B2B CONTENT MARKETING FOR EARLY-STAGE START-UPS: A FOCUS ON EFFECTIVENESS FOR GROWTH

Case: Healthcare start-up

Lappeenranta–Lahti University of Technology LUT

Master's programme in International Marketing Management, Master's thesis

2024

Liesbeth Swart

Examiner(s): Professor Liisa-Maija Sainio

Professor Olli Kuivalainen

ABSTRACT

Lappeenranta–Lahti University of Technology LUT

LUT Business School

Business Administration

Liesbeth Swart

B2B content marketing for early-stage start-ups : a focus on effectiveness for growth : Case : Healthcare start-up

Master's thesis

2024

72 pages, 32 figures, 7 tables and 2 appendices

Examiner(s): Professor Liisa-Maija Sainio and Professor Olli Kuivalainen

Keywords: B2B**,** CTR, conversion rate, marketing analytics, start-up

The thesis investigates how startups can enhance B2B content marketing. It highlights the distinction of B2B content marketing and other theoretical concepts from traditional methods by focusing on building long-term customer relationships, building trust, and developing thought leadership. The study emphasizes data-driven content enhancement decisions by using digital channels and analytical data. This offers startups a framework to create effective content strategies for cost-effective growth.

The study also examines the case company's 2 video marketing campaigns. These campaigns are developed based on content for building trust and thought leadership. The content is educating the decision-makers about the case company's product. Important findings show that Campaign 2 had better click rates, more website visits and higher funding than Campaign 1. This happened because of improved engagement strategies. Campaign 2 really succeeded.

The research shows that quasi-experimental methods, like Interrupted Time Series (ITS) analysis, help start-ups check the effects of content marketing. They do this without paying for expensive trials. Analysis of campaign data proves how customer-focused content plans connect well with audiences. This connection is vital.

Table of contents

Appendices

Figures

Tables

1 Introduction

As digital marketing adapts to digital changes, start-ups in the B2B sector face unique problems on finding their target audiences effectively. In contrast to established organizations with considerable resources, such companies usually have insufficient financial means and therefore have to make data-driven decisions leading to maximum impact. Content marketing has become one of the main tools for this purpose, giving B2B start-ups a means to achieve a scalable and cost-effective brand visibility and engaging with potential clients and generating leads. Though, the question of how start-ups can optimize content marketing in particular for a B2B audience remains complex and largely underexplored.

This thesis is committed to providing a thorough answer to the question: “How can start ups improve the effectiveness of B2B content marketing?” The aforementioned question embodies the fact that start-ups should be taught not only to comprehend the peculiarities of B2B content marketing but also to create and early-stage content execution and tracing content marketing success through tangible metrics, which is a must in a competitive industry.

In order to answer these questions, this thesis uses a quasi-experimental approach that relies on the interrupted time series (ITS) method to analyze how B2B content marketing campaigns affect not only audience engagement but also the outcomes of funding. More specifically, through this design, the research examines campaigns being run by a case company, where the sequential video content has been evaluated with metrics such as the click-through rates (CTR), the website traffic, and overall funding. This research contributes to both science and the practical field of marketing. It supplies start-ups with a data-supported content marketing framework which can be adjusted depending on the business environment. Moreover, it is a systematic guideline to an experimental process that suits the limited assets that are typically with start-ups.

1.1 Background

For the past few years, content marketing has been a debated topic among marketing professionals. According to Intergrowth (2022), content marketing still was one of the top marketing priorities for marketers in 2022 that comes with many benefits. As seen in Figure 1 (Google Trends 2022), search queries and interest in the search terms "content marketing" has risen on Google Trends from 2010 to now. This is the fundamental focus for the thesis' topic – despite the fact that numerous comments and writings by marketing professionals have been published on content marketing including success stories of larger companies using content marketing, the effectiveness of the type of content marketing for early-stage start-ups still remained obscure.

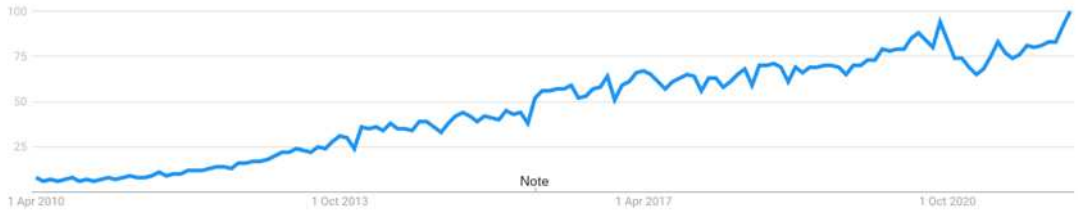

Figure 1. The global search volume on Google of search term content marketing (Google Trends 2022)

Companies in Finland are no strangers to content marketing. Both offline and online approaches are used, although digital channels are mostly favoured. Companies utilise a variety of content techniques on a regular basis. Content is frequently created on a company's own initiative, and to some extent, the process is methodical and well-planned out. Marketers are currently confronted with a number of challenges: consumers are being desensitised to traditional advertisements, and marketing are being forced to develop more creative marketing solutions in order to reach difficult target audiences. Larger companies, especially the ones with a B2C model, have the means to create a variety of creative content due to larger financial assets but B2B start-up companies do not have this advantage at their disposal since most are still raising funds to finance their operations.

1.2 Literature review

The goal of this part of the research is to synthesise international observation in digital content marketing from prior research and draw implications for medical start-up enterprises.

Content marketing is not a new concept; it has existed since the beginning of advertising (Zantal-Wiener 2017). According to Research Dive, the worldwide Content Marketing Industry is expected to reach $107,540.6 million by 2026, up from $36,786.6 million in 2018, with a CAGR of 14.3 percent. (Researchdive 2020).

People's excessive use of the Internet and online platforms has given rise to a new subsection of content marketing: digital content marketing, in today's world when technology has blended into practically every aspect of our lives.

Understanding how content may be used in marketing is crucial to developing a successful inbound marketing strategy (Holliman 2014). Content marketing has six times the conversion rate of conventional marketing approaches. With that in mind, developing a strong online content marketing plan is unquestionably critical. Furthermore, content marketing is 62% less expensive than outbound marketing while generating three times the number of leads. (Brenner 2020).

Communication is frequently viewed as a technique of exchanging information between persons in order to find a common ground on which to develop and establish relationships. Along with quality, pricing, and location, communication is one of four primary marketing tactics that helps firms reach and meet customers' demands in a competitive and effective manner. (Kotler & Keller, 2016).

The way customers connect, seek for information, acquire and consume items has changed dramatically as a result of recent advancements in information technology, particularly the exponential expansion of the internet and cellphones, particularly among the younger population.

Speaking of communication, marketing strategies can be divided into two strategies: pull and push. Pull marketing is developing and implementing techniques that automatically pique consumer interest in a firm's products and services, whereas push marketing entails presenting a firm's brand in front of prospective customers or making it available to a larger audience. In addition to the pull and push marketing strategies, Schultz (2011) presented an inbound/outbound model for brand communication. This contains a mix of intentionally and proactively sent communications from the company, as well as information and data that customers seek out on their own and are not affected by companies.

The following figure below by Schultz (2011) visualises the different brand marketing communications.

Figure 2. Push-Pull Model in Marketing Communication (Schultz 2011)

In light of the influence of marketing communications, Belch (2007) categorised impact measurement into three areas, encompassing the target audience's cognitive, emotional, and behavioural changes following exposure - the pre-requisite for a communication action to happen. Marketing Insider Group (2020) recommends the following business benefit of strong content marketing in their publication:

- An increase in the number of visitors to the website. Unique site traffic is up 7.8 times year over year, according to marketing executives.

- A smaller budget. A content marketing campaign costs 62% less to develop and sustain than any other sort of campaign.

- Thought leadership. Thought leaders in their sector are perceived as brands that provide valuable and relevant information, which helps to create trust in a brand.

Within content marketing, social media has proven to be an inevitable tool for content marketers, both B2B and B2C.

Empirical evidence from Kusumasondjaja (2018) demonstrated that interactive material on social media had a larger reach (was reacted to more frequently) than informational content. Furthermore, each social media site has its own set of most successful communication ways. More precisely, Twitter users absorb informational content more successfully, whereas Facebook users prefer interactive and amusing postings, and Instagram users prefer interactive content that combines instructive and entertaining attractions. In terms of mixed appeals, interactive material with mixed appeals earned the most engagement on Facebook and Instagram, whereas firm-focused, brand-centric messages with informational appeal received the least engagement.

1.3 Research problem/question

The master's thesis has two goals in terms of research. On the one hand, the goal of this master's thesis is to provide the case firm with a better grasp of the value of content marketing to early-stage start-ups and to offer ways for using that knowledge to create more effective value propositions for the target customers. The research and development project's purpose is to assist the case compay in identifying appropriate and effective content marketing methods in order to construct a long-term strategy for gaining new leads and prospects at a low cost.

In light of the aforementioned challenges, the main research question is defined as follows:

"How can start-ups improve the effectiveness of B2B content marketing?"

The sub-research questions are:

"What is content marketing for a B2B start-up and how is it distinguished from B2C content marketing?"

"How can start-ups design a quasi-experimental design testing process?"

"What is the effectiveness of content marketing for a B2B start-up?

The following figure will illustrate how the main and sub-research questions are connected.

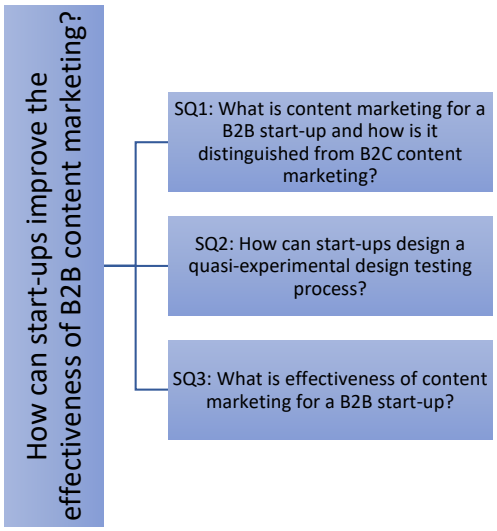

Figure 3. The thesis' main research question and sub-questions

The researcher reasoned that studying the effectiveness of different content marketing approaches could help the case company with lead generation and acquire its reference customers. To help answer the research question, the researcher conducts a 14-month project between March 2022 and May 2023, as well as a review of the results from June 2020 to March 2022, to assess the effectiveness and feasibility of B2B content marketing and

whether these marketing activities could help the case company achieve its future growth goals.

1.4 Delimitations

The research project aimed to find out how the company can benefit from effective content marketing and to test what kind of content works best with the target group for the case company to successfully raise seed-funding and to acquire first reference customers. This research project had a limited budget, so the campaigns were limited in their expenditure. Content marketing used for this project was specifically developed for the case company, which is a medical start-up with a strong B2B model. The results and effectiveness of content marketing used in this project will not be the same for every start-up.

1.5 Theoretical framework

Customers are in control today because they have access to a large amount of information. We live in a knowledge economy, and business-to-business (B2B) marketing strategies of start-ups must consider how buying behaviour and the buyer's journey are changing, as well as the impact on marketing strategies and plans. In light of the growing incorporation of digital technology in the life of society, it is well-advised to emphasize the usage of the new, emerging digital channels in B2B marketing strategies.

This thesis is focused on two key topics; B2B marketing and content marketing. Marketing communications come down to direct and indirect. This can include, direct selling, personal, distributor or manufacturer-oriented sales promotions, advertisements and public relations activities in B2C and B2B spheres. Content marketing is a type of marketing communication that does not fit into any of the other dimensions and is consequently offered as its own. Direct marketing, personal selling, sales promotion, and advertising are all aimed at improving sales in the near term. Advertising is related to public relations and content marketing, in that it seeks to create a certain brand image. Long-term customer involvement is also a goal of content marketing and public relations.

The theoretical framework will explain why content marketing is important for B2B start ups, why it should be connected with the company's goals, and how it should define what should be included in the marketing plan. The framework also outlines why a marketing strategy must have specific objectives and targets. The reader will next be given an overview of what types of content are effective, how digital content marketing can be integrated into a company's marketing plan, and how the inbound marketing technique may benefit start ups and how it relies on content marketing.

The content marketing chapter will cover why content marketers at start-ups should understand, utilize, and implement search engine optimization while developing content, as well as what best practices should be followed during a project like the one the researcher is working on.

The thesis' conceptual framework is depicted in the figure below.

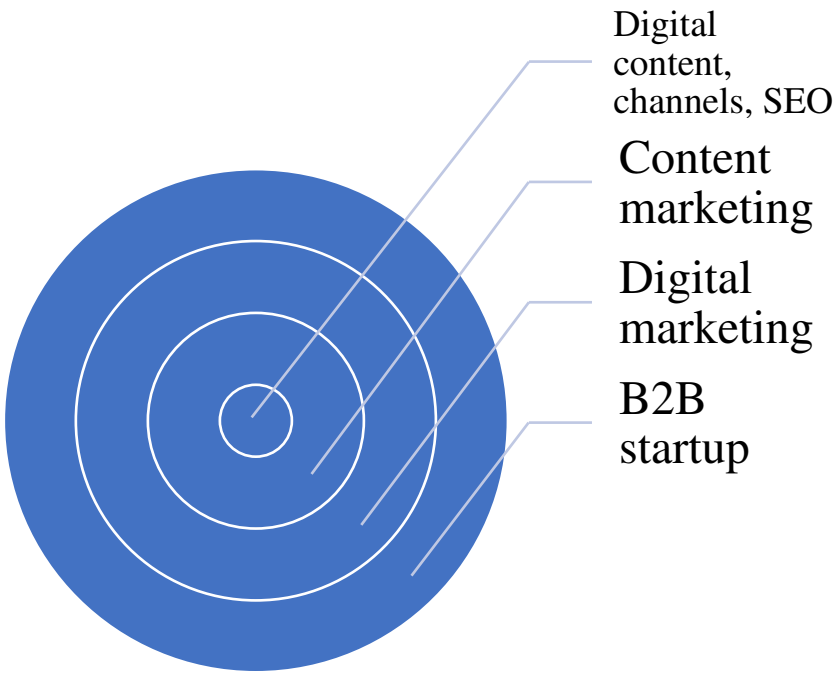

Figure 4. The thesis' conceptual framework

From figure 4, we can see how digital marketing can have many different sub-layers that are all connected to marketing.

1.6 Definitions/key concepts

B2B

Businesses selling and marketing to other businesses or suppliers and establishing a strong business relationship.

Click-through-rate (CTR)

CTR is a ratio that compares the variety of users who click on a link to the total quantity of users browsing a website, ad marketing campaign, or email. It is a commonplace indicator used to evaluate the performance of an internet-advertising campaign centered at a selected website.

Conversion rate

The percentage of users who execute a favourable action is recorded as a conversion rate. The entire number of users who convert is divided by the total number of impressions and converted into a percentage. (Hollensen 2019)

Marketing analytics

Marketing analytics looks at data to see how well marketing efforts are doing. It helps companies understand what drives customer behavior, make marketing plans better, determine which content resonates most with an audience, and getting the most return for 10 investment. This happens by using tech and quantitative analysis methods on marketing info (SAS Insights 2022).

Start-up

A start-up is a business whose development is yet to be completed and is in its basic formative stage. One or more entrepreneurs form a start-up for the reason that they wish to get involved in the creation or development of a product or service which they believe has a market. These types of companies are often characterized by large expenses and low income

which is the reason why they look for financing from a variety of sources. Owners of the business commonly self-fund their businesses and may approach third parties after self funding because these parties are seen as necessary before revenues and profits have been realized.

1.7 Research methodology & data collection

The research begins with a discussion of the thesis' theoretical basis. The empirical section will discuss the research in depth after the theoretical foundation. That chapter begins with a discussion of the problem's objective and an analysis of the case company's marketing prior to the study. The study then goes into detail on how this research study was carried out, what marketing strategies were employed, what data gathering methods were used, and how the data was utilised to conclude the discussion section.

During this action research, the study will rely on primary data through quasi-experimental design testing as a tool and secondary data at the case company's disposal. Besides theoretical desk research, the study will look at the development and short-term changes within the case company that will be measured throughout the duration of the thesis.

The figure below will illustrate the methods used in this study.

Figure 5. Methodology illustrated

Secondary data involves previously collected data, raw secondary data and compiled secondary data through marketing analytic tools.

1.7.1 Data collection plan

In the following table, we can see the primary and secondary data, along with their methods, such as the quasi-experimental test belonging to primary data and desk research falls within the category of secondary data. Both being used in this thesis.

Table 1. Data collection plan of the research

Data Type	Research Approach	Method
Primary	Experimental	Online, quasi-experimental design test
Secondary	Desk research	Internal company data, articles

1.8 Structure of the thesis

The research begins with a theoretical discussion. Marketing strategy, digital marketing, inbound marketing and content marketing are among the topics included in this discussion.

Following the theoretical discussion, the empirical section delves deeper into the thesis research. The first section of the chapter concentrates on the problem's goal and an analysis of the case company's marketing prior to this study. The study then goes into detail on how the action research was carried out, what marketing approaches were employed, what data gathering methods were used, and how the data was used to finalise the discussion section. The discussion part will focus on how the case company could improve their marketing strategy in the future by focusing on content marketing to continue acquiring leads and customers.

1.8.1 Timetable

The following figure illustrates the time table of the research. From this figure we can see that two funding campaigns were running.

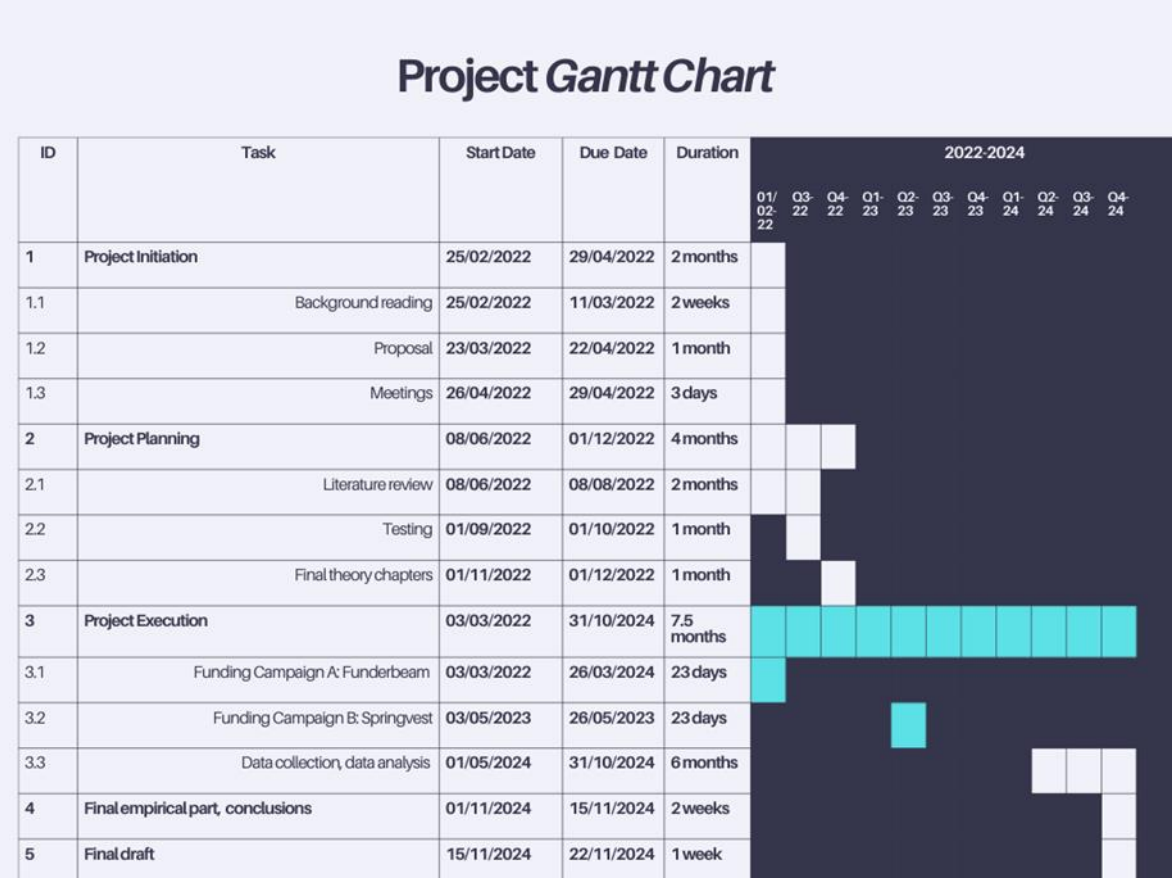

Figure 6. Timetable of the thesis

2 Literature review

This part of the thesis discusses B2B content marketing, including how to define it and why it is critical for businesses to focus on content marketing – especially start-ups. Although all companies use some kind of content marketing, not all companies consider their content marketing efforts as "effective". This chapter will conclude with a discussion on quasi experimental testing which can be used as a tool to test whether certain content marketing efforts are effective.

2.1 Content marketing

Content marketing is a strategic marketing technique that can improve brand visibility. As the name suggests, content marketing is a type of communication which contains information. It may be used to convey different messages or information. This kind of concept can be applied when conveying a message which may have a relevant or deeper meaning to the target audience (Kearney & Schilling, 2007).

A newer definition of content marketing has been developed by Pulizzi. Content marketing according to Pulizzi (2012) is a continual generation of quality, relevant and captivating content by the brand or company itself. The value that content marketing provides to customers, according to Steimle (2014) is what distinguishes it from other marketing efforts. As a result, a typical advertisement might also be labelled content marketing if the customer or audience considers it useful, making the distinction between advertisement and content marketing confusing.

As discussed earlier in the first chapter, content marketing is clearly defined by pull marketing. According to Holliman and Rowley (2014) pull marketing organisations strive to attract consumers who are already looking for information, guidance, a product, or a service. Inbound marketing is a similar concept but is often confused with content marketing. According to Halligan and Shah (2011) inbound marketing promotes a situation in which consumers and potential customers actively seek out firms that produce interesting and meaningful content that speaks to their needs. Inbound marketing is merely one component of content marketing according to the Content Marketing Institute (CMIa 2011). Inbound

marketing focuses on driving traffic to desired destinations online, whereas content marketing incorporates both online and offline media to achieve marketing objectives and goals.

There are two types of content – free or paid. Paid media is usually intended for display or sales. This kind of content can include advertisements, brochures as well as banners/roll ups, among others. The other category – free media, including earned media, is mostly used by small-scale businesses. Figure 7 depicts the concept of free and paid media.

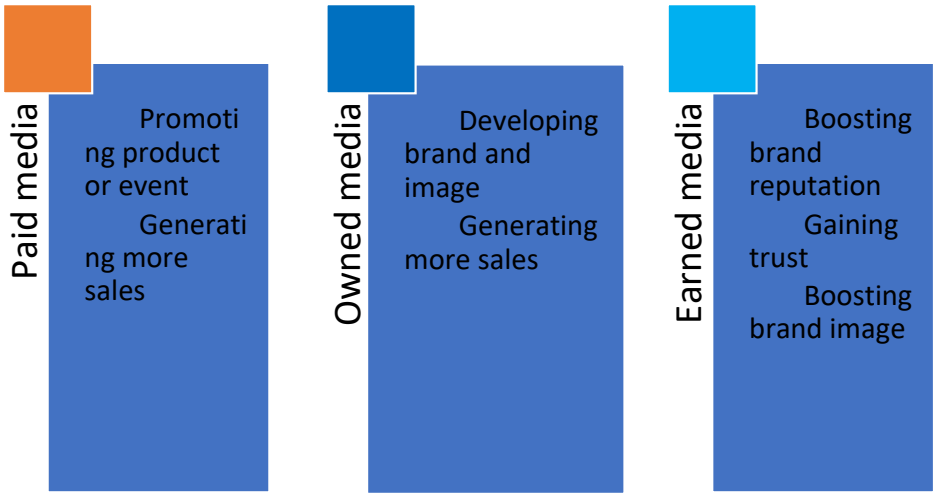

Figure 7. Paid and free media (Chaffey 2024)

Whether media is free or paid, the publishing medium is one aspect that distinguishes content marketing from other sorts of marketing communications. Instead of renting space from others, content marketing focuses on owning the publication medium (CMIb 2016). Figure 8 depicts the many media categories. Owned media encompasses websites, blogs, mobile applications, and social presence, and this is the segment on which content marketing concentrates.

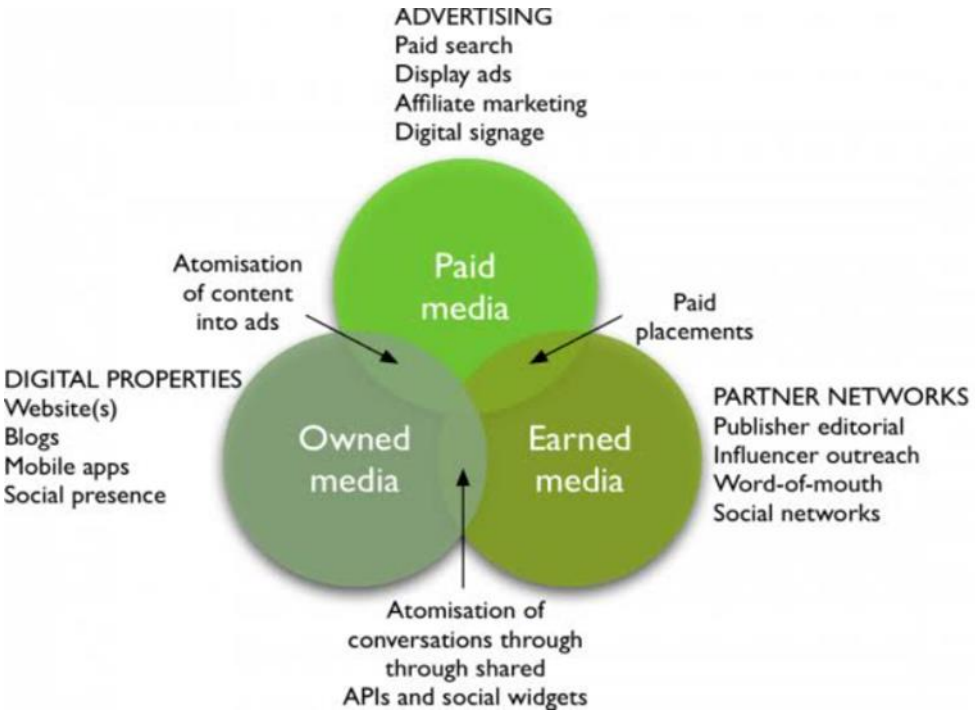

Figure 8. Categories of paid and free media (Chaffey & Smith 2008, 34)

Figure 8 shows the advantage of utilising the complete spectrum of media assessable today in order to maximize the overlap between the three various forms of media. To achieve this overlap, acquisition campaigns must be integrated.

According to Chaffey and Ellis-Chadwick (2012, 432) the downside of content marketing is that marketers have less control over the results when compared to conventional marketing, where the media channel and target audience may be carefully planned. This loss of control, as discussed in the previous chapter also exists in social media marketing, but in a different way. Businesses can't manage the dialogue on social media since every can say what's on their mind, but the loss of control in content marketing happens more in the target audience because companies can't adequately determine who gets to consume the content.

2.1.1 The objectives of content marketing

There is no marketing more peculiar than content marketing – objectives may sometimes appear short-lived and insubstantial. Traditional advertising has lost efficacy over time,

prompting marketers and company owners to discover new and inventive ways to maximise marketing spending.

What makes content marketing so appealing is because it is not actually advertising. Content marketing is all about first and foremost giving helpful, valuable content to customers or leads, and then selling to them. Advertising, whether standard or unconventional, is the polar opposite. Advertising, email marketing, and other types of promotion still function, but their efficacy has faded through the years.

According to Pulizzi (2011), the following are the major content marketing objectives: brand recognition, lead dialogue, customer conversion, upselling, customer service and subscribers. Hall (2013) also adds educating consumers and boosting corporate image to this list. Some of these objectives are similar to those of other forms of marketing communications, but the weight is different – while many forms of marketing communications aim distinctively at increasing sales in the short term, content marketing focuses on other characteristics that result in increased revenue and satisfaction with long term customer relationships.

Branding in the post-internet era seeks to attract discussions related to the brand in regard to brand awareness, still under the rubric of brand recognition. Current social media users leverage the influence of their peers, strengthening their interconnectedness. People have their own attitudes about companies and brands, and more often than not, these attitudes go against the image that the brand is intended to portray. (Christodoulides, 2009).

2.1.2 Content marketing analytics

In many respects, the internet differs from conventional forms of marketing media. One of the most significant improvements is in measurement and analytics – customer reactions can be readily observed and predicted (Chatterjee, Hoffman & Novak 2003). According to Deshpandde (2014) there are no universal rules for measuring content marketing. The framework contains performance measures such as sharing, engagement, consumption. The Digital Marketing Institute (2016) recommends monitoring engagement and consumption as well as conversion data. Saleh (2016) proposes a basic three-phase framework: generation of traffic, conversion and engagement.

After having studied measuring ROI on social media marketing, Hoffman & Fodor (2010) propose that traditional thinking should be turned on its head: instead of calculating the company's monetary marketing investment and comparing sales revenues, companies should calculate how much investment it is from a customer to visit the content, engage, and what the customer gains or benefits from this investment.

2.2 B2B marketing vs B2C content marketing

Content marketing is one of the most effective ways to achieve visibility and drive relevance with target audiences. But how do marketers know whether their content marketing strategy is working or what works and what doesn't? The key is understanding which type of audience is being targeted. A company's marketing strategy should align with the business goals and target audience. The terms "B2B" and "B2C" refer to businesses that are either "business-to-business" (B2B) or "business-to-consumer" (B2C).

The key difference between B2B marketing and B2C marketing is who the customer is. B2C advertising and marketing is normally aimed toward direct purchasers, while B2B marketing is geared toward other corporations. This can affect everything from messaging that's used to the distribution channels which are leveraged. B2B content material marketing is typically centered on driving leads and sales for services or products that are generally too complex for clients to purchase themselves.

B2B companies focus on solving problems for other businesses. For example, a B2B marketing company might help IT departments reduce their costs by switching vendor partners. B2C content marketing is more focused on brand awareness than driving direct sales. Businesses that sell products directly to consumers tend to rely on eCommerce and social media to boost their visibility. This means that the focus is on getting products in front of the right audiences and building brand loyalty. B2C marketing is often used to build an emotional connection between customers and brands.

2.2.1 What is B2B content marketing

As mentioned before, B2B marketing is marketing to other businesses. B2B content marketing is the practice of creating content that is relevant and useful to the target B2B customer base.

B2B content marketing is often used when businesses want to sell to other businesses. Business-to-business marketing is typically aimed at driving leads for sales for products or services that are beyond the purchasing power of the average consumer. B2B marketing can be challenging, as businesses are often complex organizations with multiple decision makers. In theory, this kind of purchasing decision process is known as the buy grid model. B2B businesses often have sophisticated operations, require highly customized products, and have long sales cycles.

Digital content marketing for businesses is an inbound marketing strategy that uses websites, social media, and value-added material. It is thought to be a helpful tool for building and maintaining a trusted brand position. Brands must adopt a "publishing" strategy in order to provide content that is beneficial to B2B audiences. This strategy includes learning about the informational demands and the buying cycle of the target market. Useful, pertinent, intriguing, and current are all adjectives used to define valuable material. Content marketing necessitates a culture shift away from "selling" toward "helping," which in turn calls for different marketing goals, strategies, measurements, and competencies than those connected with more conventional marketing techniques. (Holliman, 2014).

B2B content marketing strategies usually include blogging, lead nurturing and search engine optimization (SEO). B2B marketers may also host webinars and use email-marketing.

2.2.2 What is B2C content marketing

As stated in segment 2.2, B2C marketing is advertising produced for direct sales to purchasers. B2C agencies sell their merchandise directly to clients and are frequently eCommerce driven. These manufacturers use advertising strategies together with content material marketing, in-man or woman occasions, paid advertising and marketing, and pop up shops with now and again in-character demonstrations relying on the product. B2C

content advertising strategies frequently focus on constructing logo cognizance and growing consumer loyalty. B2C groups use content to construct their emblem, increase client belief and income, and provide customers facts they need to make a purchase.

All in all, because B2B transactions are commonly more precious and commercially crucial, extra individuals are engaged in the decision-making method. The same may be stated for the system of making content material. Compared to B2C, it could take time to revise key fabric, and it is able to require signal-off and agreements from numerous stakeholders.

The following picture will spotlight the important differences between B2B and B2C content material marketing.

Figure 9. B2B and B2C content marketing key differences (Powell 2021)

The figure above highlights the key differences in marketing messaging, targeted audience, primary marketing channels and the kind of solutions. For example, a B2C product could be a fast-drying glue for crafts, and a B2B product could be heavy equipment such as air vent systems used for restaurants or big ships.

Figure 9 shows that B2B marketing and even the content required is subject to a lot of complexity and is more fact and data driven. Because the decision-making process can be lengthy, B2B content marketing focuses heavily on connections and establishing them, as well as offering useful material and giving potential buyers time to ponder and reflect.

As a result of fewer impulse purchases in B2B, marketing content must persuade customers by offering the critical information they need to make an informed decision; content that comes up with solutions and addresses the important problems and pain areas. Longer contemplation durations may necessitate different kinds of content, fitting seamlessly across each stage of the marketing/sales funnel.

In addition to its description as the process of giving prospects a clear idea of where a business stands in the market in comparison to rivals, "positioning" provides a business and its goods a distinct competitive edge. Like branding, a company's positioning will often depend on a company's reputation and its ability to create and promote products or services of excellent quality, the content material a marketer develops and uses in their advertising and marketing overall may additionally strengthen the company's place in its market. (Cagnon, 2014).

2.2.3 Content marketing for B2B startups

From startups to enterprises, many types of organizations are boosting their marketing spending to develop marketing content that converts. Content marketing for startups may generate excitement about a brand, but the timing, project goals, and execution all have a significant impact on its success.

Content marketing is a low-cost way for startups and organizations to create brand recognition. Content marketing links startups with potential clients through the provision of relevant information via search engine optimization (SEO). As a result, it has the potential to be a very effective method of generating website traffic and leads – even if the leads have never heard of the organization before. Paid advertising tactics such as targeted search and social advertisements are wonderful ways to reach out to certain groups – and may have a substantial short-term impact. Organic content, guides, lead magnets, and video content, on the other hand have a considerably longer-term impact. They have the ability to drive traffic to a business for years. (Loktionova 2021).

To set up a healthy relationship with audiences and gauge brand loyalty, content material advertising's primary characteristic is to enlighten and educate audiences. Marketers want to advantage their audience's respect and agree in the event that they want to be applicable to

them and construct a robust emblem. Marketers may additionally generate interest and long lasting relationships by way of developing the right content. (Patrutiu-Baltes, 2015).

Within content marketing, social media should be effectively incorporated into content development in order to make it interactive. An excellent social media post is constant and ongoing. (Stone & Woodcock, 2014).

A website with vibrantly colored visuals will appeal to most millennials. Marketers should make the most of the possibility to customise websites and adverts provided by digital media. An interactive website and the personal touch are popular with this age.

Investing in a startup's content marketing at the correct moment is key to realizing its full traffic potential. Due to limited funds available, content marketing is a high-risk investment for startups in the seed phase since most startups are still looking for their product-market fit.

Smaller companies with less authority also require more time to produce SEO results. Early stage startups may not experience growth for 12-18 months, but Series A startups have a strong finance and brand identification, allowing them to return to growth in six to eight months. The following figure shows the average spending of startups in different phases.

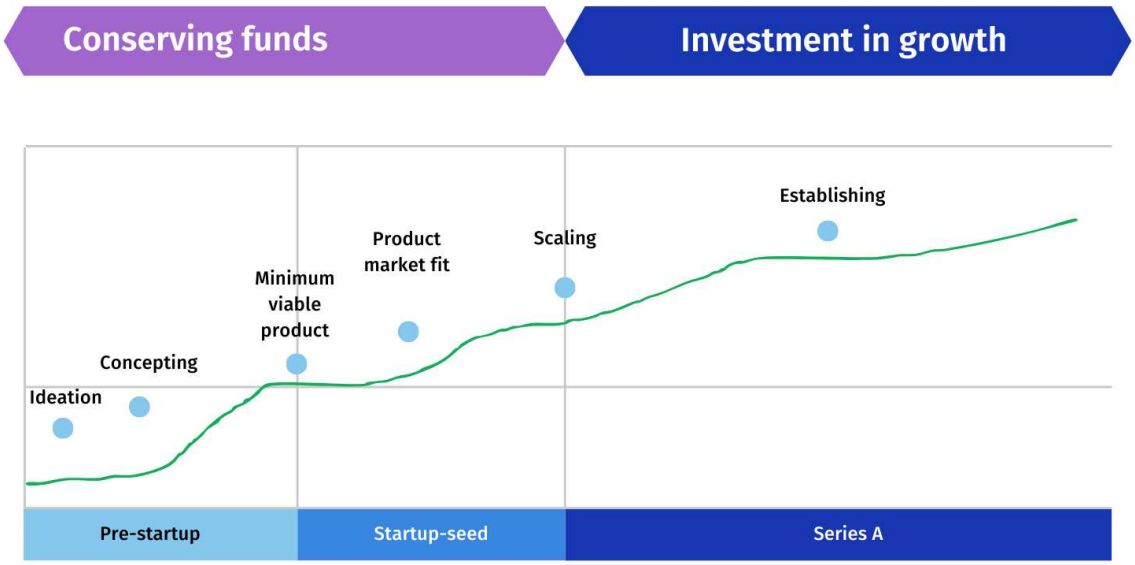

Figure 10. Spending budget by startup stage (Marvell 2022)

From figure 10 we can see that the first 2 stages of a startup are the most crucial for the startup's success. When a startup reached the series A phase, the company has established a recognizable brand and proved the concept. During this phase, the startup has to scale the proven business model.

A content marketing plan begins with the startup's or company's objectives and product. Without a clear goal, content might dilute the brand identity in 12 months or create irrelevant traffic that does not convert.

Series A startups, on the other hand, naturally generate more buzz with PR mentions that content marketing may leverage on inside the content strategy. The additional equity may support high-quality content marketing that expands with the firm. (Marvell 2022).

For startups, whether they are in the pre-seed or seed stage, there is not a limit as to what kind of content can be used. But in most cases, startups have limited available funds. In such circumstances, the best types of content that are startup-friendly can more or less be:

- Blog articles
- Sales enablement
- Case studies
- Lead magnets (gated content)
- Email marketing
- Social media content
- Videos/podcasts. (Loktionova 2021).

Prioritizing keyword and topic research is critical for any business developing a data-driven content marketing plan. According to a recent study by Semrush that used data from their tool (SEO Writing Assistant), 44% of posts that scored badly in SEO terms either did not have specified keywords or did not try to include them at all. On the worse end, over three quarters of the low-scoring articles lacked a keyword in the headline. (Loktionova 2021).

According to a study by Semrush, 44% of low-scoring content were published without the company's target keywords. Additionally, 71% of published content did not have the target keyword in the title (Loktionova 2021).

To develop copy that converts, keyword research is a cost-effective start. The focus of the posts or videos should be the primary keywords. These are keywords that have high search queries and offer a strong probability of ranking well in search results.

2.3 Quasi-experimental design testing as a tool to test digital content

Digital advertising and marketing is the utilization of online channels to promote and sell the goods and services to the consumers. More companies are getting digitized these days so it has become a highly competitive industry and thus a larger number of enterprises are now implementing digital marketing strategies to come into contact with their target audience. Digital marketing is a general concept that covers such activities as search engine optimization (SEO), pay-per-click (PPC) advertising, social media marketing, content marketing, and email marketing (Chaffey & Ellis-Chadwick, 2019).

The quasi-experimental test became an important method in digital marketing. Quasi experimental tests take advantage of the existing groups to analyze the effectiveness of marketing interventions. This type of test is carried out without involving random assignment. This is why it is advantageous when random assignment is not possible. Marketers can make comparisons between different campaigns or strategies and take external variables that may affect results into account (Shadish, Cook, & Campbell, 2002).

Quasi-experimental tests should not be considered a stand-alone method for enhancing marketing efforts. Instead, they should be integrated with other marketing tools and strategies the company uses. By utilizing quasi-experimental designs, businesses can gain insight into the effectiveness of their campaigns and make data-driven decisions to optimize their marketing initiatives (Trochim, 2006).

The following figure shows how quasi-experimental design testing is relevant to marketing.

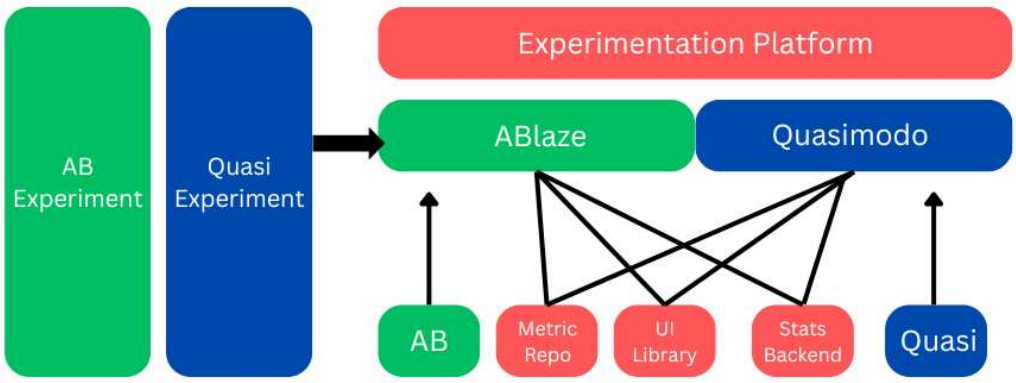

Figure 11. Comparison of an AB experiment and Quasi experiment. Example illustrated by Netflix (McFarland 2018)

Most entrepreneurs are aware about the significance of quasi-experiment testing, also referred to as non-randomized experiment. A quasi-experimental test is an experimental way of carrying out an investigation when randomization is not possible (e.g., a new marketing campaign or website redesign). In a Quasi-experiment, the same thing as A/B testing is aimed at finding out whether one factor has caused changes, however a business does not have the freedom over the groups since they cannot randomly separate them. Accordingly, the results are not only due to the element being tested; external factors may also affect the outcome, hence it becomes more difficult to be sure of the findings.

When looking at A/B testing from a technical point of view, we are able to see that the OEC, regularly referred to as the key metric or target metric, is used in A/B testing to determine the effectiveness of the experiment. Online metrics are utilized by companies like Amazon, Facebook, Google, eBay, and Netflix to gauge the overall performance of their operations. The metric development is vital whilst basing business picks on those measures. Metric layout needs to be methodical and statistics-driven if it's far to be aligned with user behavior within the real world. (Deng & Shi, 2016).

A search engine's OEC is substantially higher when it comes to sessions per user or return visits. A strategically effective OEC may be achieved by considering the factors that influence lifetime value.(Kohavi et al., 2009).

2.3.1 Quasi experimental testing in content marketing

Quasi-experimental testing is a type of research method that is used to find out whether digital content or ads are successful in situations where random assignment is not possible, such as through traditional A/B testing. It is worthy to note that this method still gives marketers the validity they need to identify any change in content that led to success by the fact that they make a basis on the existing groups of users instead of randomly assigned ones. Let's say, a brand sends two variety campaigns to separate lists of subscribers that were not group-based but had similar behavior. Quasi-experiments can be used to test a number of digital contents like social media posts, website designs, and video campaigns (Brynjolfsson et al., 2019).

One instance of utilizing the quasi-experimental analysis approach in the real world was when Facebook experimented with this method to examine ad effectiveness. When testing ads, Facebook can't always segregate users into groups due to the number of users the platform has and the problems in handling data privacy on top of refusing to accept application policies. Hence, it proceeds to a comparative study of various user groups associated with their previous actions or activity levels of similar content. This enables the business to have knowledge of the ad formats or messages that are more successful even if the users were not randomly selected (Gordon et al., 2019).

While quasi-experimental testing presents certain results of user and/or seasonal trends as factors that could affect the design, such as user behavior, the idea that the design is less direct than that of A/B testing can be attributed to some fluctuations caused by seasonal variations. Conversely, it offers a favourable, realistic alternative in situations of restricted options and real-world constraints. Case in point, Google has used quasi-experimental methods in its advertising research to find out how users reacted to different ad formats throughout a period of time which is different from A/B testing methods. The performance of search advertisements was checked in some studies by Google through the comparison of trends before and after the launch of some campaigns. Besides that, user groups who clicked on different ads without randomization were compared as well (Varian, 2016).

In yet another study by Brynjolfsson et al. (2019), examined the efficacy of digital marketing campaigns using the quasi-experimental method. The team, in their study, estimated the influence of online forays on customer behavior by making the comparison of customer characteristics in the regions where certain regions were new to the ads and regions that were not. Comparing these two groups to the control group, they found out, even without the randomization of the treatments, that the advertisements' performance can be estimated.

Therefore, a quasi-experiment will bring many good results to marketers in cases where the random assignment might be difficult or impossible. Marketers can compare different groups of people, or they can follow the same group over time and examine whether the methods used are the ones that lead to engagement and conversions; thus, the test will become an effective instrument in digital marketing. Although it is not as precise as A/B testing, however, quasi-experiments are still the most significant strategy for testing in the real-world of digital content and ads (Gordon et al., 2019; Varian, 2016).

The following figure shows how the two different tests compare to each other.

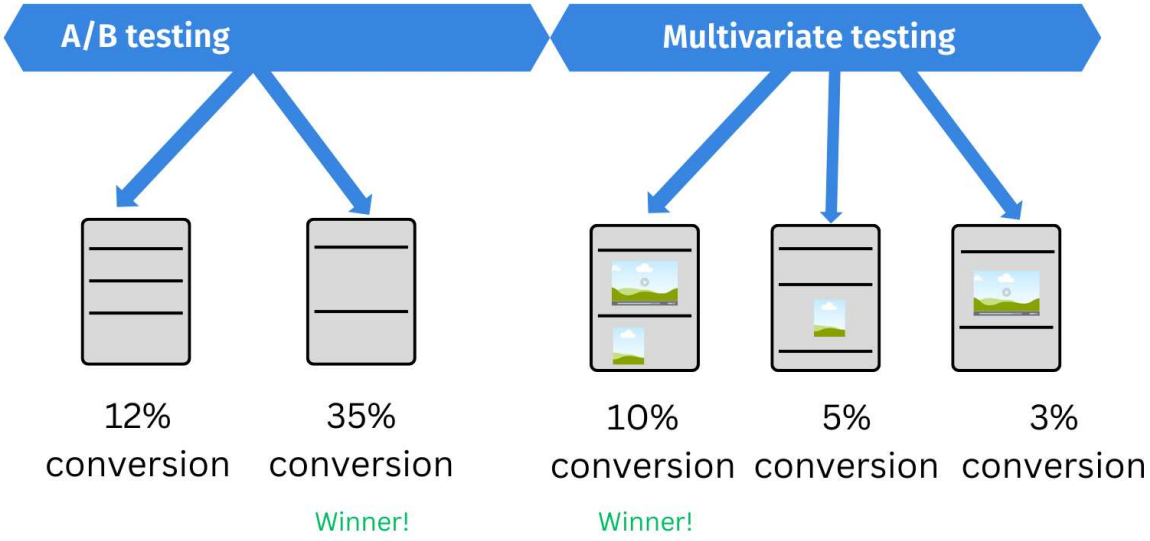

Figure 12. When testing multiple changes on the same page, multivariate testing is a viable option (Navot 2014)

Figure 12 tells us that quasi-experimental testing is an important tool for startups and marketers who generate digital content; it is especially useful when traditional A/B testing is not practical or possible. By looking at how different subsets within the target market react to different types of content, marketers can get ideas about which content strategies are most effective. Even when there is no accuracy of randomization, quasi-experimental testing offers practical insights that lead to rethink the decision-making process in marketing.

2.4 Designing a quasi-experimental testing process for startups

It is essential to set up a process for quasi-experimental testing when it comes to startups since they are usually in the earliest stages of their development. Startups are found in environments where the tempo of change is fast and hence the use of methodologies that are flexible and systemically oriented for improving their products and digital content is a necessity. Quasi-experimental testing offers a real choice for startups as they can try various forms of their content and no longer need to care about the strict randomization requirement in A/B testing. These kinds of interventions may be applied to strategies such as website copy, call-to-action buttons, videos, and newsletters, even in cases in which all the factors needed to control the experimental situation are not available (Shadish, Cook, & Campbell 2002).

Startups are enabled to run quasi-experimental tests, which are more likely to be successful, thus, they can get users' behavior data by either users naturally occurring or tracking over time. However, it is only observed that the method of random assignment could be used in gaining precise results, and it still offers possibilities to get useful data through it. The digital advertisement for example has been seen to use the quasi-experimental methods of ad effectiveness evaluation in settings where randomization was not practicable (Gordon et al., 2019).

Along with any type of assessment, it is crucial to set explicit objectives and pick out the corresponding metrics to evaluate success. If the aim of the campaign is to get more users clicking through content for example, the relevant CTR metric should be the number of times a specific link gets clicked in every 100 views. Although the test groups in quasi-experiments

are not exactly randomly picked, it is still necessary to keep content variations as close as possible except for the item being examined. This makes sure that if there are any changes in user behavior, it is due to the content itself and not other factors and this can be done through controlled experimental conditions.

2.4.1 Designing the quasi-experimental test

Besides offering a well-set way of analyzing whether the approach is successful for digital marketing campaigns or not in cases where randomization is not possible, quasi experimental testing can give hints on the strengths and weaknesses of the current campaign. Marketers find it difficult to attract new visitors due to the increasing costs of traffic acquisition and the fact that search engine algorithms are getting smarter. Therefore, all of these people should make it sure that a company's website is highly optimized in terms of the user experience. Quasi-experiments are used in businesses to test various alternatives that could improve the site usability, these conversions bring more efficiency and as a result, facilitate businesses to achieve their goals.

The major drawback of quasi-experimental testing, as opposed to A/B testing that relies on random assignment, is that it lacks generalization, which means the group or the treatment can be the main reason for the observed differences or changes over time. And this might very well be a viable alternative for many firms, especially those that would find the costs of implementing randomization unacceptably high (such as smaller ones). This technique helps startups to utilize their existing traffic and increase engagement which can then be converted into the first revenue flows. For instance, the marketer may think of different elements of a website and carry out experiments with them. Examples include call-to-action buttons, ad formats, and user interface designs. The businesses can use the quasi-experiments to experiment with the website designs and subsequently, execute the ideas successfully without control over the variables.

When designing a quasi-experimental test for a marketing campaign, it is crucial to follow these steps:

Step 1: Research

Marketers should be well informed of the current website performance before even thinking of designing a quasi-experimental test. This data can be collected through the analysis of varying website dimensions, for example, the number of users that visit the site and which pages are the most trafficked. Google Analytics, Mixpanel, and Omniture are three examples of tools that help marketers to get insights into which pages are the most visited, how long the users stay and the full journey that the customer takes (Brynjolfsson et al., 2019).

Apart from those analytics tools, heatmaps and user surveys are worthwhile for gaining insights into user behavior down to a very basic level. Heatmaps can show areas on a website where visitors are most interested or where they face the most difficulties, hence, marketers can identify issues accordingly. In the meantime, user surveys give direct feedback from the audience, often, the audience can bring up issues or preferences that data may not be able to reveal. The use of both qualitative and quantitative analysis in tandem with each other is the basis for planning effective quasi-experiments. The areas are such that the testing will lead to the greatest improvement (Varian, 2016).

The following figure illustrates an example of a heatmap used as a tool for quasi experimental testing.

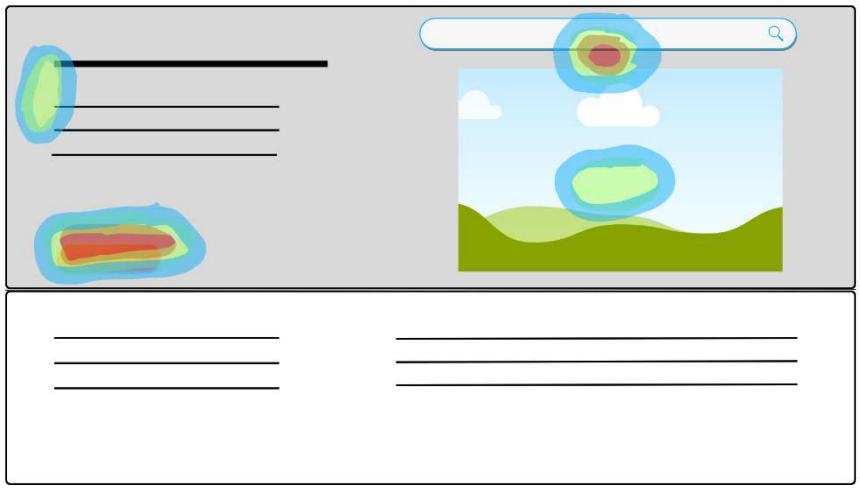

Figure 13. Heatmap used to uncover areas on websites needing improvement (Nichols 2020)

Figure 13 shows that by using a heatmap, the elements above the fold of the website catching the most attention are the action button and search bar. With this information, marketers can make improvements to the website.

Step 2: Define clear objectives

Similarly, if we consider A/B testing, a good quasi-experiment is the one that first of all, is geometrically clear about the marketing objectives that it will be serving to. These targets could be elevating the click-through rates, rising the conversion rates as well as increasing the user engagement.

Step 3: Choose appropriate metrics

The first step for a successful project is to select the right one. As a case in point, if the purpose is to improve user involvement, parameters like session time and pages per visit can function as helpful indicators of the level of achievement (Varian, 2016).

Step 4: Identify comparison groups

Because the random assignment is not applied in quasi-experiments, marketers will need to find naturally occurring groups or to gather data that is measured before and after changes. A perfect example is the comparison of customers who come across an advertisement at one location with those who see the same advertisement in another location, (Gordon et al., 2019).

Step 5: Ensure the content is comparable

To make sure that the variable being analyzed is the only difference, it is necessary to keep all other variables in the research version to the maximum extent. This makes it feasible to establish a causal link between the content change feature being tested and the users' behavior.

Step 6: Analyze the results and adjust

After the experiment is done, a data analytics result evaluation has to be performed to see whether content changes were really effective. So if they were able to change the brand positioning these can be the learnings in the future for marketing strategies by the brand or even rethinking the designs of future products (Shadish et al., 2002).

The following figure illustrates the whole designing process of a quasi-experimental test, similar to an A/B test in a diagram.

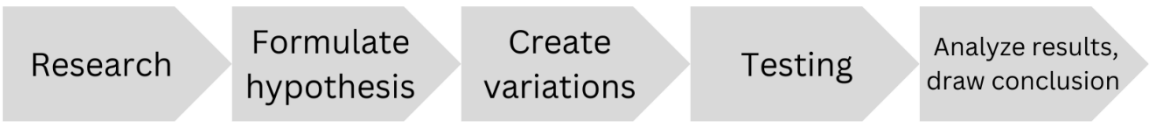

Figure 14. A diagram of systematically working through the quasi-experimental test designing process (VWO 2022)

2.4.2 Two statistical approaches to run quasi-experimental tests

For quasi-experimental testing to be successful, one must be familiar with key statistical factions that serve the quasi-experimental tests: For our case study, we will focus on the Difference-in-Differences (DiD) and the Interrupted Time Series Analysis (ITSA). There are pros and cons for all approaches.

Difference-in-Differences (DiD):

The Difference-in-Differences (DiD) method is a powerful way to find the effect of certain factors by using the changes in outcomes over time in two groups: one that gets the intervention and the other one that does not. DiD only needs two crucial measurements per group: one pre-intervention and one post. This claims the relative simplicity thus allowing it to avoid the time and data-hungry constraints associated with other statistical methods, such as the frequentist A/B approach which obtains probability based on long trials and the process of data collection for handling random variability and ensuring validity (Abadie, 2005).

DiD is careful to choose the right comptane groups and also take care of the factors that give way to bias in results as a result of the changes in the original groups. The other method does not involve the need for long durations so as to cater for the sampling variability but DiD, on the other hand, has a far simpler approach to inferring causality, especially when the random assignment is not possible. That's why DiD is extremely helpful when testing hypothesis has limitations in terms of testing time and sample size, such as in economics or marketing (Wing, Simon, & Bello-Gomez, 2018).

Interrupted Time Series Analysis (ITSA):

The Interrupted Time Series Analysis (ITSA) method is a substitute for the classical frequentist statistics by examining the variations in the outcomes over a certain period thus, offering the interpretation of the intervention effect. ITSA is distinguished from the frequentist approach, which merely holds statistical importance and usually requires sample sizes that are strictly defined according to the study design. ITSA checks data trends, taking into account both pre- and post-intervention periods, hence, it can provide not only the usual time delay for the study but even a complex dynamic analysis. This technique is able to track both obvious and slow changes that follow an intervention which in turn, embraces changes in behavior or performance that possibly take place because of the intervention itself and not due to other random factors.

In the absence of a simultaneous control group or random assignment to two groups in situations where that is too difficult, and through it, naturalistic settings are more efficiently addressed in healthcare, policy-making, and business analytics, ITSA is therefore highly useful (Bernal, Cummins, & Gasparrini, 2017). Besides being continuously observed, ITSA permits the implementation of nearly real-time monitoring, consequently, this process considerably decreases the general time employed in checking the degree of the change, compared with the traditional methodologies. The frequentist approach is cumbersome (it requires an in-depth understanding of probability theory) and cannot contribute to decision making because it is highly focused on statistical significance results derived from large sample sizes (Penfold & Zhang, 2013).

Interrupted Time Series Analysis (ITSA) and Difference-in-Differences (DiD) are both robust quasi-experimental methods that can be used to measure the effect of interventions. Though both strategies examine temporal changes, they differ in data collection methods and applicability scenarios. ITSA is the chosen multivariate technique to monitor one group through a number of time intervals, assisting researchers in observing the trends and changes caused by the implementation. On the other hand, DiD estimate compares two systems groups at two different times, one of which is exposed to the intervention and another that is not. Apart from suffering from insufficient controls, this approach allows for the estimation of treatment effects in presence of time-invariant unobservables.

Imagine a situation where a city comes up with a health strategy in which oxygen goes up and there'll be less smoking. In the case of the ITSA method, the whole of the city would be studied and the focus would be on trends before and after the initiative started. DiD in the city with a parallel city not implementing the intervention would permit the scientists to probe into the difference in attitude in that city from that of a similar population in another city while controlling for trend issues that may affect both places.

To put the two statistical approaches in perspective, the following table compares the two approaches.

Table 2. Statistical approach comparison (Penfold, R. B., & Zhang, F. 2013)

Criteria	Interrupted Time Series Analysis (ITSA)	Difference-in-Differences (DiD)
Primary Focus	Evaluates the changes of the outcomes within the same group across the time, recording the tendency before and after the intervention	Shows the changes for both the treatment and the control group across different time periods
Application	Suitable for measuring the effects of an intervention on one single entity or population that develops in time	A good methodology for reserve-randomized trials where feasible in that there are two or more similar groups
Data Requirements	Calls for time-series data, which is generally a set of measurements in several time points	Entails pre- and post intervention data that includes both treatment and control groups, thereby enabling comparability between them
Scenario Example	Public Health Initiative: A city observes smoking rates on a monthly basis before and after the new health campaign to measure its impact	Smoking Rates Comparison: A city offering a smoking cessation program is compared to a similar city that doesn't offer the program to assess effectiveness

Once a tester figures out which testing method and statistical approach they wish to use, the next step is to learn how to perform and execute quasi-experimental tests.

3 Research design and methods

This is a quantitative case study research, which aims at exploring the kind of success a video campaign can come within the fundraising space by analyzing numerical data. Although case studies are mostly for qualitative research, they are very much useful in quantitative scenarios where the main aim is to gather and analyze measurable data (Yin, 2014). In such quantitative case studies, statistical techniques are used to detect the patterns and relationships in the data, and thus one can illustrate the interactions of the different factors that take place.

Quantitative case studies are by far the best when researchers want to investigate distinct cases or specific interventions in actual practice while still getting objective and bias-free data (Gerring, 2007). Illustratively, this strategy gives a precise examination of how different content marketing strategies perform in terms of engagement, conversion rates, or funds secured. Thus, it comes up with the reasons why some strategies may be better than the others.

Through meticulous capturing and analysis of quantifiable data, this study yields significant insights which can be used in making B2B content marketing strategies more effective hence better metrics.

3.1 Research context and target group

The target groups of this quantitative research were B2B business angels and investors for the goal of investments. The second group were decision-makers of large enterprises and public employers such as public and private clinics and hospitals looking to lower absenteeism, early retirement, and the associated costs. This group is associated with the goal of the company's first reference customers. Table 3 below illustrates the target groups.

Table 3. Target groups and business goals

Target group	Business goal (case company)
B2B business angels/investors	Seed investment
Decision-makers large enterprises	First 6 reference customers

In the table we can see the two target groups with their business goal. The primary goal is to raise funds and the secondary goal is to acquire the first 6 reference customers.

3.2 Data collection methods

When a quantitative case study is done, there are several ways that can be used for collecting data. These methods include surveys, structured inquiries, and the analysis of numerical data from existing records or documents (Creswell, 2014). This study utilized quasi-experimental tests to gather primary data, controlling the situations to test the efficacy of different video campaigns. This data was then quantitatively analyzed to determine which campaign performed better in securing funding.

Secondary data for this particular case study was collected through secondary research which was conducted through examination of company records, reports and relevant scientific literature that was written earlier. This mixture of experimental data and secondary sources was a good basis for research. Data collection took place in the spring of 2024.

3.3 Data analysis methods

The primary research data for this thesis will be collected through quasi-experimental testing. As we go further, we may see that, technically, quasi experiments constitute the contrast between different versions without random assignment, to be precise which technique or strategy is better, according to the specific measure. This way of solving the problem is highly practical as it helps to gain knowledge about the different ways of doing that without following the strictest of experimental guidelines and it also allows for the understanding of the other approaches.

The process of the data analysis will have the following factors:

-Size of the sample.

-Level of significance

-Duration of the test.

-The total number of conversions.

-Examine both external and internal influences.

-Test results segmentation (the type of visitor, traffic, and device)

-Data analysis for micro-conversions.

In the thesis at hand and under the blanket of data analysis, we will use two principal strategies: descriptive and diagnostic analysis of the data.

Descriptive analysis, thus, becomes a foundation stone of our investigation by looking into a question, "What happened?" This is done by organizing, processing, and analyzing the data from the quasi-experimental tests and other important sources collected in the course of this study, the descriptive method that we will employ will provide the basis for all the data regarding the video campaigns collected so far. This, in turn, will help in formulating a general understanding of the performances of the campaigns.

Diagnostic analysis, on the contrary, emphasizes the study of the question, "Why did it happen?" through the identification of the factors that caused the success or failure of each campaign. This form of analysis, which goes deeper, will allow us to reformulate the campaign conceptual base, so it will include the proper course of the successful elements and the avoidance of the unsuccessful ones. Through learning not only the how but also why the results are, diagnostic analytics will serve as a method for us to determine the key reasons that divided the performances into the better one and the worse one. Then, it makes it possible for us to single out the most effective strategies for the future campaigns and enlighten the decision-makers on how to address the similar problems.

3.4 Reliability and validity

The research conducted using the Interrupted Time Series (ITS) methodology is confirmed to be valid and reliable, which are the key concepts. Sants, Murphy, and Ferguson's (2002) quasi-experimental design such as ITS are a means that enables the analysis of changes resulting from interventions over time despite the absence of randomization. By this, I mean that the researchers can test and examine the effectiveness of the instrument by determining if the causal relations found in the subjects of the study are true or the instrument has the ability to capture such information across a range of areas of the sample.

To support the study's validity, ITS will be used to keep tabs on time patterns and other factors that might sway the outcome. This approach helps to draw clearer cause-and-effect links by looking at data gathered at various points before and after the intervention (Shadish et al. 2002). Also, triangulation will be used to merge different data sources making the results more trustworthy and cutting down on possible biases (Creswell, 2014). By using these methods, the research aims to offer valid and credible findings about how well the interventions studied through ITS work.

The general consistency of the outcomes is referred to as reliability and the reproducibility of research over time when research and similar processes are carried out.

The approach used in this study is detailed in full, and it may be replicated for additional reliability testing. According to Litwin (1995), reliability is a statistical measure of how repeatable the survey instrument data are. This research may be considered reputable, and a comparative study can be undertaken again if necessary.

Validity refers to how well research is founded on evidence and can measure or analyze what it is designed to measure or evaluate. According to Litwin (1995), validity indicates how effectively it measures what it is designed to measure.

In the instance of this study, the empirical component is a quasi-experimental test.

The quasi-experimental test for this study will provide the quantitative data needed to determine which variant is the top performer.

The tests were carried out in March 2022 and April 2023, after which the findings were examined and compared.

4 Case company results prior to first campaign

This chapter presents the findings of the research before carrying out the first campaign. This section is significant as it provides an understanding of why the project was important. The author analyzed secondary data from Google Analytics, SEMRush, and Google Search Console from 2020 and 2022.

4.1 Case company before the research project

This paragraph describes the case company's marketing tactics in 2020 and 2021 in order to help the reader better understand why action research was necessary. Action research relies on a thorough understanding of the background information, which is vital for defining the target, objective, and problem that this action research has been focusing on. The researcher only discussed the results and tactics of 2021 and 2022 as the case company was founded in 2020.

Before looking at secondary data regarding the case company's strategies, it’s important to note that the main problem during 2020 was that the company focused on end-users such as patients in hospitals and private clinics and decision-makers in hospitals and clinics. The case company aims to prevent cardiovascular diseases and diabetes by building self measurement and telehealth kiosks. However, the company's main buyers were seldom end-users.

Development of marketing and sales actions around complex identified customers and buyer personas triggered a change in the case company's business model strategy. In 2022, the business model changed to a subscription model scaling with end-user volume. The case company's B2B customers changed from hospitals and private clinics to large enterprises (Finland 640 companies, EU ca. 40 000 companies) and public employers looking to lower absenteeism, early retirement, and associated costs. The B2G customers are public and private clinics and hospitals looking to combat personnel shortages and improve effectiveness.

This also meant that the content marketing/SEO strategy and key messages had to change. As a health tech company, the case company had no content around occupational healthcare - key to the newly identified customers in the B2B segment.

The case company needed to identify new buyer personas such as HR Directors and develop the project with the new buyer personas in mind.

The case company's marketing approach was also creating content without guidelines or plans set in stone. The company's social media presence and the content on its website were still developing, and there would be long periods of time with no activity.

4.1.1 Case company's marketing results in 2021

According to figure 15, the case company's primary source of website traffic came from organic search by Google in 2021. This traffic generated 141 sessions from a total of 252 (figure 15), and that was 55.95% of all traffic to the website.

In 2021, the second most important source of traffic was direct, which meant that all of the traffic that reached the website were initiated without referral data attached. Reasons for this could include:

1. A link in the bookmarks folder led someone directly to the website.

2. Copying and pasting the URL rather than clicking a link was used to access the webite.

3. The website was clicked through a SSL-enabled site.

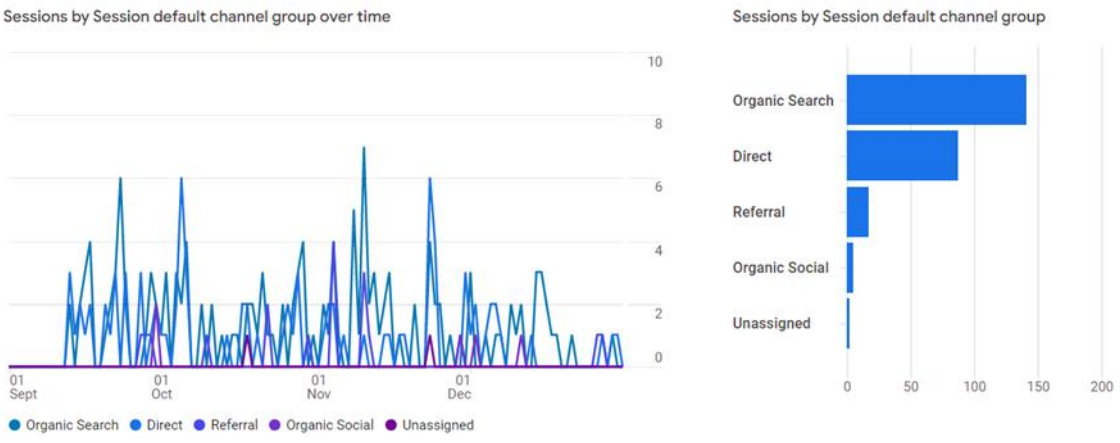

Figure 15. The case company's traffic acquisition from January 1st, 2021 to December 31st, 2021. (MedicubeX 2021)

In 2020 and largely during the first eight months of 2021, the case company conducted primarily in-house market studies, business model and business plan development. Organic content marketing activities started in the summer of 2021 and social media accounts were created during November of 2021, hence why the sessions of the channel group Organic Socials are much lower than Organic Search, Direct and Referral.

In the following figure we can see a break-down of sources from that traffic.

	Session source +	↓ Users	Sessions	Engaged sessions	Average engagement time per session	Engaged sessions per user
		282 100% of total	252 100% of total	49 100% of total	1m 45s Avg 0%	0.17 Avg 0%
1	google	122	139	26	1m 31s	0.21
2	(direct)	109	87	18	1m 49s	0.17
3	(not set)	21	2	0	2m 22s	0.00
4	healthcapitalhelsinki.fi	13	7	0	3m 43s	0.00
5	linkedin.com	8	4	2	0m 30s	0.25
6	healthincubatorhelsinki.com	5	4	2	6m 17s	0.40
7	duckduckgo	2	0	0	0m 00s	0.00
8	terkko.fi	2	1	0	0m 26s	0.00
9	yahoo	2	2	0	0m 30s	0.00
10	baidu	1	0	0	0m 00s	0.00

Figure 16. The case company's website traffic breakdown by source from January 1st, 2021 to December 31st,2021. (MedicubeX 2021)

In figure 16 we can see that the Organic Search originates from Google and referral sources such as Health Capital Helsinki and Health Incubator Helsinki.

4.1.2 Case company's marketing results up to February 28, 2022

According to figure 18, the case company's primary source of website traffic came from the organic source between January and February 2022. This traffic generated 69 sessions from a total of 134 (figure 19), and that was 51.49% of all traffic to the website.

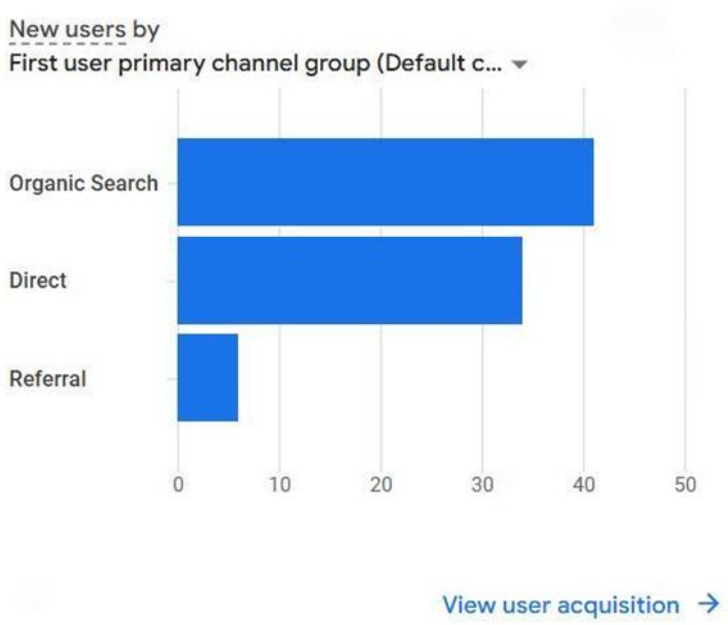

Figure 17. The case company's traffic acquisition from January 1st, 2022 to February 28, 2022. (MedicubeX 2022)

From figure 18 we can conclude that in January and April 2022, organic traffic was organic search by Google, which meant that all of the traffic that reached the website were organic search results, or unpaid listings on search engine results pages (SERPs). These results are ranked by Google and other search engines based on various criteria, including their quality and applicability to the search query.

In January and February 2022, plans were established for a funding partnership and an upcoming campaign, with content specifically crafted for investors as the target audience across the website and social media. Since 2020, organic traffic and keyword rankings have shown steady growth, reflecting the effectiveness of sustained SEO and content marketing efforts.

5 Case company's initial video campaign

The design, objectives and the implementation of the first ever campaign of the case company as outlined in this chapter is concentrated on the e-Health solutions introduced by the company. The campaign had the objective of creating awareness to potential investors through the promotion of the case company eHealth station, its advanced features such as safe space solutions and a completely automated healthcare booth capable of measuring health parameters and assessing and predicting the risk of various cardiovascular diseases.

5.1 Campaign overview

The campaign launched in March 2022 for 23 days, targeting investors interested in healthcare technology advancements. The core objective was to demonstrate the case company's potential to improve public health through autonomous health monitoring stations. The primary focus was on highlighting user engagement with the technology and promoting interest in the case company as a pioneer in digital health.

The following figure shows how the video campaign was promoted on the funding platform Funderbeam.

Figure 18. The case company's video campaign on funding platform Funderbeam (Funderbeam 2022)

5.2 Campaign content and structure

The video campaign was meticulously developed to accentuate the key aspects of the case company booth measurements, through a low-cost video format that clearly illustrated the booth's value to the healthcare sector. The primary elements were:

- Video Content and Length: In the video, which is 52 seconds long, we introduced the case company booth. The main focus was on the safe space setup and the different health measurments. Plus, a narration by the co-founder and CEO. The length was chosen to balance detailed product explanation with viewer engagement.
- Key Messaging and Visuals: The video emphasized the case company's innovative approach, highlighting the booth's autonomous eHealth stations designed to measure vital signs, such as blood pressure and heart rate, and assess personal cardiovascular risk. Visuals featured all the measurements taken per visit, demonstrating the technology in action to give viewers a clear idea of its functionality and potential impact.
- Distribution Channels: The video was shared on Funderbeam's and the case company's social media platforms, company website, Funderbeam's network and emails to partners, targeting investors with a known interest in healthcare technology innovations.
- Call-to-Action (CTA): Through this video campaign, viewers were able to visit the case company website and read more information on the case company's investing profile page on Funderbeam such as description, investment terms, documents as well as an opportunity to invest with a minimum of EUR 250.

The following figure shows a still of the video during a walk-through of the health measurements taken - with the help of AI, predict the visitor's risk of various cardiovascular diseases.

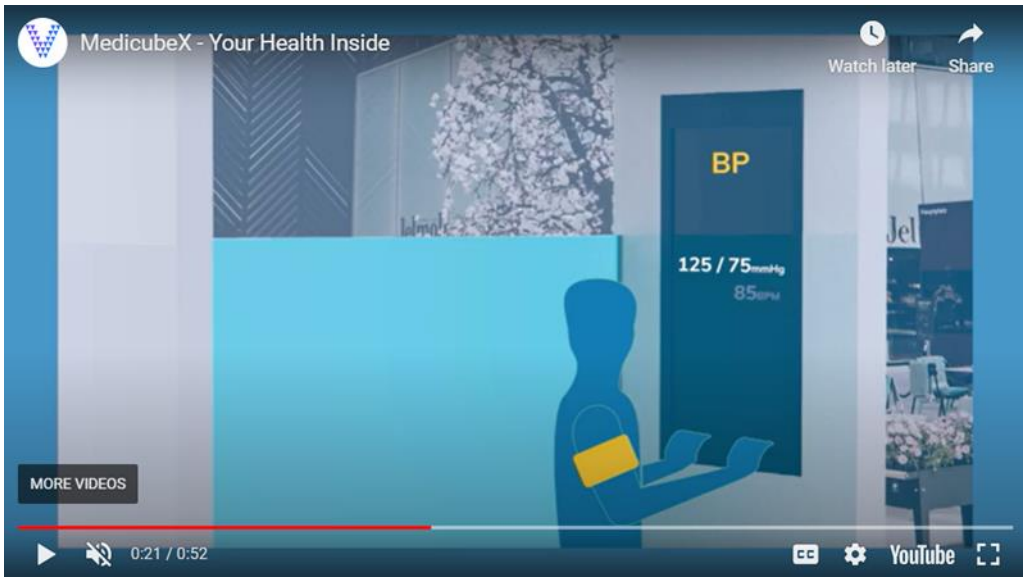

Figure 19. The case company's walk-through of the health measurements taken (Funderbeam 2022)

5.3 Measurement and data collection

The campaign's effectiveness and engagement were gauged by using the following metrics:

- Video View Metrics: The metric data for total views was used to gauge audience interest.
- Website visits: Funderbeam linked the case company's website meticulously throughout every communication
- Engagement: Engagement through social media activity
- Investments Made: Direct investments made or leads, which were then used to determine how much impact the video content had on the investors.

This campaign laid the ground for the evaluation of the case company booth's attractiveness and significance in the views of the investors. Later on, the successful outcomes of this campaign will be compared to the next phase, and thus a quasi experimental method will measure the effect of digital health content on the investors' engagement.

5.4 Campaign data results

This section unveils the outcomes of the first video campaign of the case company and critically analyzes the validity of the campaign on KPIs. The campaign, which was initiated in March 2022, could go a long way in involving the investors through the advertisement of the Autonomous eHealth Stations. The physical product being promoted is designed to assess vital signs and personal risk factors of cardiovascular diseases. The analysis of the campaign's impact is grounded on the following key indicators of the first campaign:

- Video View Metrics
- Website visits
- Engagement
- Investments Made

5.4.1 Key metrics

The video campaign lasted 23 days and was launched in March 2022, the main goal was increasing engagement and conversions from potential investors. The campaign relied on social media platforms, website content, and email marketing to push the video. The key metrics were monitored and these metrics were weighed up against the corresponding metrics from the previous month and the one after (February 2022 and April 2022) to determine if there had been any notable changes.

5.4.2 Breakdown of campaign's performance per month

The video campaign lasted 23 days and was launched in March 2022, the main goal was increasing engagement and conversions from potential investors. The campaign relied on social media platforms, website content, and email marketing to push the video.

The following table highlights the metrics and results achieved during the video campaign.

Table 4. Campaign's performance

Month	Video views	Website visits	CTR	Engagement	Investments
March 2022	411	163 visits, 289 sessions	39.66%	LinkedIn, Facebook and YouTube	EUR 250k

The campaign achieved the following results:

- Video Views: The video received 411 views
- Website Visits: The website traffic originating from the campaign (via the funding platform, social media, Google, and direct traffic) increased by 254.35%, from 46 visits in February 2022 to 163 visits in March 2022
- Engagement (social media): Social media posts related to the video had a combined engagement consisting of 66 likes, 6 shares, and 1 comment across LinkedIn, Facebook, YouTube, and Instagram
- Investments: The campaign had 2 funding tiers. Tier 1 was a target of EUR 250k and tier 2 had a target of EUR 540k. The campaign reached the tier 1 funding target of EUR 250k on the funding platform. Besides the online funding round of the Funderbeam platform, 2 business angel commitments amounting to EUR 60k. Because of restrictions associated with investment vehicles, the two business angels had to make their investments offline alongside the funding platform's funding round, amounting to investments totalling EUR 315k.

5.5 Post-campaign analysis

This sub-chapter spans a longitudinal analysis of key performance indicators (KPIs) over the months after the case company's first video campaign had been completed, which was in March 2022 and ended in April 2022. Targeting the studied variables from April 2022 to April 2023, the company plans to evaluate the campaign's perseverance in the form of customers' interactions with the website, visits.

The following figure shows the traffic after the initial campaign up March 2023, before the launch of the second campaign.

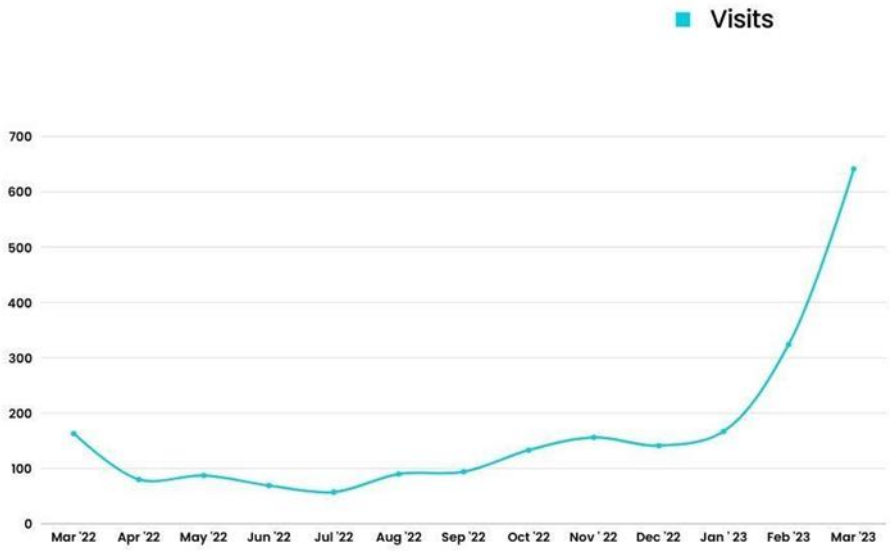

Figure 20. The case company’s walk-through of the health measurements taken (Funderbeam 2022)

5.5.1 Website traffic

The first area of analysis is the website traffic. After the campaign ended, the immediate effect on website visits in April 2022 was a peak in comparison to pre-campaign levels in February 2022. Organic traffic, direct traffic, and social media channels were the most active during the campaign and still after, illustrating a lingering initial audience interest. The KPIs evaluated were:

- Website Visits: When the campaign concluded In April, there was a significant rise of 73.91% in website traffic as compared to the prior months of the campaign, and then it settled at a moderate average in the later months.
- Engagement Metrics: The time spent on the site in April after the campaign concluded was on average 2.2 minutes per user, a big step from the 37 seconds observed before the campaign. The following image illustrates the behavior of website visits prior to the campaign, during the campaign and after.

Figure 21 highlights the pre-campaign and post-campaign website visits, clearly showing a boost in website visits after the campaign concluded compared to the pre-campaign visits.

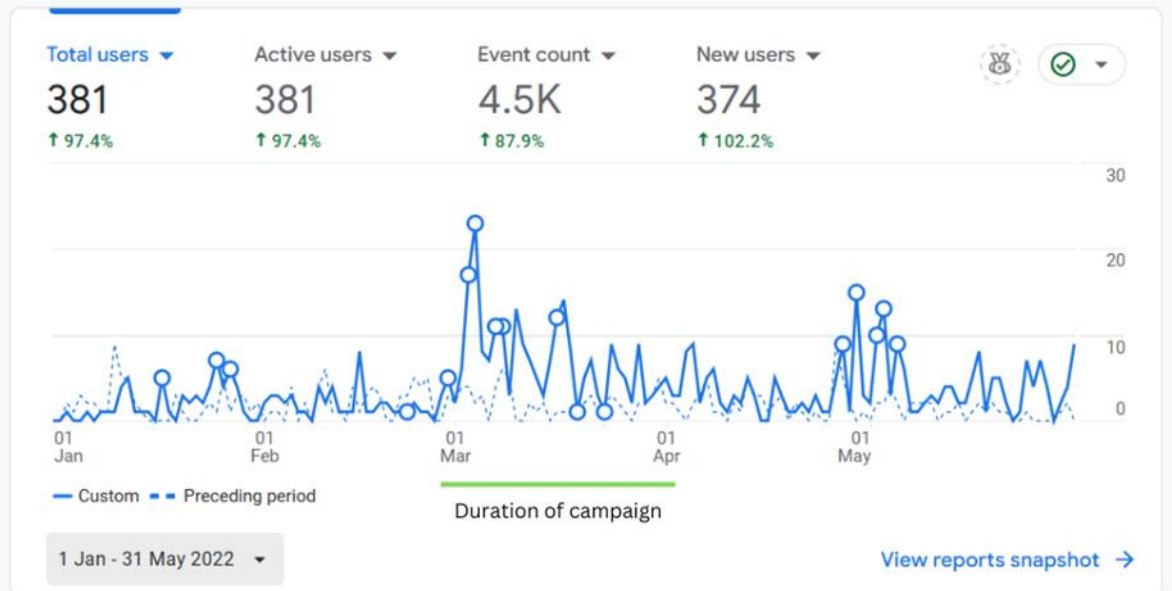

Figure 21. Pre-campaign and post-campaign website visits (MedicubeX 2024)

Although engagement metrics stayed above baseline until May 2022, there was a slow decrease in activity levels starting in April, meaning the campaign saw its major impact between two and three months from its launch time.

5.5.2 Conversion

One of the primary goals of the video campaign was to drive traffic to the website and encourage conversions. For this purpose, we analyzed the funding target and how well the target was reached. The funding platform's Tier 1 target of EUR 250k was successfully achieved, while off-platform, another EUR 60k investment was secured, totalling to EUR 315k. The funding Tier 1 target was exceeded by 24%.

5.5.3 Social media engagement

The campaign's social media profiles and one-on-one communication over the internet led to an increase in content engagement. The main metrics were:

- Social media engagement: Social channels (e.g., LinkedIn, Facebook, Twitter and YouTube) Showed a 175% rise in engagement in the period post-campaign in April 2022
- Content shares and mentions: post campaign-related content shares still had an increase of 300% compared to content prior to the campaign phase. By May 2022, this engagement slowly watered down, which indicates how campaign-driven social interest is very time-sensitive.

5.5.4 Observation

To conclude the first campaign, the post-campaign analysis shows a number of important key take-aways:

1. Boost in traffic and engagement was short-term.
2. Conversions rapidly declined when the campaign concluded.
3. Audience retention was significantly less during the post-campaign period.

These results indicate that campaigns can be very effective in reaching a funding target but with short-lived traffic and engagement once the campaign concluded. To enhance long term

engagement and funding conversions, more frequent content and follow-up funding campaigns are needed.

6 Case company's second video campaign

The design, objectives, and the implementation of this second campaign of the case company as outlined in this chapter is also concentrated on the same e-Health station offered by the company. The campaign had the objective of creating awareness to potential investors through the promotion of the case company eHealth station, equipped with cardiovascular disease detection algorithms and AI systems that will be capable of identifying individuals who are at risk of CVD, and this will allow for early intervention.

6.1 Campaign overview

The campaign, which ran for 23 days during May 2023, targeted investors who are interested in healthcare technology innovations. This was intended to be a window of opportunity for the case company to demonstrate its leadership in public health by providing the technology that allows people to monitor their health during the entire time. The campaign focused on the interactions of the users with the eHealth station, which demonstrated their practical use by the patients and put the case company in the first place in preventive healthcare. The central goal was to raise funds to finance the continuous product development, marketing, and the costs of initial market entry.

The below figure captures the video campaign on the Springvest platform.

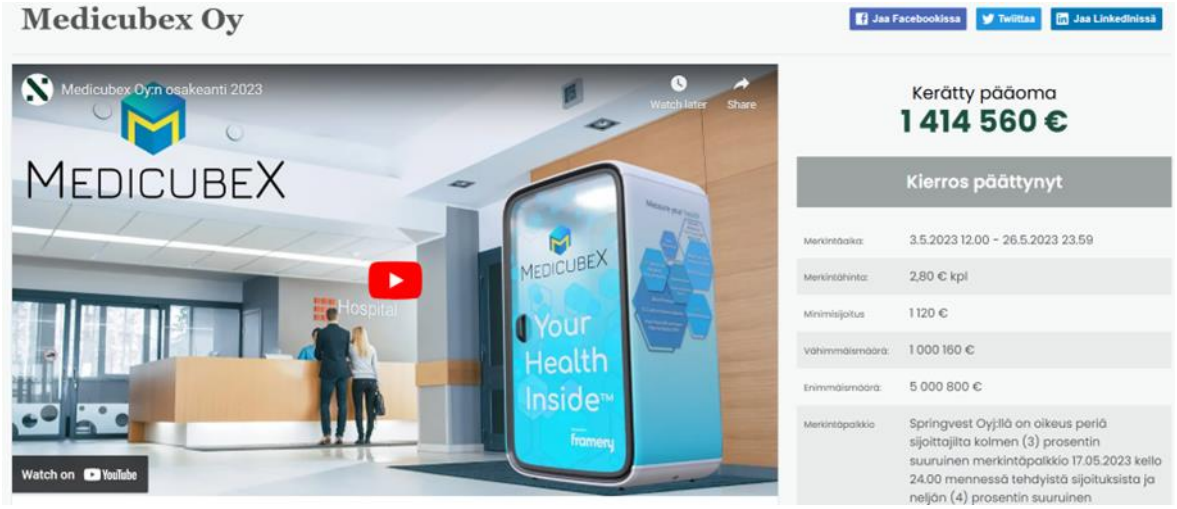

Figure 22. The case company's video campaign on funding platform Springvest (Springvest 2023)

6.2 Campaign content and structure

The video campaign was meticulously developed to accentuate the key aspects of the case company booth measurements, through a low-cost video format that clearly illustrated the booth's value to the healthcare sector. The primary elements were:

- Video Content and Length: This second video, which is 2 minutes and 29 seconds long, introduced the case company eHealth Station. The patient journey was the primary point that we concentrated on, showing how to take the steps that are less than 5 minutes. In addition, the Co-founder elaborated how the station can lift the bottlenecks in the existing healthcare systems thus giving a brief about cardiovascular diseases. The video length was carefully chosen and served as the basis for the ideal balance of product explanation and audience engagement including also a demonstration of the station in use by a real-life patient.

- Key Messaging and Visuals: The video starts with the the case company prototype eHealth Station, and highlights the station's ability to autonomously measure vital signs such as blood pressure and heart rate and assess the patient's risk of developing cardiovascular disease thus predict the disease as well.The visuals revealed the details of the measurements made in each visit, showing the technology in action and enabling the audience to get a clear understanding of how it works and its impact. Backed by the narrator who is the co-founder and CEO as well, mentions the healthcare problems such as the early burnout of nurses, work pressure, staff shortages, and the recent statistics on the increasing deaths from silent heart diseases, which could be prevented by early intervention if detected early.

- Distribution Channels: The video was shared on Springvest's and the case company's social media platforms, company website, Springvest's network and emails to partners, targeting investors with a known interest in healthcare technology innovations.

- Call-to-Action (CTA): Through this video campaign, viewers were able to visit the the case company website and read more information on the case company's investing profile page on Springvest such as description, investment terms, documents as well as an opportunity to invest with a minimum of EUR 1,120.

The following figure shows a still of the video during a demonstration of the health measurements taken when in use by a patient- with the help of AI, predict the patient's risk of various cardiovascular diseases.

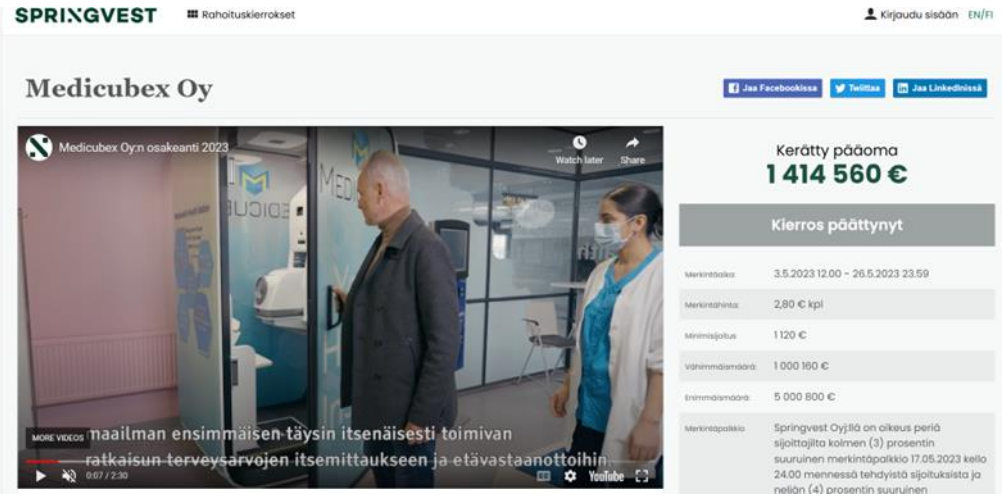

Figure 23. MedicubeX's demonstration of patient use (Springvest 2023)

6.3 Measurement and data collection

The campaign's effectiveness and engagement were measured by using the following metrics:

- Video View Metrics: The metric data for total views was used to assess audience interest.
- Website visits: Springvest linked the case company's website meticulously throughout every communication
- Engagement: Engagement through social media activity.
- Investments Made: Direct investments made or leads, which were then used to determine how much impact the video content had on the investors.

This campaign laid the ground for the evaluation of the MedicubeX eHealth Station's appeal to the target group and significance in the views of the investors. Later on, the successful outcomes of this second campaign will be compared to the next phase, and thus a quasi-experimental method will measure the effect of digital health content with real-life demonstration on the investors' engagement.

6.4 Campaign data results

This subchapter will assess the outcomes of the second video campaign of the case company and critically analyzes the validity of the campaign on KPIs. The campaign, which was launched in May 2023, was executed to raise funds for further product development and marketing and market-entries. The eHealth Station being promoted is designed to assess vital signs and personal risk factors of cardiovascular diseases. The analysis of the campaign's impact is grounded on the following key indicators of the second campaign:

- Video View Metrics
- Website Visits
- Engagement
- Investments Made

6.4.1 Key metrics

The video campaign lasted 23 days and was launched in May 2023, the main goal was increasing engagement and conversions from potential investors. The campaign relied on social media platforms, website content, and email marketing to push the video. The key metrics were monitored and these metrics were weighed up against the corresponding metrics from the month before and after the campaign (April 2023 and June 2023) to determine if there had been any notable changes.

6.4.2 Breakdown of campaign's performance per month

The video campaign lasted 23 days and was launched in May 2023, the main goal was increasing engagement and conversions from potential investors. The campaign relied on social media platforms, website content, and email marketing to push the video. Table 5 highlights the campaign's performance.

Table 5. Campaign's performance

Month	Video views	Website visits	CTR	Engagement	Investments
May 2023	1.1k	942 visits, 1,383 sessions	85.64%	LinkedIn, Facebook and YouTube	EUR 1 414 560

- Video Views: The video received 1.1k views
- Website Visits: The website traffic originating from the campaign (via the funding platform, social media, Google, and direct traffic) increased by 80.46%, from 522 visits in April 2023 to 942 visits in May 2023
- Engagement (Social Media): Social media posts related to the video had a combined engagement consisting of 170 likes, 14 shares, and 2 comments across LinkedIn, Facebook and YouTube
- Investments: The campaign had a minimum funding target of EUR 1M. and up to EUR 5M. The campaign exceeded the minimum funding target of EUR 1M on the funding platform. At the end of the campaign, the case company raised a total of EUR 1 414 560, exceeding the minimum target by 41.456%

6.5 Post-campaign analysis

This subchapter spans a longitudinal analysis of key performance indicators (KPIs) over the months after the case company's second video campaign had been completed, which was in May 2023 and ended in June 2023. Targeting the studied variables from June 2023 to June 2024, the company plans to evaluate the campaign's perseverance in the form of customers' interactions with the website.

The following figure shows the traffic after the second campaign up to June 2024.

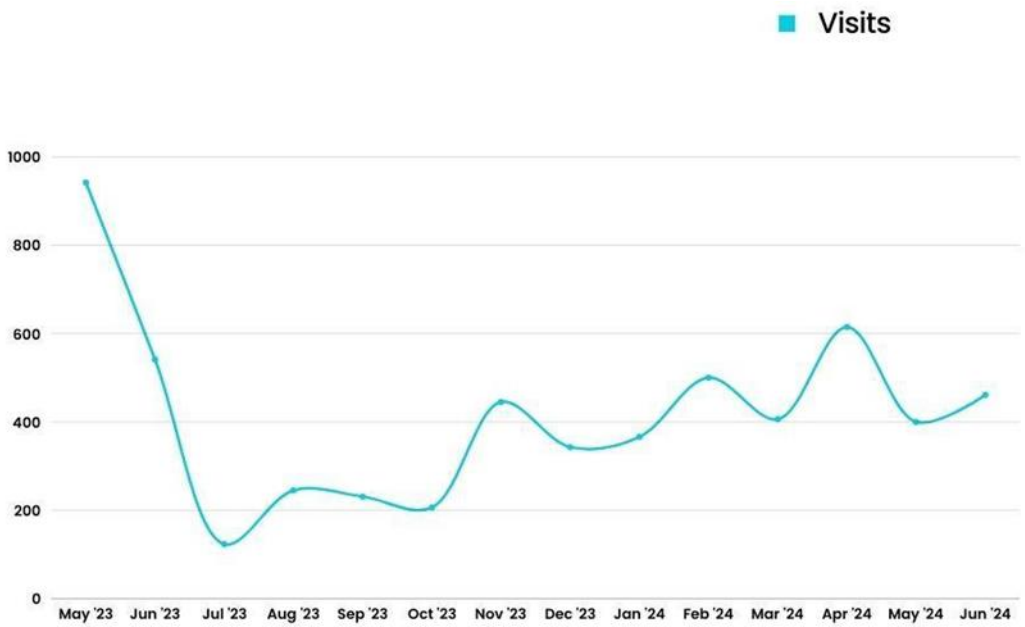

Figure 24. Case company’s website traffic between May 2023 and June 2024 (MedicubeX 2024)

6.5.1 Website traffic

The first area of analysis is the website traffic. The campaign took place in May 2023, but once it concluded in June 2023, website visit traffic levels reverted to those seen in April 2023, prior to the campaign. During the campaign, organic traffic, direct traffic, referral, and social media channels were the most active and continued to show some initial audience interest even after the campaign ended. The KPIs evaluated were:

- Website Visits: In March, the website had 641 visits. Meanwhile, April had seen 522 visitors coming along. The campaign demonstrated an astonishing growth to a level of 942 visits in May. The dataset, however, showed in June that there were 541 visits. The figures continued dwindling in July- to 123 visits.
- Engagement Metrics: The duration of the engagement registered in April, before the campaign had launched, was on an average, 1 minute and 19 seconds per user. In May, while the campaign was running, the engagement statistics considerably increased but, after concluding the campaign in June, the engagement figures came back to a rather low average of 1 minute and 3 seconds. By the time of July, the engagement time faced a further decrease to 48 seconds.

The following image illustrates the behavior of website visits prior to the campaign, during the campaign, and after.

Figure 25. Pre-campaign and post-campaign website visits (MedicubeX 2024)

The May campaign was successful with a substantial number of people visiting the website and the engagement metrics increased. However, in June after the campaign was concluded, the number of visits as well as the engagement time decreased.

6.5.2 Conversion

One of the main objectives of this video campaign was to drive traffic to the website and Funding platform to increase conversions. The success of the campaign was determined by reaching its minimum funding target. The campaign would have raised between EUR 1M and EUR 5M. By raising EUR 1 414 560, the campaign successfully met the minimum funding target. It exceeded the minimum target by 41.456%, indicating strong investor backing and support.

6.5.3 Social media engagement

The campaign's social media profiles communication over the internet led to an increase in content engagement. The main metrics were:

- Social media engagement: Social channels (e.g., LinkedIn, Facebook, Twitter and YouTube) Showed a 118.75% rise in engagement in the period post-campaign in June 2023 compared to April 2023.
- After the campaign ended, the campaign-related content shares were still twice as high compared to the content prior to the campaign. According to the data, by July 2023, this engagement watered down rapidly, which shows that the social interest directed at the campaign was very campaign-specific.

6.5.4 Observation

To conclude the second campaign, the post-campaign analysis shows a number of important key take-aways:

1. There was a significant boost in engagement and traffic during the campaign, but this was short-term
2. Conversions stopped and traffic saw a decline once the campaign was concluded
3. Audience retention was significantly decreased during the post-campaign period.

The results of this second campaign shows that campaigns can be very effective to reach funding targets, but the high engagement and traffic are temporary and visible during the campaign. To assure long-term high traffic and engagement and ultimately more conversions, even if they are not for funding, it's important to implement more frequent content, in a more consistent manner, and implement more campaigns to uphold traffic and engagement.

7 Results and analysis

This section presents the results of the case company's two video campaigns conducted in 2022 and 2023, assessing their effectiveness in generating investor interest and funding. Key performance indicators (KPIs) such as video click-through rate, website traffic, and funding are analyzed using Interrupted Time Series (ITS) analysis with R to determine the cumulative and comparative impacts of each campaign. The statistical analysis will be discussed in detail in section 7.2.

7.1 Campaign results overview

The following two tables will highlight the results of both campaigns in regard of CTR, the website traffic they generated and the funding achieved.

Table 6. Campaign 1: (March 1 - March 23, 2022)

CTR	Website Traffic	Funding
39.66%	163 visits	EUR 310k

Table 7. Campaign 2: (May 3 - May 26, 2023)

CTR	Website Traffic	Funding
85.64%	942 visits	EUR 1 414 560

7.2 Quantitative analysis

RStudio was the program used in running the statistical analysis of the two campaigns in this study. This analysis is based on the Interrupted Time Series, a methodological approach used for analyzing the effects an intervention has, in this case, two different campaigns over different timespans.

7.2.1 Data analysis

- Data structure: The time series data was arranged based on two campaigns as shown in the previous tables. The campaign's metrics that were captured included click-through rate (CTR), traffic to the website, and funding achieved.
- Pre-processing: The Campaign 1 data consisted of the data collected from 1st of March to 23rd of March, 2022 while Campaign 2 data was collected from 3rd of May to 26th of May, 2023. A gap period was set in between the two campaigns.
- Modeling: In order to analyze the impact of the two campaigns, Interrupted Time Series design was used: analysis of time series with the pre-campaign trends, during the campaigns and post-campaigns. ITS was selected because it is suitable under the conditions when two campaigns cannot be conducted in parallel as in A/B testing.

The following figure shows the visualization of the analysis run on RStudio.

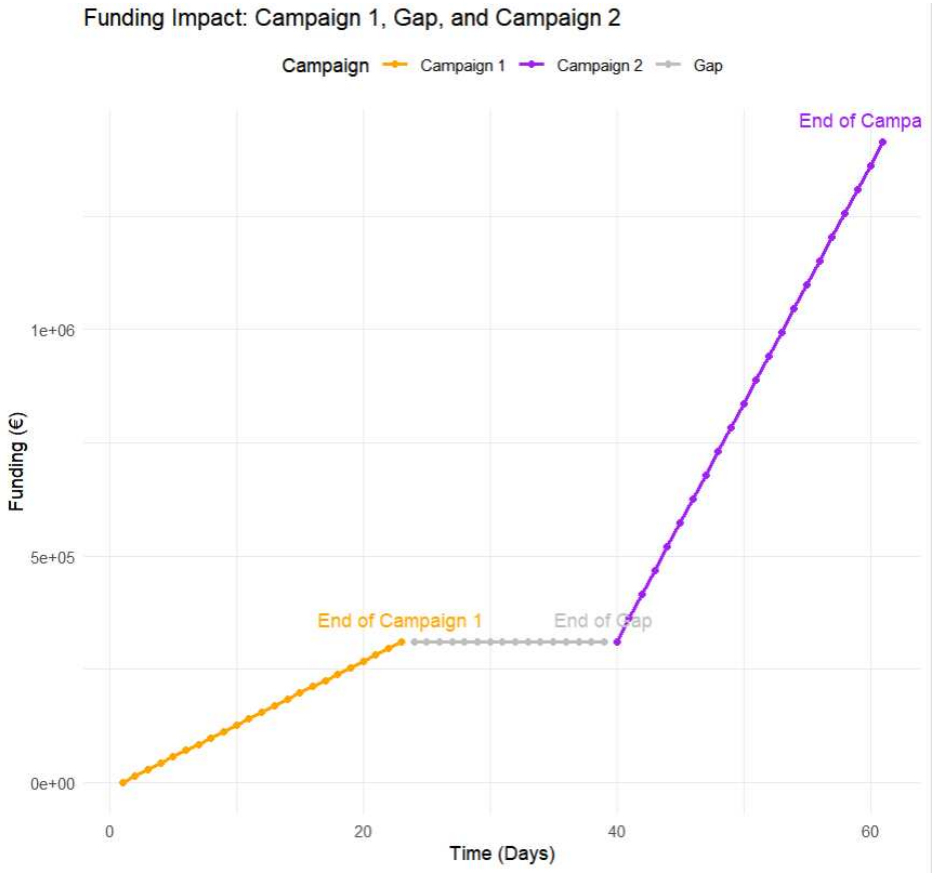

Figure 26. Statistical analysis of two campaigns run on RStudio

Based on this figure, the analysis revealed growth in the funding for both campaigns and this was established by the statistical modelling. The findings indicated that there was a greater increase in funding during Campaign 2 as compared to Campaign 1 and this established the positive impact of the enhanced content marketing strategy that was employed in Campaign 2.

RStudio was applied in this analysis due to its ability to work with the data set used in the study, especially in handling time series data. The combination of data preparation, proper statistical analysis, and effective model testing and diagnostics made the results of this study credible and reliable.

7.3 Overall impact

Campaigns 1 and 2 reached a funding of almost EUR 1 724 560. Evidently, Campaign 2's boost of overall funding is an indication that alterations in strategy, elements of video content, and engagement methods elevated the audience pull that brought good results between the two campaigns. In the second place, the increase in the funding size of Campaign 2's total, shows that the innovative approach, content, and engagement means were effective enough to stir up the interest in the target audience through the campaigns. Moreover, as the funding outcome indicates, the ability to introduce continuous revisions to the plans as well as implementation was the key to the success of both campaigns. It’s also evident to notice that during the period after the second campaign, even though the website visits dropped significantly once the campaign concluded, starting from October 2023 (5 months after campaign 2 concluded) organic website visits and engagement saw immense growth, indicating possible growth in reputation.

7.3.1 Market credibility: the first 6 reference customers

After the second campaign's success, six reference customers were secured. This is a stepping stone towards the establishment of credibility in the market and ensuring growth for the company. The acquisition of these reference customers can be directly attributed to the increased visibility, trust and engagement brought about by campaign 2. This achievement underscores not the campaign's fundraising impact, but its role in forging vital

industry partnerships that will strengthen the company's reputation and standing for prospective clients moving forward.

1. The City of Helsinki – Finland

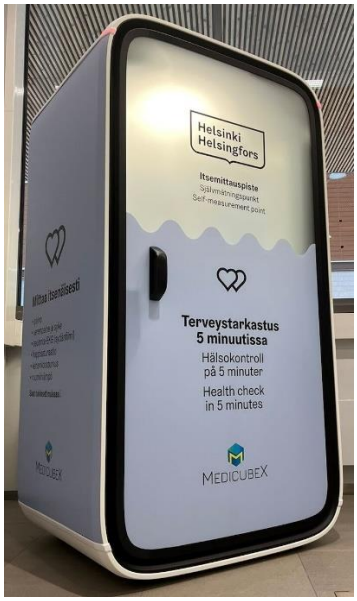

Figure 27. During the shooting of the second campaign's video, the case company ran a pilot project with the City of Helsinki in Kalasatama. Due to the pilot's success, the City of Helsinki became the first customer. (Medicubex 2024a)

2. KEUSOTE – Finland

Figure 28. Keski-Uudenmaan hyvinvointialue, or KEUSOTE in Hyvinkää became the second reference customer (Medicubex 2024a)

3. GASTRO CENTRS – Latvia

Figure 29. Testimonial of GASTRO CENTRS' CEO in Latvia. GASTRO CENTRS became the third reference customer (Medicubex 2024a)

4. SRK – Germany

Figure 30. Testimonial of SRK's Regional Manager Digital Transfomation in Germany. SRK became the fourth reference customer (Medicubex 2024a)

5. Hartregie - the Netherlands

Figure 31. Announcement of a partnership with Hartregie in the Netherlands. Hartregie became the fifth reference customer (Medicubex 2024a)

6. Sdhc - United Kingdom

Figure 32. Announcement of a partnership with Sdhc in the United Kingdom. Hartregie became the sixth reference customer (Medicubex 2024a)

8 Discussion and conclusion

This chapter will discuss the analysis and will analyze the two campaigns conducted consecutively in 2022 and 2023, the evaluation of their efficiency, as well as the foreseeable implications for further studies. In this section, key insights will be interpreted, along with a discussion on how a refined content strategy, and targeting contributed to these improvements and the methodological aspects will be discussed.

8.1 Key insights and interpretations

Based on quantitative analysis, it is clear that several factors were likely responsible for the significant improvements seen in Campaign 2:

1. Adjustment of the content strategy: Adjustments to the content and key-message of campaign 2 likely increased engagement and appeal, as evidenced by the doubled CTR in Campaign 2. A more compelling narrative, value proposition backed with scientific data and real-life depiction of the end-user journey when using the eHealth station compared to the first campaign likely resonated with the audience, leading to greater engagement.
2. Adjustment of campaign targeting and engagement: The evident increase in website visitors between campaign 1 and 2 indicates the improvement in campaign targeting and engagement tactics. The improvements could be a more optimized video length, a more targeted and local demographic or using scientific data could have targeted more investors with a medical background or understanding. All of these could have stimulated the audience to visit the website and engage more with the company.
3. Improved funding efficiency: The significant surge in funding, from EUR 310k during the first campaign to EUR 1 414 560 in Campaign 2, proves the effectiveness that strategic adjustments can have in converting audience engagement into financial support. CTR and website traffic, also known as engagement likely contributed to higher trust, higher thought leadership converted into a higher willingness to fund, which justifies the campaign's results.

8.2 Limitations on methodological approach

This quasi-experimental approach, the Interrupted Time Series (ITS), proved that isolating the impact of the two campaigns can be useful for the metrics and results of engagement and funding goals. By using this sequential design, the case company could improve strategies while observing the data and user-behavior in real-time. However, this methodological approach does have its limitations:

1. Lack of continuous supervision: Implementing campaign 1 and 2 at different times without concurrent control, can bring on undesirable external factors, such as: seasonal changes, economic changes, all which contribute to a shifting impact of the results.
2. Homogeneity of the audience sample: Both campaigns targeted a similar audience. However, since campaign 1 was executed in 2022 and campaign 2 in 2023, the user behavior and market conditions could have evolved during the downtime-period, possibly independently of campaigns, impacting engagement patterns.

8.3 Practical implications for future campaigns

The findings from campaigns 1 and 2 offer several practical insights for the case company as it plans future campaigns:

- Continual iteration: The improvements from campaign 1 to campaign 2 clearly show the necessity of campaign adjustment through data analysis and feedback. Experimenting with different variations of impactful and scientific data, key messages, and content routinely can help improve engagement and funding over a long period of time.
- Increased investment in high-impact content: Campaign 2 has seen a higher increase in CTR and website traffic. As a result, future campaigns should also focus on creating content that is high impact and resonates with the audience's interests and

motivations. Nevertheless, a good strong and clear narrative that stresses value and urgency could lead to an even better outcome.

- Enhanced targeting mechanisms: By learning to increase the website traffic, the next step will be to create messages for different audiences or landing pages that will deliver messages to the user that will increase the engagement and conversion rate of the website.

8.4 Responses to research questions

This research presents a comprehensive and empirical account of how content marketing strategies can be for B2B start-ups. The results give hints to how B2B content marketing can be further improved if we concentrate on the crucial areas, such as B2B content marketing nature, the importance of alternate experimental methods, and the content marketing outcomes measurement. Below are the answers to the main research question and its supporting sub-questions.

The main research question is defined as follows: “How can start-ups improve the effectiveness of B2B content marketing?”

Based on the results, data-driven, B2B strategies are crucial to enable effective content marketing for B2B start-ups. The outcomes of this research demonstrate that structuring content marketing, along with quasi-experimental research, enables a start-up to successfully increase key performance indicators such as CTR, website visits, attracting investors and acquiring customers. Moreover, as we saw based on the results, a B2B start up can have optimal results when their content marketing strategy contains elements of trust, thought leadership, and education on the specific problem that the start-up wants to solve with their product or service. Knowing who the customers are and knowing who their decision-makers are is just as important to make sure that key messages are resonating well with the decision-makers. A start-up can then focus on engagement and brand credibility.

Sub-research question 1: What is content marketing for a B2B start-up, and how is it distinguished from B2C content marketing?

B2B content marketing for start-ups is a tactical method that makes use of educational and value-based content to get other businesses to be customers. B2B content marketing, on the other hand, is more focused on in-depth information, building trust, and developing relationships than B2C content marketing which often relies on emotional appeal and entertainment to drive immediate purchase decisions. In a B2B context, buyers or decision makers often follow more complex buyer journeys, so offering content that address the solutions to their challenges, with whitepapers and case studies enhance trust.

Sub-research question 2: How can start-ups design a quasi-experimental design testing process?

Start-ups can set up a quasi-experimental testing process that looks for causal effects by running through a set of sequential campaigns which can measure the outcomes and then assess the changes through the Interrupted Time Series (ITS) method. In this study, two campaigns with controlled variations were carried out, and their impact on CTR, website traffic, and funding success were analyzed to measure the effects. The quasi-experimental design is a suitable approach for start-ups since it allows them to test content efficiency without the complex and costly randomized controlled trials. Since each campaign directly affects certain metrics, start-ups can then use these empirical data to develop their content strategies to ensure that they get maximum returns even with limited resources.

Sub-research question 3: What is the effectiveness of content marketing for a B2B start up?

For start-ups, B2B content marketing is effective in terms of increased audience engagement, less costly and website traffic. The campaigns examined in this research have achieved remarkable results in CTR, website visits, along with a big increase in overall funding, which

demonstrates that a content strategy can be a main driver of business growth. Through this approach, different content strategies were deployed per campaign and performance data was used for optimization of future content. B2B content marketing, when systematically structured and tested, can be a highly effective tool, not just to engage the audience but also to bring in the funds that start-ups critically rely on.

8.5 Conclusion

In general, the sequential campaigns presented in this research show the case company's capability to learn from the initial attempts and to considerably perform better in the following iterations. By strategically modifying and taking a data-informed approach to campaign management, the significant increase in total funding between the two campaigns can be traced.

This research highlights the importance of using ITS and experimental designs to assess marketing strategies in different time periods sequentially with non concurrent setups. Hereafter, the case company can carry out A/B tests concurrently while running sequential campaigns to improve campaign effectiveness and attract additional funding.

8.5.1 Theoretical and managerial contributions

This thesis contributes to the application and understanding of B2B content marketing for early-stage startups. Theoretically, it defines the characteristics of B2B content marketing, focusing on building trust, relationships and educating the customer – all three quite different from the B2C approach. This thesis also highlights the value of quasi-experimental tests, like Interrupted Time Series (ITS) - as used in this thesis, as a valuable alternative to randomized, controlled tests, such a A/B tests. This is especially useful for startups with restrictive financial means. From a managerial point of view, this thesis provides practical insights to strengthen content marketing strategies by establishing thought leadership, addressing the decision makers' needs of the target customers and refining campaigns based on performance data. This research bridges theory and practice, offering a proven basis for startups to achieve sustainable growth.

References

Abadie, A. (2005) Semiparametric Difference-in-Differences Estimators. The Review of Economic Studies, 72(1), 1–19.

Belch, G. E. (2007) Evaluating the Effectiveness of Elements of Integrated Marketing Communications: A Review of Research. A Paradigm Shift from Traditional Media Planning. ICFAI University Press.

Bennett, D. et al. (2019) How to…analyse qualitative data in different ways. The clinical teacher. [Online] 16 (1), 7–12.

Bernal, J. L., Cummins, S., & Gasparrini, A. (2017) Interrupted time series regression for the evaluation of public health interventions: A tutorial. International Journal of Epidemiology, 46(1), 348–355.

Brenner, M. (2020) The Ultimate Guide to a Content Marketing Strategy That Delivers ROI [Online] (Accessed 14 February 2022) Available at: https://marketinginsidergroup.com/content marketing/content-marketing-strategy-roi-ultimate -guide/

Brynjolfsson, E., Collis, A., Diewert, W. E., Eggers, F., & Fox, K. J. (2019) GDP-B: Accounting for the Value of New and Free Goods in the Digital Economy. National Bureau of Economic Research. 1, 24-35

Cagnon, E. (2014) Goodbye, B2B Brand Marketing: Developing Content-Based Marketing Programs for the Post-Marketing Era. International Management Review 10: 2, 68-73.

Chaffey, D. & Ellis-Chadwick, F. (2012) Digital Marketing – Strategy, Implementation and Practice. 5th Edition. Essex, Pearson Education.

Chaffey, D. & Smith, P. R. (2013) Emarketing Excellence. Planning and Optimizing Your Digital Marketing. Abingdon, Routledge.

Chaffey, D. (2024) The difference between paid, owned and earned media. [Online] (Accessed 28.11.2024) Available at: https://www.smartinsights.com/digital-marketing-strategy/customer-acquisition-strategy/new-media-options/

Chatterjee, P., Hoffman, D. L., & Novak, T.P. (2003) Modeling the Clickstream: Implications for Web-Based Advertising Efforts. Marketing Science, 22(4), 520-541

Christodoulides, G. (2009) Branding in the post-internet. Marketing Theory, 9(1), 141-144.

CMIa, Content Marketing Institute (2016) What is Content Marketing? [Online] (Accessed 16 May 2022) Available at: https://www.contentmarketinginstitute.com/what-is-content-marketing/

CMIb, Content Marketing Institute (2016) Content Marketing Framework: Channels [Online] (Accessed 16 May 2022) Available at: https://www.contentmarketinginstitute.com/channels/

Deng, A. & Shi, X. (2016) Data-Driven Metric Development for Online Controlled Experiments: Seven Lessons Learned, KDD '16 Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining.

Creswell, J. W. (2014) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. SAGE Publications.

Digital Marketing Institute (2016) A Practical Guide to Content Marketing Metrics. [Online] (Accessed 16 May 2022) Available at: https://digitalmarketinginstitute.com/blog/understand effectiveness-guide-content-marketing-metrics

Funderbeam (2022) Medicubex [Online] (Accessed 30 May 2022) Available at: https://www.funderbeam.com/syndicate/medicubex

Gerring, J. (2007) Case Study Research: Principles and Practices. Cambridge University Press.

Google Support (2022) Bounce rate [Online] (Accessed 18 March 2022) Available at: https://support.google.com/analytics/answer/1009409?hl0=en

Google Trends (2022) Content marketing [Online] (Accessed 18 March 2022) Available at: https://trends.google.com/trends/explore?date=2012-02-25%202022-03 25&geo=FI&q=content%20marketing

Gordon, B. R., Zettelmeyer, F., Bhargava, N., & Chapsky, D. (2019). A comparison of approaches to advertising measurement: Evidence from big field experiments at Facebook. Marketing Science, 38(2), 193-226.

Hall, J. (2013) 5 Business Goals of Content Marketing [Online] (Accessed 18 March 2022) Available at: https://www.forbes.com/sites/johnhall/2013/10/20/5-business-goals-of-content marketing/#d80b76122da6

Halligan, B. & Shah, D., (2009) Inbound Marketing: Get Found Using Google, Social Media, and Blogs. United States: John Wiley & Sons

Hoffman, D. L., Fodor, M. (2010) Can You Measure the ROI of Your Social Media Marketing? MIT Sloan Management Review, 52(1), 41.

Holliman, G. R. (2014) Business to business digital content marketing: marketers' perceptions of best practice. Journal of Research in Interactive Marketing, 269-293.

Kearney, R. & Schilling, L.M., (2007) The Psychology Behind Learning the World Through Digital Image Analysis. Journal of Visual Communication, 33(1), 17-34.

Kohavi. R, Longbotham. R, Sommerfield. D, Henne. RM (2009) Controlled experiments on the web: survey and practical guide. Data Min Knowl Discov 18:140–181.

Kotler P. & Keller, K. L., (2016) A Framework for Marketing Management. 6th Edition ed. United States: Pearson Education.

Kusumasondjaja, S. (2018) The roles of message appeals and orientation on social media brand communication effectiveness: An evidence from Indonesia. Asia Pacific Journal of Marketing and Logistics, 30(4), 1135- 1158.

Litwin, M. S. (1995) How to measure survey reliability and validity. Thousand Oaks, Calif.: SAGE

Loktionova, M. (2021) How to Write Copy that Generates Results [Semrush Research] [Online] (Accessed 28 May 2022) Available at: https://www.semrush.com/blog/how-to-write-copy-that-generates results

Loktionova, M. (2021) The Definitive Guide to Content Marketing for Startups (Expert Roundup) [Online] (Accessed 28 May 2022) Available at: https://www.semrush.com/blog/definitive-guide-to content-marketing-for-startups

Marvell, B. (2022) Content Marketing for Startups: How to Make it to Scale. [Online] (Accessed 28 May 2022) Available at: https://www.siegemedia.com/strategy/content-marketing-for-startups

MedicubeX. (2021) Google Analytics Data. Confidential Information

MedicubeX. (2022) Google Analytics Data. Confidential Information

MedicubeX. (2024) Google Analytics Data. Confidential Information

MedicubeX. (2024a) Company Marketing Material. Confidential Information

Navot, Y. (2014) The Difference Between A/B Testing, Multivariate and Split URL Testing [Online] (Accessed 30 May 2022) Available at: https://www.dynamicyield.com/lesson/introduction-to-ab-testing

McFarland, C. (2018). Quasi Experimentation at Netflix. (ONLINE) Available at: https://netflixtechblog.com/quasi-experimentation-at-netflix-566b57d2e362 [Accessed 18 September 2024].

Nichols, R. (2020) Use Heatmaps to Uncover Areas of Improvement on Your Website [Online] Accessed 30 May 2022) Available at: https://www.abtasty.com/blog/heatmap-website/

Penfold, R. B., & Zhang, F. (2013) Use of interrupted time series analysis in evaluating health care quality improvements. Academic Pediatrics, 13(6), S38–S44.

Powell, A. (2021) How Are B2B and B2C Content Marketing Different? [Online] (Accessed 28 May 2022) Available at: https://www.martechalliance.com/stories/b2b-vs-b2c-content-marketing

Pulizzi, J. (2011) Inbound Marketing Isn't Enough. [Online] (Accessed 16 May 2022) Available at: https://www.contentmarketinginstitute.com/2011/11/content-marketing-inbound-marketing

Pulizzi, J. (2012). The Rise of Storytelling as the new Marketing. Publishing Research Quarterly, 28(2), 116-123.

Researchdive (2020) Content Marketing Industry Report. [Online] (Accessed 14 February 2022) Available at: https://www.researchdive.com/118/content-market

Saleh, K. (2016) 13 Content Marketing Metrics to Track for Optimum Conversions. [Online] (Accessed 16 May 2022) Available at: https://www.marketingland.com/13-content-marketing-metrics need-track-optimum-conversions-175390

SAS Insights (2022) Marketing analytics. [Online] (Accessed 18 March 2022) Available at: https://www.sas.com/en_us/insights/marketing/marketing-analytics.html

Schultz, D.E. (2011) IMC Measurement: The Challenges of an Interactive Marketplace. International Journal of Integrated Marketing Communications, 3(1), 7. 80

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002) Experimental and Quasi Experimental Designs for Generalized Causal Inference. Houghton Mifflin.

Smith, K.T. (2011) Digital marketing strategies that Millennials find appealing, motivating or just annoying. Journal of Strategic Marketing 19(6), 489-490.

Springvest (2023) Medicubex Oy [Online] (Accessed 30 September 2024) Available at: https://app.springvest.fi/rounds/264

Steimle, J. (2014) What is Content Marketing? [Online] (Accessed 16 May 2022) Available at: https://www.forbes.com/sites/joshsteimle/2014/09/19/what-is-content marketing/#6d3e70421d70

Stone, M. D. & Woodcock, N. D. (2014) Interactive, direct and digital marketing. Journal of Research in Interactive Marketing 8(1), 4-17.

Trochim, W. M. K. (2006) The Research Methods Knowledge Base. Atomic Dog Publishing.

Varian, H. R. (2016) Causal inference in economics and marketing. Proceedings of the National Academy of Sciences, 113(27), 7310-7315.

VWO (2022) A/B Testing Guide [Online] (Accessed 30 May 2022) Available at: https://vwo.com/ab-testing/

Wing, C., Simon, K., & Bello-Gomez, R. A. (2018) Designing Difference in Differences Studies: Best Practices for Public Health Policy Research. Annual Review of Public Health, 39, 453–469.

Yin, R. K. (2014) Case Study Research: Design and Methods (5th ed.). SAGE Publications.

Zantal-Wiener, A. (2017) A Brief History of Content Marketing, Back to the Future Edition. [Online] [Accessed 14 February 2022] Available at: https://blog.hubspot.com/marketing/history-of-content marketing

Appendix 1. RStudio formulas used for the statistical analysis

- ggplot2 downloaded for visualization
- Dataset for campaign 1: campaign1 <- data.frame(time = 1:23, # Days of the campaign funding = seq(0, 310000, length.out = 23), # Funding from 0 to 310,000 EUR campaign_label = rep("Campaign 1", 23))
- Dataset for gap period: gap <- data.frame(time = 24:39, # Days of the gap period funding = rep(310000, 16), # Funding remains constant at 310,000 EUR campaign_label = rep("Gap", 16))
- Dataset for campaign 2: campaign2 <- data.frame(time = 40:61, # Days of the second campaign funding = seq(310000, 1414560, length.out = 22), # Funding from 310,000 to 1,414,560 EUR campaign_label = rep("Campaign 2", 22))
- Combining the datasets: full_data <- rbind(campaign1, gap, campaign2)
- Plot creation: ggplot(full_data, aes(x = time, y = funding, color = campaign_label)) + geom_line(linewidth = 1) + # Line for funding over time geom_point() + # Points for each time period scale_color_manual(values = c("Campaign 1" = "orange", "Gap" = "gray", "Campaign 2" = "purple")) + labs(title = "Funding Impact: Campaign 1, Gap, and Campaign 2", x = "Time (Days)", y = "Funding (€)", color = "Campaign") + theme_minimal() + theme(legend.position = "top") + annotate("text", x = 23, y = 310000, label = "End of Campaign 1", vjust = -1, color = "orange") + annotate("text", x = 39, y = 310000, label = "End of Gap", vjust = -1, color = "gray") + annotate("text", x = 61, y = 1414560, label = "End of Campaign 2", vjust = -1, color = "purple")

Appendix 2. RStudio screenshot of executed plot formula and visualization