and directly put to action (Jalonen et al. 2017, 24). Equally important is to highlight risks and opportunities in strategic issues, emphasize diversity, setting a focal question, and facilitate adequate communication (Ogilvy & Schwartz 1997, 1-2).

Researching trends and markets strive to navigate through time to be able to capture opportunities and avoid catastrophes (Bell 2009, 1). By analyzing insights through an iterative, flexible process, phenomena can be taken from tangible to abstract (Ketonen-Oksi, 2021a). This approach may help companies to recognize various perspectives on topical issues (Ketonen-Oksi, 2021b), uncover solutions, and find right key stakeholders in a transformative business environment (Ketonen-Oksi, 2021a).

This chapter aims to exemplify how future research can be used to maintain sustainable business growth as an addition to experimentation, as markets become increasingly competitive (Kropsu-Vehkaperä & Isoherranen 2018, 429-430).

Albright (2004, 40) explains how companies are forced to reorganize themselves and take future research tools in use to discover contemporary trends, social phenomena, and regulatory changes (Albright 2004, 42). Due to these aspects, one can argue that experimentation is linked to future research where emerging trends are capitalized upon.

Jalonen et al. (2017, 12-13) and Bammert et al. (2020, 4) describe behaviors of our human brain and how companies must be ready to comprehend with extensive amounts of available data. Ogilvy and Schwartz (1997, 1), however, explains how this data should be communicated throughout an organization and that it is possible to answer strategic issues through tangible scenarios.

Bell (2009, 1) clarifies that it is possible to travel through time by researching trends, which means taking concepts from tangible to abstract (Ketonen-Oksi, 2021a). Ketonen-Oksi (2021b) also assures that a futurist approach helps identifying angles on challenges of organizations.

3 Researching experimentation through semi-structured theme interviews

As for the COVID-19 pandemic, companies have been forced to change business model logics and develop efficient remote working processes. Therefore, companies such as dentsu have taken measures to ensure that continuous innovation and experiments takes place. (dentsu 2020b)

This research is based on a qualitative method through semi-structured theme interviews of ten leaders at dentsu Finland. All interviewees were handpicked to represent a wide variety of backgrounds and a vast experience in areas relevant to experimentation. Qualitative research utilizes a naturalistic tactic, which means it aims to understand phenomena in its context, often a real-world setting, where the researcher strives to avoid manipulation of a phenomenon. Furthermore, qualitative research produces results that are not based on a statistical process or quantification of results (Golafshani 2003, 600).

A semi-structured method was selected to approach a specific theme through a predefined set of questions, and to give freedom to the scholar to reframe and ask questions depending on the interviewed object. Furthermore, this semi-structured approach gave an opportunity to gain insights on a specific theme and avoided giving interviewees excessive freedom (Saaranen-Kauppinen & Puusniekka 2006), which may have skewed results. By combining theoretical tenets and marketing industry reports with interview results, two concrete frameworks for executing experimentation in a Finnish marketing firm are presented in chapter five.

3.1 Qualitative research and sampling

In this study, a purposive sampling method was used in recruitment of participants to ensure all interviewees had certain characteristics and backgrounds (Riffe et al. 2014, 102). This method was selected in alignment with the study purpose and with an expectation to provide unique and valuable information. This, however, means that the sample was defined by data saturation and not by statistical power (Suen et al. 2014, 4).

All selected interviewees were in leadership, management, or director positions at dentsu Finland and had experience in business development (Table 1). The sample of participants purposively came from various backgrounds and worked in different areas such as finance, human resources, operations, sales, communication, and technology (Table 1). The objective was to deliberately collect a suitable sample, representing leaders with different competences that work with clients or in internal functions of dentsu Finland. Additionally, all interviewees were experienced leaders in communications, and change management.

	Title	Interview date	Interview language	Work experience (yrs.)
1	COO, Chief Operative Office	17.11.2020	Finnish	20+
2	CFO, Chief Financial Officer	17.11.2020	Finnish	20+
3	CDO, Chief Data Officer	18.11.2020	Finnish	15+
4	CEO, Chief Executive Officer	19.11.2020	Finnish	30+
5	HR Manager	23.11.2020	Finnish	10+
6	Director, Digital Media Services	30.6.2021	Finnish	15+
7	CSO, Chief Services Officer	1.7.2021	Finnish	15+
8	Head of Data	2.7.2021	English	15+
9	New Business Director	8.7.2021	Finnish	15+
10	Communications & Change Manager	12.7.2021	Swedish	10+

Table 1: A list of all interviewees and their positions at dentsu Finland.

Additionally, a convenience sampling approach was used to be able to self-select interviewees to participate and to recruit participants quicker, simpler and at lower costs (Stratton, 2021, 2). As dentsu Finland has over 30 managers, a convenience sampling method enabled quick recruitment of participants that were more accessible to the research. It is, however, important to acknowledge that these sampling methods result in a situation where opportunity to participate is not equal for all individuals in a target group and results thus are not generalizable to a larger population (Suen et al. 2014, 4). Convenience sampling, which is a non-probability sampling method, however, also often creates motivation bias, which means the study relies on the motivation of individuals who participate (Stratton 2021, 1).

The semi-structured theme interviews were based on fundamental issues in experimentation culture and implementation of new operations in corporations. The set of questions strived to answer what an experimentation culture is, how leadership can foster a successful experiment culture and its prerequisites. Furthermore, the study addresses what

experimentation means in practice, implementation tactics, and how to measure business success in experimentation.

To define an optimal sample of participants, data saturation as a method was applied. This meant continuing collection of data until no new themes would add insight to existing findings of previous interviews (Glaser & Strauss, 1967, 61-62). Interview results were preliminarily analyzed after a smaller set of sessions, to validate if a larger sample was required, and thus, if more interviews were necessary.

3.2 Theme interview setup

All semi-structured theme interviews, $n = 10$, were held online through Microsoft Teams during 2020 and 2021 and were recorded with cameras activated to verify participants' identities. The interviews lasted approximately 30 minutes per interviewee, and all participants had an option to quit the interview at any time on their request. Furthermore, all individuals were given the right to stay anonymous in this research with respect to their business-critical responsibilities and personal professional brand.

To ease the interview process, a semi-structured theme interview method was utilized. A semi-structured theme interview approach relies on opportunities to change particular words, but not the meaning of the questions provided. This method underlies that not all words must be the same for all interviewees and acknowledges that participants understand meanings of words differently depending on the vocabulary of an individual. Furthermore, a semi-structured theme interview's validity and reliability is not reliant on repeated words, but on delivering equivalence of comprehension (Barriball & While 1994, 330). This study was conducted in three languages; Finnish, English and Swedish. Thus, the emphasis of analysis was highly on standardizing meaning and applying comparability between interviews. The decision to arrange interviews in three languages was due to convenience, to ensure a fluid conversation, and avoid misinterpretations, as not all participants speak Finnish, the working language at dentsu Finland, as their native language.

A field guide was created to involve important aspects such as the research goal, how data was to be collected, schedule, and practical information on the interview setting. These all were explained to the participants before the session. This introduction was arranged to build trust and also to set the whole discussion in context. For this research, the field guide was peer reviewed by a senior lecturer at Laurea, University of Applied Sciences in Espoo, Finland, to allow commenting and ensure optimum comprehension of the set of questions.

A field guide, also sometimes called an interview guide, can be considered a document that outlines a foundation on steps in an interview. Creating a field guide is a crucial, preparatory step in an interview process and guides a researcher to be flexible. Furthermore, a field guide aligns research teams by including research goals and other inputs. (Portigal 2013, 39)

The semi-structured theme interviews involved general questions on how to define experimentation, how it should be conducted, and why. Additionally, general questions included topics such as experimentation in relation to innovation and what should be experimented. After this set of questions, focus shifted towards organizational culture and design, prerequisites for experimentation and how to foster an experimentation culture. This also included a topic on business transformation, employee expectations and change management. As an addition, business impact and measuring success was included as themes. At the end of every interview, participants were given a task to conclude the discussion and highlight the most important aspects that should be emphasized.

3.3 Data analysis

As all interviews were recorded, lots of data was collected for analysis. Initially, all recordings were viewed, and data was openly coded to common codes, such as Leadership, Psychological safety, Measuring success and Continuous improvement. Open coding is a concept where a researcher codes data in every possible way. By selectively coding data, it is easier to fully have control over insight and avoid getting lost in multiple descriptions. Furthermore, open coding allows researchers to recognize directions in which to steer a study, as well as to saturate concepts based on their properties (Glaser 2016, 108-110).

In the coding process, individual interviews were summarized, and codes were colored in an Excel sheet to easily be grasped on an individual level (Figure 1). Quite quickly common themes could be identified among participants, thus laying a foundation for this research's summary that is presented in chapter four. Furthermore, significant quotes were gathered from the interviews, which are introduced in this paper. Through data analysis and reflection of insights through categorization, this research constitutes to developing frameworks that can be taken in use to develop and foster dentsu Finland's experimentation capabilities.

	A	B	C	D	E
1		General questions (what is experimentation...)	Organizational design and culture	Business and KPI's	Experimentation at dentsu
2		Remote work a type of experimentation	Competences and a "willingness" to test	There needs to be a goal to achieve for	Start by identifying and determining
3		Can't test things in management team	Few companies explicitly forbids experimenting	Numeric and soft measurements	Important to have resources and im
4		Not everything can be tested ("total reorg's"...))	Enough people believing in experiments	E.g. how many initiatives	A huge disappointment if it doesn't g
5		Communicating can be experimented	Enough time + allocating	In a business, revenue needs to be measure at some poi	It's easier getting support (funding)
6		Responsible experimentation	Should be a part of everyday work, not only on free time or	One needs to understand when to finance / kill an initi	Psychological safety
7		Planning and thinking before experimentation	Should work in all companies	Set a time frame when to "pull the plug"	How we foster this safety and tr
8		There should be a lot of experimentation happening wit	Certain industries "better" for tests (more intuitive as a part	Example Nestle on biofuel	
9		It should be a part of culture	In some companies it's a part of all they do	Measuring soft values: feelings	
10		Risk analysis before testing	Managers need to be equipped with a talent to empower an	Mindset: "there are no failures: it simply didn't work"	
11		Innovations should be experimented	Leading "itse-ohjautuvuutta" / cross-functional teams is chal	What findings are there?	
12		There needs to be resources and time for continuous ex	People are different with different skills, ambitions	E.g. Netflix "packaging a neat solution"	
13		At the same time, we need to make sustainable busines	Management: should be more coaching	Amazon, Starbucks	
14		What is the combo of work load to be able to innovate? When a company needs to search for new opportunities, they should do it through experimentation			
15			Testing out what can fly		
16	Topics		Investments are huge for M&A		
17			Small iterative tests in our daily work to improve things		
18	Leadership		Lean and scrum methods, to reflect and orchestrate work		
19	Psychological safety		Sub cultures can be challenge / hindrance for experimentation		
20	Company culture and DNA		There is not catalogue to find what works :D		
21	Measuring success				
22	Continuous improvement				
23	Challenges and hindrances				
24	Implementation				
25	Prerequisite				
26					

Figure 1: All conducted interviews with top leaders of dentsu Finland were coded and categorized for further analysis through an Excel sheet.

Examining validity and reliability is considered crucial when analyzing results and estimating quality of a study. One can argue that reliability is a result of validity in research, and that trustworthiness is a core of qualitative research (Golafshani 2003, 601-602). Golafshani (2003,

601) also specifies that quality should be analyzed through how understanding is generated around specific content.

Furthermore, validity in qualitative studies has been defined by a variety of terms, and is thus not a single, general concept but a combination of grounded paradigms in the process of research and methodologies. Often validity is impacted by a researcher's own perceptions and paradigm assumptions of a study, thus examining quality, rigor and trustworthiness can be a better option to measure quality. Similarly, researchers should be aware of bias when discovering subjectivity and social interactions of interviews (Golafshani 2003, 602).

4 Findings of researching experimentation

In this chapter research findings are summarized with valuable inputs from conducted semi-structured theme interviews with top leaders at dentsu Finland (Table 2). These results combined with a literature review on experimentation culture and business growth, lay a foundation for a concrete development plan as presented in chapter five.

Additionally, common topics are presented as statements based on discussions with practitioners. Topics were synthesized coherently to a list of results through saturation, where occurrences of statements are displayed in numbers up to a maximum of ten (Table 2).

Statement	Occurrences
The target of experimentation is to develop a firm's operations	10/10
Leadership should encourage experimentation and show examples	9/10
Psychological safety and trust in organizations is core in experimentation	9/10
To successfully implement an experimentation culture, adequate resources must be facilitated	8/10
Organizations should have a culture and competences to cope with failure	8/10
Success of experimentation can be quantified and measured in business impact (growth in revenue)	7/10
Defining a goal or hypothesis for experiments is crucial to succeed	7/10
Developing a common culture of experimentation is key in experimentation	6/10
Experimentation involves small, agile, and iterative changes over time	6/10
Experimentation can be utilized in any industry	6/10

Table 2: Saturation of results based on interviews with ten leaders at dentsu Finland.

4.1 Leadership and psychological safety in experimentation

Leaders in firms are a driving force in responsible experimentation, assuring it becomes integrated as a part of company culture (Table 2). They are also responsible for planning, thinking ahead, and performing risk analysis before conducting experiments. Additionally, managers must be equipped with a talent to empower and lead cross-functional teams, which often may be challenging to fully control. In cross-functional teams, employees have different skills, ambitions, and background, thus management should focus on leading through a coaching approach (Table 2).

Leadership is responsible of creating a safe working environment, where trust is built, employees are empowered, and failing is accepted. In a fully functional agile organization, leadership gives power to individuals, which foster innovation and allow failing as part of a learning process. It is, however, important to recognize that managers must be ready to fail themselves, to be honest and approach failures with a right attitude.

Organizations are often divided into two groups of employees, that either are experiential or want to stay in their comfort zone. It is, therefore, a manager's task to build trust towards employees and challenge and develop their mindset to work in an agile manner and change behavioral patterns.

Managers can often encourage team members to experiment by showing empathy and examples on ways to experiment. This means managers should not only talk, but also show how experimentation can be conducted in practice (Table 2). At the same time, leaders should show their individual vulnerability as their predefined hypotheses may be demolished.

It is crucial that managers are ready to change working processes and mental models. Furthermore, it is in a leaders' role to communicate that failing will not result in fatal disasters, especially if a company acts in knowledge work. This can only be built through trust between employees and management, where teams are coached to experiment. As the culture of trust is developed (Table 2), it can be seen at all levels of an organization. Similarly, learnings and outcomes should be shared within all hierarchies and levels of a firm.

For experimentation to work, leadership has a great impact in setting goals to aim for, but also to ensure that testing happens throughout the firm without silos. When setting goals, it is evident that all levels of management is involved, but also that goals are communicated openly and explained in detail. This includes describing goals as exactly as possible and what the company is achieving for. Furthermore, initiatives should be explained in pragmatic terms; what it means and how it will affect every-day work among employees.

Company management has a big role in business but can also be a force that builds structures that support experimentation. This can happen through for example employee rewarding and by challenging and showing direction. Equally important is that "*leaders have skills to empower and lead thinking*" (Interviewee 4).

Leadership makes the final decision on starting an experimentation initiative; thus, it is important to recognize that it sometimes may be very expensive to implement change programs. Similarly, it is crucial to realize that becoming experimentation-driven occasionally may require large organizational changes.

A crucial aspect in agile organizations is psychological safety (Table 2), which allows testing and failing iteratively through a continuous incremental approach. A developed sense of trust empowers workers, but also removes fears that can hinder innovation. What makes experimentation unique, is that one seldom completely knows the output, which makes

resource allocation challenging. By building courage and confidence in companies these challenges, however, can be defeated.

To defeat challenges, management should emphasize that testing is accepted in all roles in a company and that one should not be afraid of testing. In other words, the culture should allow testing and look at learnings through failure and build a common understanding that experimentation is possible. This psychological safety can be seen in practice, when employees automatically, unprompted, propose ideas and are eager to try new concepts.

To experiment successfully, trust must be visible on an organizational level and the firm should have a *“culture of failing where we learn from mistakes, analyze and continue”* (Interviewee 5)

4.2 Company culture and experimentation

To successfully build an experimentation culture, a willingness to continuously test and adequate competences must exist. Only when employees truly believe in agile methods, they can support decision-making. Although few companies explicitly forbid testing, one, however should be critical towards one’s own ideas and base facts on data. For example, firms should reflect what potential processes could be removed, what to develop, and how to react to failures.

Experimentation is an employee mindset that evokes daily improvements, putting focus on troublesome areas that must be solved. In other words, experimentation should be a natural part of a company’s DNA, with a focused curiosity towards development, rather than acting as a separate initiative put aside of core business.

Generally, young employees are open to new ideas, and smaller groups of individuals can act leaner as decision-making is faster. From a managerial point of view, it is therefore relevant to understand what competences and individuals work in the company to understand experimentation capabilities. This, as it is hard to change rooted thinking models of workers, that may often be too comfortable and not very eager to improve. Equally important is to have the courage to kill ideas should they not satisfy expectations. By embracing these leadership aspects, employees can be taught to innovate through testing and find transformative solutions.

Similarly, it is important to acknowledge that organizations without an experimentation culture might not develop. This, as experimentation in its essence can be described as *“to do things better”* (Interviewee 1) and be seen as *“a synonym of developing”* (Interviewee 7).

Although few companies may classify themselves as very experimentation-driven, one could argue that all companies have abilities to embrace an experimentation approach. This involves a culture of failing, where firms talk and learn from mistakes and share both failures and wins. Additionally, the culture should emphasize everyone’s responsibility to want to

make things better and accepting that tests inevitably will fail. This can be countered by celebrating failures as wins and determining these as learnings.

It is said that if there are areas that may be improved, one can always experiment. When an experimentation initiative is pitched to leadership, a clear challenge should be presented and how this can be solved through testing. Nevertheless, firms should cope with the fact that experimentation is impacted by the organization at hand and what products or services it offers. Although one may argue that some organizations, for example technology firms, are set up to innovate and experiment, it should still be highlighted that experimentation as a concept can benefit any business. Furthermore, one may claim that almost anything can be classified as a test, especially as technology allows accepting learnings through an iterative approach (Table 2).

In the case company, dentsu Finland, interviewees indicate that although firms already may involve lots of experimentation, there are often challenges in acting systematically. This may occur as certain companies initially are better equipped with structures supporting testing.

Another reason for challenges in applying experimentation approaches is that the company is too satisfied with its current business, and thus misses upon development areas. This can be seen in practice, where employees fail in challenging business and critical thinking on an individual level. Furthermore, the culture should involve a willingness to test and possible incentives. In a perfect world, successful experiments motivate employees and result in better ways to work. Thus, firms should allow employees to test and “*just do it*” (Interviewee 2).

4.3 Measuring success and using hypothesis in experimentation

A central tenet of experimentation is that every test should have a tangible indicator on whether a test has failed or succeeded. Often, a numeric measurement such as revenue is adequate, but it may be troublesome in a firm that offers services. Therefore, metrics such as execution speed, efficiency, employee perceptions and wisdom are measurements that can assist in validating experiment performance.

Furthermore, the number of new initiatives, employee satisfaction and soft values can give great signals on how a firm’s experimentation culture is performing. By converting new ideas and business potential to revenue (Table 2), it is easier to prioritize and communicate tests to stakeholders.

Generally, blue collar work tends to be easier to measure, as it is many times based on clear indicators, such as productivity. Measuring success in a consultancy business is substantially harder, as every project differs, and therefore soft values must be taken into consideration.

When setting clear goals to achieve, measurement is effective. Therefore, it is advised to base tests on hypotheses (Table 2) that are created to validate whether a result returns a

true or false statement. Equally important is to specify a date when to pivot or cancel a test, should results not be satisfactory or measured inaccurately.

When working with paying clients, customers often measure work to verify that they gain adequate value for their investment. For example, measurement can happen through looking at development areas and their relevancy. Although experiments can often be quantified in a business case or in revenue, firms should also validate predefined hypotheses (Table 2). These hypotheses usually strive to answer what single experiments are trying to achieve and the value of learnings, in comparison to hard key performance indicators.

Another way to measure success is to involve employees in surveys, where they for example can estimate how innovation is embraced in their company. This, however, can often be problematic as individuals acknowledge and understand questions differently.

It is possible to measure various aspects of testing, but not all of them are equally valid. For example, success rate, how many percentages of tests succeed, can be measured, but it may be more relevant to measure how often proven learnings are put to concrete actions in a specified period of time. Another way to measure success is to examine evoked changes after implementation. When measuring an absolute number of tests in a set time frame, it is relevant to look at how experimented concepts are proceeding to something valuable. Nevertheless, practitioners and firms should remember that *"if there are learnings, it's a success"* (Interviewee 10).

When a healthy competition exists, where employees equally are trying to improve a common metric, an experimentation culture can spread in a company. This automatically will have an impact on general key performance metrics of a firm, such as growth, business, and employee satisfaction. Although there are endless opportunities for experimentation, it is still relevant to investigate *"what is worth experimenting"* (Interviewee 8).

4.4 Continuous improvement in experimentation

In a perfect world, all companies should be experimenting as a part of their daily operations. For example, the case company has tested an initiative, where employees document issues that they can personally improve or make more efficient every day. This is an example of training an iterative mindset (Table 2), where employees spend time on defining individual development areas related to operations of a company.

Although some companies continuously are improving services provided to clients, it is equally important to develop and find new internal tools. A basic motive for experimentation should be improvement and efficiency, as a reaction to rooted issues that exist in a company. In other words, experimentation should look into solutions and try to discover something completely new, through incremental, continuous steps and improvements.

To incrementally experiment, it is advised that firms use a systematic approach and focus on “*releasing energy to something better*” (Interviewee 5). This applies to a large spectrum of applications, such as testing new software, new products, or even an office space. Furthermore, one may argue that experimentation can benefit any industry, including traditional industries such as banking, that should be testing new models to improve business.

Although there are endless opportunities in experimentation, firms should not test for testing’s sake, especially if a concept already has been proven not working. Though this can be considered a guideline for many applications, companies should not still completely confiscate an idea, but rather store it and utilize it at a later stage. Another easy way to collect ideas for future experiments is using a common suggestion box in an office.

Firms, especially startup companies, must continuously investigate new business opportunities. In its essence, experimentation tries to validate an idea and measure an outcome or reaction as a result of a test. In pragmatic terms, experimentation with many variables becomes complex, thus a higher number of tests must be launched. Furthermore, the experimentation process is something you learn over time and should flexibly be adjusted, for example when developing a product through co-creation. Additionally, the experimentation process should be systematic and consistent, simultaneously as leadership communicates “*what it means and how it will change daily work*” (Interviewee 10).

4.5 Challenges and hindrances of experimentation

Although impacts of experimentation are quite evident, companies often are challenged with a lack of resources that directly hinder experimentation (Table 2). This impacts both what can be tested and to what extent tests can be implemented. For example, large experiments that require substantial amounts of budget and investments, such as tests involving mergers and acquisition, often require thorough planning which can lead to contradictory slow and unagile processes.

Another challenge is that employees may have excessive workloads facing stress, which result in that no extra efforts can be put on experimentation. It is, therefore, crucial that employees have time for experiments in their daily work and to ensure that leisure time and weekends support employee wellbeing and rest.

Psychological safety can impact employee behaviors positively but may also be a hinder for experimentation. Therefore, managers clearly need to show, state, and communicate, that it is accepted to fail and to use a certain portion of working time to learn and develop. By defining tangible goals and coaching employees, a certain agility can be fostered in organizations that organically is spread among teams and units.

A challenge in experimentation are processes in large organizations, that often automatically slow down execution. In addition, many subcultures can make it hard to innovate concepts

that are seen as transformative. This is emphasized by a resistance to change that may occur when employees are facing initiatives with unknown outcomes.

Although lean companies often have the right competences and set processes for experimentation, it is crucial that experiments support sustainable growth and foster a right amount of innovation. In larger corporations, a challenge may be that most client projects are custom and different, which means clients may oppose taking larger risks and pay for experiential approaches.

Clients not being open to testing may be an issue in heavy industries but can also be a common challenge in companies where experiments require large investments or plenty of employee resources. Similarly, it is advised that a company strategy should not be tested, although it should still be flexible, reactive, and consider possible market changes.

Other impediments for testing are little or no time to experiment and a mental barrier among employees. This behavior can be analyzed through investigating employee empowerment and participation in new initiatives. For example, a low participation rate could indicate that personnel are uncertain on their roles and focus area, which directly is a management issue.

Commonly, the organizational model in larger corporations is hindering experimentation; a struggle that involves initially finding funds and getting an approval to experimentation initiatives. Another obstacle in larger corporations is a very hierarchical culture which may lead to a lack of trust or boldness in a company. Therefore, the organization should facilitate a culture that removes fears of failing, tendencies to play it safe, and employees feeling afraid of testing. Nevertheless, smaller teams can regularly work more agilely, but tests still require lot of planning in execution, which indicates that not everything can be tested. Thus, the question is what is worth testing and how to connect all tests as part of a bigger execution plan.

In the past, companies were very efficient-driven which meant employees could not spend time on failing. This may be a side effect that today translates into not talking about experimentation and having non-unified working processes. Additionally, failed experiments can hinder future experimentation, which is often also conducted differently in specific teams. Therefore, it is crucial that learnings are logged adequately to be acted upon.

Often greater cultural aspects in firms impact the willingness of testing new concepts, therefore business is steered in a safe and familiar direction. As for this, employees should not be penalized for doing something wrong, but rather be rewarded for daring to test. If firms are not testing, they cannot innovate, and experimentation cannot happen as a part of company culture (Table 2). Thus, if *“there is no risk, there is no reward”* (Interviewee 9).

Commonly organizations are applying a lot of small tests but have little time to analyze. This can result in ideas not being taken further quickly enough and success of tests is forgotten.

4.6 Implementation and prerequisites of experimentation

To adequately implement an experiment culture, firms should start by identifying and determining a focus area and an issue to solve. By presenting a concrete case, it is easier to involve participants that are motivated and willing to support. With enough resources (Table 2) and an ability to cancel unsuccessful tests, it fosters a culture and mindset that can truly solve problems with a business impact.

By specifying hypotheses before executing tests (Table 2), teams have better abilities to anticipate outcomes. This assists setting a frame and schedule, but also works as evidence to why a certain experiment is valid and should be put to action.

Firms should, however, be careful not testing for the sake of testing, but to truly communicate what an experimentation initiative is striving to solve. To efficiently implement an experimentation process, individual employees must have support from managers that all share a common belief in problem-solving and execution.

The fundament of this experimental mindset is that there are no failures, but iterative tests (Table 2) in daily work that may result in ways not anticipated. Furthermore, adequate competences, allocating work, clear goals, and a willingness to test, are key factors that vastly impact success of experimentation and decision-making in organizations.

When conducting tests, company key metrics should be followed, such as revenue (Table 2) and employee or client satisfaction, according to company strategy. To develop an experimentation culture in practice, a workshop in small teams could be arranged where topics around efficiency are reflected. In these workshops, it may also be relevant to examine how client work can be performed differently from internal experimentation, in for example tooling or processes.

Some experiments must be conducted in a controlled testing environment, and other tests do not require large investments at all. For example, employee time and brain power may be the only investment necessary, but it requires that there are clear goals and visions.

Commonly you may need to build a business case to get funding or resources, thus, an analyst role to document and analyze, and a function to manage the initiative, may be necessary. Furthermore, as "*experimentation is core in innovation*" (Interviewee 9), it may be wise to determine steps that must be zoomed in, to conduct initiatives with a successful outcome.

Often experiments are easier to conduct in a young and agile company, but it is vital that co-workers show examples and that they have a "*curiosity to develop things*" (Interviewee 3) to run successful tests. Employees must also feel embraced and trusted upon and have a clear mandate, to conduct tests assigned to them through their roles and responsibilities.

The company culture must allow failing and reward trying, which indicate that leadership must be involved and engaged. Furthermore, clear goals and visions of a business must be in place to develop a culture where new ideas are created to achieve goals. As *“experimentation and sharing knowledge is connected very strongly”* (Interviewee 6), it implies that the culture of a firm must cope with failing and that trust is present.

5 Conclusions

To conclude findings from this study, two frameworks were constructed to present solutions to map, foster, and develop an experimentation culture. By critically looking at the findings of this study, one can clearly detect challenges that must be overcome to sustainably create customer value and grow business (Küng 2017, 204-205).

When initially exploring experimentation or facing direct challenges, the presented models in this chapter can be used to reflect opportunities and solve issues. In the marketing industry where dentsu operates, large efforts continuously are put on developing business models (dentsu 2020b). Thus, it is proposed that the presented frameworks are used in multiple teams to improve aspect of a company’s operations (Figure 2; Table 3); for example, applied to processes, recruitment or financial services.

5.1 Experimentation matrix framework

The experimentation matrix framework, developed as a conclusion based on findings of this research, is a tool for mapping a state of a company, its challenges, directions, willingness to develop, and organizational culture. The model can be used to provoke discussion, set goals, and clarify future ambitions in terms of experimentation (Figure 2). The model is concluded based on interview results (Table 2) and a literature review presented in chapter two.

The two-by-two matrix allows placing individual companies or units on the map, but also admits mapping competitors and future states of a company. This helps constructing an understanding on strengths and weaknesses but can also indicate to what extent an organization’s current culture supports experimentation (Figure 2).

By placing competitors on the map, leadership can analyze entire markets and build knowledge on where potential improvements can be achieved. By analyzing company efficiency and agility, addressed initiatives can be started to further develop areas that make firms both fast-paced and prepared for new, innovative, business opportunities (Figure 2). The horizontal axis (Figure 2) estimates a firm’s willingness to take risks, courage, and psychological safety on a scale from low to high. This scale gives a view on how suitable a firm is for experimentation in its current form (Figure 2).

The vertical axis (Figure 2) maps a company pace from slow to fast, looks at existing processes and culture, but also behaviors and mindsets that impact agility. By holistically understanding the speed of a company, leadership can allocate necessary resources (Table 2), validate, and retain required competences for agility.

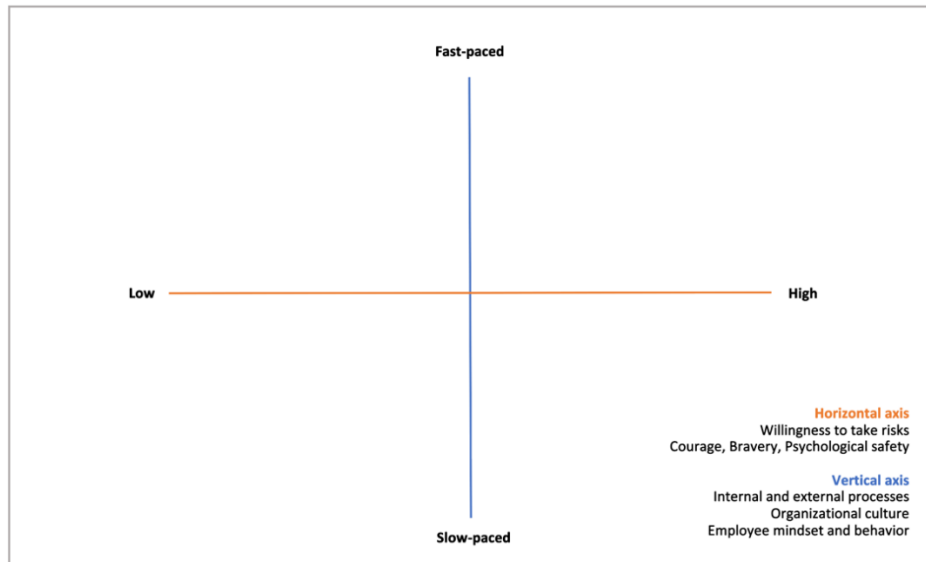


Figure 2: The experimentation matrix is a tool for mapping a state of a company and provoke discussion around experimentation.

5.2 Experimentation maturity framework

The experimentation maturity framework, based on concluded results of this study, assists organizations in analyzing their competences, opportunities, and capabilities for experimentation through a maturity assessment. The framework is constructed based on a literature review presented in chapter two and interview results (Table 2).

This model consists of ten interconnected topics of analysis and considers for example organizational challenges, structure, culture, competences, and other areas of strategic importance (Table 3). The framework looks at organizational structure and how teams, units and reporting is arranged in a matrix organization. It looks at how organizational arrangements support agile experimentation and how firms should be designed (Table 3).

Area of analysis, scored 0-100	
Organization structure	Willingness to take risks
Employee mindset	Current strategy and processes
Organizational culture (DNA)	Strategic foresight
Internal and external resources	Leadership capabilities
Competences	Market understanding

Table 3: The experimentation maturity framework assesses an organization’s experimentation maturity through strategic areas such as competences, opportunities, and capabilities.

When analyzing employee mindsets, the framework evokes reflection on how workers act in various situations, in other words, what subconscious thoughts workers have. Employee mindset is highly related to organizational culture or DNA, which analyses how a company's teams and units support experimentation. This area of analysis looks at how collaboration is handled, how failures are reacted upon (Table 2), potential resistance in testing new operational methods, and the level of trust incorporated in the operations of a firm (Table 2).

Internal and external resources validate how resources are aligned and positioned. It emphasizes looking at all available resources, but also examining how resources can be allocated to support experimentation initiatives. Furthermore, this approach tries to identify what potentially hinders experimentation (Table 3).

By analyzing competences, firms get a clear view on what skills exist inhouse and which strategically relevant competences should be acquired to maintain a competitive edge (Küng 2017, 204-205). Additionally, the framework strives to guide decision-making in how these competences should be taught and shared within an organization (Table 3).

Reflecting a company's willingness to take risks investigates how much risk currently is involved in core business and if the culture supports taking risks in an organization. This topic can be supported by the experimentation matrix framework (Figure 2).

When analyzing a current strategy and processes of a firm, leadership can map crucial strategies and explore solutions. Additionally, it opens discussions on what processes are executing a strategy in practice, and what optimization opportunities there are (Table 3). This may involve strategic foresight, where a firm predicts future areas of a company strategy. Strategic foresight includes reflecting what changes must be done to stay competitive, and how the company fosters foresight in its operations (Albright 2004, 40-41).

Interviewees confirm that leadership plays a significant role in developing an experimentation culture and that organizations should be measuring key indicators aligned with its strategy. Furthermore, management should ensure a sense of psychological safety among employees that directly impacts the willingness to experiment (Table 2).

Building a market understanding involves looking at the current competitive market landscape and how it changes over time (Küng 2017, 204-205). To truly have a marketing understanding, firms first need to map how much internal knowledge there already is about competition and potential business opportunities. Through this analysis, companies are able to act upon gaps and fill necessary needs with further trainings and development initiatives (Table 3; Table 4).

The experimentation maturity framework involves a scale from 0, low maturity, to 100, high maturity, which gives a view on its current state. The framework incorporates an explanation of the scale (Table 4), introducing areas to focus on to improve strategic agility. When receiving an experimentation maturity estimate, companies can put efforts on improving areas which have a direct impact on how an experimentation culture is incorporated in the

operations of a company (Table 4). By utilizing the scale regularly, it is possible to detect changes that happen over time and analyze directions of a company.

<p>0-25</p> <p>Your company has a low experimentation maturity and currently low prerequisites to successfully perform agile experimentation. You should consider reorganizing structures of the company or create innovation through mergers and acquisitions as a strategy towards strategic experimentation.</p>	<p>25-50</p> <p>Your firm shows small or mediocre maturity in experimentation and has some elements of agility incorporated. You may be challenged with tight resources or issues that stall experimentation. Your organization should assess where issues are detected, define a clear improvement plan, and execute it with the support of employees in different domains.</p>
<p>50-75</p> <p>Your organization has strong capabilities in experimentation and already has processes in place that enforce iterative growth. Your company should utilize strategic foresight to ensure right experiments are conducted.</p>	<p>75-100</p> <p>Your company lives through experimentation and employees are empowered to test and fail on a regular basis. Innovation is in the core of your business, but is it sustainable? Focus on analyzing current markets, develop current competences and retain talent.</p>

Table 4: The experimentation maturity framework is based on a scale from 0 to 100, expressing a company's current level of maturity.

5.3 Roadmap and required resources

To take the two constructed frameworks in use at dentsu Finland, the first phase is to find employees who are willing to participate in an initiative to foster agile experimentation. By ensuring that the team is cross-functional, a wide spectrum of thoughts, experiences, and competences (Ellis & Brown 2017, 10) are combined to effectively utilize the frameworks.

The second phase is to arrange a workshop where employees work together on issues of strategic relevance through the presented models. The focus could for example be to document areas of improvement. Reflecting and discussing the status of a firm as an agile entity could be seen as a great kickstart for a continuous approach towards actions.

Eventually, when the current state and maturity of dentsu has been mapped, results are presented to all employees in early 2022 as a concrete action plan. The focus should be to explain the developed initiative, why it is relevant, and what dentsu's work group is trying to solve. Equally important is to communicate a clear goal for the plan and how success is measured. When initial findings are presented, feedback is gathered to verify that priorities are aligned and according to expectations.

Although involving members from various teams with different backgrounds and skills is important, including top leadership is crucial. This, as managers can allocate and prioritize sufficient resources and time for employees participating. Leadership buy-in is also a valid statement within the company, that proves not only that there are potential resources available, but also that leadership is committed and ready to support the initiative (Table 2).

Initially no large budgetary investments are required, as utilizing the model relies on allocating time for reflection and freeing space in calendars of employees. One should,

however, be aware that utilization of the models may result in outcomes that put action to larger initiatives that may require economic support.

5.4 Answering the study objective and purpose

The purpose of this study has been to answer fundamental concepts of experimentation and factors that impact utilization of experimentation in business environments. This research strives to identify areas on how experimentation can be fostered and developed within companies, that operate in a growing, competitive, landscape. A secondary objective has been constructing concrete frameworks that can be used in the case company to further develop experimentation as an approach.

Key issues are addressed through a theoretical framework based on a literature review, and through semi-structured theme interviews with practitioners and thought leaders from the case company, dentsu Finland. Dentsu operates in 143 markets and provides clients with services that focus on growth and transformation (dentsu 2020a).

Experimentation is a focus of dentsu globally, thus studying this field is vital to support initiatives and customer work. Furthermore, an additional driver for this study has been investigating experimentation as an approach, as successful companies have shown answering customer needs better through experimenting new business models (Küng 2017, 28).

5.5 Defining experimentation

For companies to efficiently react to market changes, firms often create processes and tools for innovation (Doz & Kosonen 2008, 16). These tools are used to test concepts quickly with end-users and customers (Doz & Kosonen 2008, 63-64), a task that should be integrated in all organizations. This process gives opportunities for companies to conduct simultaneous tests and validate concepts quickly and at minor costs (Leavy 2020, 6).

The first research question was to investigate how experimentation is described by the interviewed sample and in academia. In simple terms, experimentation can be described as a discipline and practice that fosters innovation through an incremental approach (Thomke 2020, 13-14). In practice, this involves trying to investigate causal effect in results of various tests and users of a company (Davenport & Kim 2013, 5).

In the interviews of this study, practitioners define experimentation as a process that tries to improve and develop operations of a company (Table 2) with a purpose to release excess energy to something with better value. Additionally, experimentation is explained as something that is conducted by employees as a part of core business with enough resources (Table 2) and a clear mandate, role, and responsibilities (Doz & Kosonen 2008, 210).

To successfully implement experimentation, it is crucial to identify and determine a focus area and an issue to solve. This means operating with enough resources and an ability to

cancel or pause unsuccessful tests. Furthermore, it is essential to specify hypotheses (Table 2), defining a frame and setting a schedule before executing tests (Bortolini et al. 2018, 6).

Nevertheless, companies should cope with experimentation and accept that there are no failures, but instead continuous experiments in daily work that may end in outcomes not predicted (Leavy 2020, 7). According to Ries (2011, 8-9), firms should strive to validate learnings through hypothesis. Interviewed practitioners in this study, however, highlight that measuring results of a test should be aligned with company strategy and could be analyzed through a firm's key metrics, such as turnover, revenue and employee satisfaction (Table 2).

5.6 Key factors impacting utilization of experimentation

The second objective of this study was to explore essential factors that affect utilization of experimentation in organizations. This, as the fierce, competitive, digital environment is forcing companies to create customer value more efficiently and develop competences to sustainably grow their business (Küng 2017, 204-205). This landscape, influenced by rapid market changes, heavily relies on technology which allows for new ways to provide customers with value. As a result of this, the market has become very unpredictable, and firms are forced to make large investments to be able to differentiate and grow sustainably (Küng 2017, 205).

Therefore, companies must learn how to manage failing and base insights on validated learning to gain business growth (Ries 2011, 8-9). This has led to companies completely redesigning value chains and experiment with new business logics (Küng 2017, 28).

Practitioners explain a key factor of utilizing experimentation is when there are complex and quick changes occurring in markets. Through a cognitive approach, executives can pivot actions towards strategic sensitivity that handle growing changes (Doz & Kosonen 2008, 99). In other words, leaders should investigate how to fastest gain learnings, develop, and understand topics that benefit sustainable growth (Doz & Kosonen 2008, 156-157).

Interviewees of this study confirm that a continuous optimization involves identifying new processes, methods, and tools. In its essence the basic reasoning for experimentation should be improvement and efficiency in operations of an organization (Table 2).

When measuring success, a numeric metric such as revenue (Table 2), is quite evident but may be troublesome for firms offering services. Thus, measuring speed, effectiveness, employee opinions and knowledge can be applicable to validate experiment performance. Additional metrics can involve proving how commonly test insights are put to concrete actions (Ries 2011, 143-147) within a specific time period.

Nonetheless, by converting ideas and opportunities to revenue (Table 2), it may be easier to prioritize and pitch test initiatives to relevant stakeholders. Equally important is to define

clear, measurable goals to achieve and set a schedule for pivoting or cancellation of a test (Bortolini et al. 2018, 6).

5.7 Fostering experimentation in organizations

The third research question was to examine ways on how experimentation can be cultivated in firms. This is becoming of utter relevance, as modern business environments are constantly changing (Holten et al. 2020, 394) and as leadership can be considered an essential basis of handling change (Vora 2013, 630). To build and develop an experimentation culture, that involves a learning mindset, it is crucial that experiments show giving insight both when experiments fail and succeed (Leavy 2020, 7). In this culture, analytical thinking is encouraged (Davenport & Kim 2013, 196) and experimentation is put at the core of business functions through investments in shared values and skills (Leavy 2020, 8).

According to interviewees in this research, leaders can be considered a driving force with responsibility, that assures experimentation is shaped as an integrated part of a company culture (Table 2). Therefore, should leadership have skills to empower and guide cross-functional teams, where trust is fostered, employees are inspired and failing is allowed. This, however, means that leaders must be ready to show personal vulnerability and fail themselves (Ries 2011, 8-9).

As leaders show empathy and demonstrate various ways to experiment, a culture of trust can be developed (Table 2) that is seen on all organizational levels. This implies that results and learnings are shared throughout an organization and hierarchies of a company. A culture with rooted hierarchical functions can lead to a lack of agility in a firm (Doz & Kosonen 2008, 186-187).

Managers play an essential role in setting goals and in explaining how they will affect work in practice. This builds psychological safety, which accepts continuous testing and failing through an iterative process (Table 2). As its best, psychological safety is seen when colleagues unprompted test new concept and eagerly propose ideas. With an emotional approach, firms can also modify and foster employee commitment to respond faster to market change. This includes communicating values that impact workers on an emotional level that result in an agile strategy process (Doz & Kosonen 2008, 207).

Practitioners interviewed in this study highlight learning from mistakes, analyzing tests and being able to continue based on findings. Equally important is rewarding employees for trying and giving a specified mandate, which means that tests are assigned to workers through clear responsibilities and goals (Table 2). Nevertheless, a low participation rate in initiatives such as experimentation, could imply that workers are uncertain on their role and focus area.

In a culture of experimentation, employees critically ponder their own ideas and base statements on factual data (Doz & Kosonen 2008, 64-65). In this culture, experimentation is a

natural part of the company core or DNA (Table 2), with an emphasis on development, rather than an initiative separated from core business (Biloshapka & Osiyevskyy 2018, 26).

Although leaders may acknowledge experimentation competences and abilities to cope with failing, it is vital to understand that experimentation is impacted by the organization itself. It is proven that large changes should not be made immediately, but through an iterative process of incremental change (Table 2). By evoking curiosity in a firm, new business opportunities can be tested through experimentation (Doz & Kosonen 2008, 210). It is, therefore, important to recognize that a learning process may take time, especially in industries that require large investment to implement innovations (Doz & Kosonen 2008, 130).

Old business models may create internal conflicts and debates around coping with change. A solution is often to win business and strategic agility through splitting firms in suborganizations (Doz & Kosonen 2008, 81). A redesign of organizations thus enables agility, diversity, and commitment, that motivate and direct employees towards growth. (Doz & Kosonen 2008, 106-107)

Strategic agility is an endless, continuous task with risks and challenges, that may occur in most successful companies (Doz & Kosonen 2008, 184). To minimize risks, it is therefore advised to execute thorough market research to cope with change. By developing a continuously evolving strategy, reporting adequately, and fostering trust, it is possible to impact change. Businesses should, therefore, communicate strategies and visions clearly within a firm (Doz & Kosonen 2008, 207) to be able to motivate and empower employees (Table 2).

Although experimentation has proven benefits, there are challenges and hindrances that slow down organizations in experiments. For example, a lack of resources (Table 2) and excessive workloads with stress, are obvious obstacles that prevent developing a culture of experimentation. Furthermore, testing new concepts often requires thorough planning, which may slow down otherwise agile processes. This is highlighted in firms with many subcultures and approaches, which can make it hard to innovate and act transformative (Doz & Kosonen 2008, 186-187).

As employee workload may prevent experimentation, it is crucial that all workers are given leisure time and vacations that support wellbeing and rest. Additionally, employees should be allocated a certain amount of working time for learning and developing. Without these in place, employees may be unwilling to take risks, thus no reward can be achieved. (Table 2)

5.8 Suggestions for further research

This study is based on ten semi-structured theme interviews with leaders of dentsu Finland and involves a literature review examining relevant academia in the field of experimentation, growth hacking, organizational culture, and leadership. This research contributes to previous

studies by investigating current challenges in experimentation, opportunities in innovation, and how to handle change management from a perspective of dentsu Finland.

To further develop research in this topic, a quantitative research approach could be used, where a larger sample of individuals, for example through an online survey, answer on themes related to experimentation. By involving respondents from other regions and various industries, a more generalizable result could be achieved. Currently, the sample may create an environmental bias as all interviewees function in the same working environment. Some participants of this study act as a part of the leadership team and have already been involved in jointed initiatives. Thus, a wider approach in terms of quantity may give further insights. Another option is to distribute a survey to all employees of a case company, thus not only leadership's opinions would be considered. This could give insight on how workers at specific companies understand experimentation, its benefits, opportunities, and challenges.

By looking at predictions of changes in environments, research questions of this study can be analyzed as a part of future research. According to Albright (2004, 40) there are tools available to discover trends and their impact on businesses. Thus, further research may benefit from a comprehensive investigation of external powers, such as economics, politics, social phenomena, and regulations (Albright 2004, 42) to holistically recognize experimentation and future possibilities and implications in business growth. Furthermore, foresightfulness can distinguish relevant patterns (Jalonen et al. 2017, 7), which may be relevant in future studies.

Lastly, this study can benefit of a pragmatic approach by giving examples of firms successfully implementing experimentation. By further interviewing personnel in companies with a mature experimentation culture one may find solutions to tackle challenges, how an experimentation culture should be developed and how to measure success. For this further research, sampling should be conducted through a purposive method, where participants must meet certain criteria such as characteristics and backgrounds (Riffe et al. 2014, 102).

5.9 Result credibility, reliability, and validity

As this study to a large extent relies on semi-structured theme interviews of leaders at dentsu Finland, that operate in a specific industry, findings are not entirely generalizable. It is acknowledged that the sample of participants was deliberately selected in purposive sampling (Riffe et al. 2014, 102), and that data saturation was utilized to gather a valid and adequate sample size, until no new themes added insight to findings of previous interviews (Glaser & Strauss, 1967, 61-62). One should, however, recognize that reviewed literature and interviews have similar methodological tenets, therefore one can argue that the study has true power and credibility.

Although heterogeneity of the sample was aimed for through participants of different ages, gender, and cultural backgrounds, there is undeniably an environmental bias to detect. This,

as all leaders worked in the same company, dentsu Finland, with perhaps similar views on business development. This may be due to a common company strategy that guides individual thinking. Therefore, efforts have been put on understanding underlying meaning of words and interview techniques were used to deliver an equivalence of comprehension. This was ensured by not completely using the same words for all interviewees, as individuals understand words differently depending on their language vocabulary (Barriball & While 1994, 330).

In this research, an additional sampling method, convenience sampling, was used to easily self-select interviewees quickly and at low costs (Stratton, 2021, 2) from a larger sample of managers at dentsu Finland. Dentsu Finland has approximately 30 manager level employees and restricting the sample to ten leaders out of convenience may have resulted in a situation where not all interviewees knew equally about experimentation. The recruitment process was based on convenience in accessibility of participants; thus, it is important to recognize that research findings are not widely applicable to a larger population and are based on data saturation rather than statistical power (Suen et al. 2014, 4).

As defined by Golafshani (2003, 601-602) the quality of research should be estimated by examining validity and reliability. In this study, trustworthiness was ensured by interviewing experienced specialists in their fields. Reliability was guaranteed by verifying participants' identities through camera and by including an adequate sample in this study (Table 1).

Furthermore, reliability should be analyzed through the quality of how understanding is created (Golafshani 2003, 601). When analyzing this study, one can inevitably argue that results contribute to a greater understanding of a variety of issues, such as, experimentation, organizational culture and change management. Furthermore, results of this study increase awareness on contemporary business environments and market changes and introduce a relevant context for further analysis. Thus, this qualitative study can be seen as reliable.

In this study, it is acknowledged that all interviews have been conducted in one industry solely, but through a peer reviewed semi-structured method with experienced professionals. Thus, the research can be argued to be of quality and conducted in a rigorous manner, as defined by (Golafshani 2003, 602).

The results of this study can be seen as adequate as the sample of participants was large enough, as defined by Glaser & Strauss (1967, 61-62). It also involved interviewees with a variety of backgrounds, age, and gender, which was ensured by using a sufficient sampling method in purposive sampling. Furthermore, the validity of this study is explained by trustworthiness, where results clearly are stated as not fully generalizable, but rather impacted by conception of meaning and delivering validity based on comprehension. It is worth mentioning that results based on interviews only capture insights from a specific time, which means that sudden larger organizational or market changes can drastically impact the outcomes of similar studies in the future.

5.10 Usability and transferability of results

This study is based on peer reviewed academic literature and semi-structured theme interviews and presents recommendations that can be applied in various industries. Although interviewees participating in the study characterize a specific market and industry, they represent a larger corporation with functions in 143 markets (dentsu 2020a). Furthermore, most interviewees collaborate with customers in various industries, thus, one could argue that findings can be applied in a larger context.

Similarly, one could claim that most findings can be utilized in other markets and companies through slight development and readjustments of documented guidelines. Although results of this study directly or in-directly can be considered transferable, it is crucial to recognize that presented frameworks should be classified as a first version. This, as they yet have not been utilized to a full extent in real business environments.

Results of this study can give valuable indications on how to apply experimentation in a firm. This, however, means that findings must be used in a way most suitable for the company at hand, considering its experimentation maturity (Table 3). This would indicate that results are transferable on a methodological level.

Only by practicing approaches in real markets, firms can truly develop an experimentation culture. This emphasizes that companies should consider optimizing processes (Karim & Arif-Uz-Zaman 2013, 169) and put efforts on iterative approaches (Mansoori 2017, 812) over time.

Through benchmarking and exploring other frameworks for experimentation, companies can gain insights on approaches that may support developing an experimentation culture. Therefore, studies with experiences from other companies, both positive and negative, can give valuable knowledge for further development.

5.11 Reflections and self-evaluation

Agile experimentation may be complex to grasp but can be utilized successfully in any industry (Table 2). It is common that prosperous companies face challenges, but many problems can be corrected by developing adequate approaches and mindsets within an organization (Leavy 2020, 7-8).

For innovation to occur in the business of a firm, experimentation is required as it works as a dynamo for fostering sustainable growth. Therefore, few companies explicitly forbid experimentation as such, but may encounter challenges in a lack of resources or a culture that does not support experimentation (Table 2). It is, therefore, crucial that the organization has the courage to test wild concepts, but also to cancel or kill initiatives that do not return a satisfactory result (Leavy 2020, 7-8).

Fostering an experimentation culture can be hard, thus, managerial methods and competences are crucial (Table 2). Similarly, it is necessary to understand that companies have different tendencies and capabilities. Therefore, problem-solving through hypotheses (Ries 2011, 8-9), and measuring success adequately (Table 2) should be prioritized.

The presented models of this study support a very topical issue as dentsu Finland continuously is putting efforts on innovation. It is crucial to operate bravely and focus on starting somewhere to be able to improve (Fowler 2014, 3). This mindset should evoke empowerment, which easily can be shared in an organizational culture. When employees are ready to fail and accept often being wrong (Table 2), an experimentation culture has been developed.

When conducting this study, one may notice that adequate and thorough planning plays a crucial role, especially when conducting interviews. Not only should one be very focused on gaining as much learnings as possible, but also tightly scope what is to be achieved through specific research statements.

Research requires substantial amounts of reflections; thus, it is important to give tenets and insight time to sink. By grasping a broad spectrum of literature, it is also easier to comprehend advanced topics. In this study one could notice that the theoretical framework is highly related to points from interviews. It is, however, relevant to mention that the interviewees have solid business background (Table 1) and an academic foundation.

During the process of creating a development plan for dentsu Finland, vast efforts were put on presenting current academic knowledge and utilizing qualitative research, in semi-structured theme interviews. The issues researched are highly topical, and the study successfully links a broader context through a theoretical framework to topics such as media, innovation, consumer behavior and leadership.

Additionally, leaders of dentsu were interviewed through thorough planning and execution. During the interview process, a Principal Lecturer at Laurea, University of Applied Sciences was consulted, to validate research statements and interview methodologies efficiently. In the interview process, recorded data was coded into themes and categorized for summary through a developed Excel sheet template (Figure 1).

Findings of this study can be applied in a real working setting and utilized by any business that investigates opportunities in experimentation. Two concrete frameworks were constructed (Figure 2; Table 3; Table 4), that function as valuable tools for dentsu Finland, that continuously is looking in new ways to operate (dentsu 2020b). Finally, the study has broadened an understanding in the field of experimentation; knowledge that can be used in further academic research.

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Figures

Figure 1: All conducted interviews with top leaders of dentsu Finland were coded and categorized for further analysis through an Excel sheet.

Figure 2: The experimentation matrix is a tool for mapping a state of a company and provoke discussion around experimentation.

Tables

Table 1: A list of all interviewees and their positions at dentsu Finland.

Table 2: Saturation of results based on interviews with ten leaders at dentsu Finland.

Table 3: The experimentation maturity framework assesses an organization's experimentation maturity through strategic areas such as competences, opportunities, and capabilities.

Table 4: The experimentation maturity framework is based on a scale from 0 to 100, expressing a company's current level of maturity.