

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Information Technology



Master's Thesis

**The Impact of Search Engine Optimization (SEO) on
Online Sales in the Retail Industry**

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

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DIPLOMA THESIS ASSIGNMENT

Vishal Vikramsingh Vaghela

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Thesis title

The Impact of Search Engine Optimization (SEO) on Online Sales in the Retail Industry

Objectives of thesis

This thesis aims to explore the relationship between search engine optimization (SEO) and online sales in the retail industry. It will investigate how SEO techniques are used by retailers to improve their website's visibility on search engines and drive traffic to their online stores. The study will also examine how these SEO strategies affect consumer behavior and purchase decisions, ultimately impacting online sales. The thesis will explore the various SEO techniques used by retailers, including keyword optimization, link building, and content optimization, and will analyze their impact on search engine rankings and online sales. Additionally, the thesis aims to provide recommendations for retailers to improve their SEO strategies and enhance their online sales performance.

Methodology

The methodology will encompass both quantitative and qualitative research approaches. Initially, a thorough literature review will be conducted to establish a theoretical foundation for the study, identifying key SEO techniques employed in the retail sector. This will involve a review of academic journals, books, and other pertinent sources. Subsequently, the research will adopt a quantitative approach to gather insights into the online sales performance of the retailers within the study. While access to specific website data, encompassing metrics like traffic, conversion rates, and sales revenue, is restricted due to privacy considerations, the research will employ alternative quantitative measures.

This will involve conducting surveys or questionnaires targeted at industry SEO experts, project managers, and other professionals specializing in SEO.

Subsequently, statistical methods such as correlation and regression analysis will be applied to ascertain the relationship between SEO strategies and online sales performance based on the gathered survey data.

Moreover, the study will incorporate qualitative research methods to gather in-depth insights into retailers' experiences and perceptions regarding the impact of SEO on their online sales. Interviews will be conducted to obtain valuable

qualitative data, allowing for a comprehensive analysis of the multifaceted relationship between SEO strategies and online sales in the retail industry.

The proposed extent of the thesis

60 – 80 pages

Keywords

Search engine optimization, Online sales, Retail industry, E-commerce, Digital marketing, Keyword optimization, Link building, Content optimization, Conversion rates, Revenue, Content analysis, Marketing strategies, Online marketing

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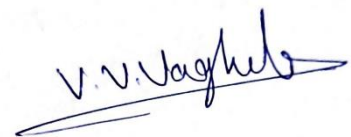
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Declaration

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Vishal Vikram Singh Vaghela

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The Impact of Search Engine Optimization (SEO) on Online Sales in the Retail Industry

Abstract

This thesis discusses the key role of Search Engine Optimization (SEO) in the online retail industry's sales arena. By conducting a detailed investigation using both qualitative and quantitative analysis techniques, the study reveals the complex link between different SEO tactics and primary business indicators, including e-commerce conversions, consumer behavior, and purchasing decisions.

Through qualitative analysis, it is evident that the use of SEO strategies, such as keyword optimization, link building, and content creation, is crucial in improving visibility of a website, as well as the attraction of organic traffic. Experts' interviews illustrate the practical implementation of SEO techniques and their effects on online trade sales.

Thorough quantitative research has shown solid connections between the SEO themes and core online core business metrics, underlining the essential part of SEO in the uplift of sales. Most importantly, keyword optimization comes up as the main factor in getting new visitors, where as link building and content optimization impact sales parameters.

The results highlight the need for retailers to continually innovate their SEO strategies to fit the changing consumer behavior and market preferences. The practical recommendations include the identification of the relevant keywords, implementation of the high-quality link building techniques, and keeping abreast of the latest SEO trends.

All in all, this study gives crucial information about SEO in retail industry, and provides practical recommendations to retailers looking to increase the performance of their online sales in the highly competitive digital marketplace.

Keywords: Search engine optimization, Online sales, Retail industry, E-commerce, Digital marketing, Keyword optimization, Link building, Content optimization, Conversion rates, Revenue, Content analysis, Marketing strategies, Online marketing

Vliv optimalizace pro vyhledávače (SEO) na online prodej v maloobchodě

Abstrakt

Tato práce pojednává o klíčové roli optimalizace pro vyhledávače (SEO) v prodejní aréně online maloobchodu. Provedením podrobného průzkumu pomocí technik kvalitativní i kvantitativní analýzy studie odhaluje komplexní spojení mezi různými taktikami SEO a primárními obchodními ukazateli, včetně konverzí elektronického obchodování, chování spotřebitelů a nákupních rozhodnutí.

Prostřednictvím kvalitativní analýzy je zřejmé, že použití strategií SEO, jako je optimalizace klíčových slov, vytváření odkazů a tvorba obsahu, je zásadní pro zlepšení viditelnosti webu a také pro přilákání organického provozu. Rozhovory s odborníky ilustrují praktickou implementaci technik SEO a jejich vliv na prodej online obchodu.

Důkladný kvantitativní výzkum ukázal pevné spojení mezi tématy SEO a základními metrikami online podnikání, což podtrhuje zásadní část SEO při zvyšování prodeje. Nejdůležitější je, že optimalizace klíčových slov je hlavním faktorem při získávání nových návštěvníků, přičemž budování odkazů a optimalizace obsahu ovlivňují prodejní parametry.

Výsledky zdůrazňují potřebu maloobchodníků neustále inovovat své strategie SEO, aby odpovídaly měnícímu se chování spotřebitelů a preferencím trhu. Praktická doporučení zahrnují identifikaci relevantních klíčových slov, implementaci vysoce kvalitních technik linkbuildingu a držení kroku s nejnovějšími SEO trendy.

Celkově tato studie poskytuje zásadní informace o SEO v maloobchodě a poskytuje praktická doporučení maloobchodníkům, kteří chtějí zvýšit výkon svého online prodeje na vysoce konkurenčním digitálním trhu.

Klíčová slova: Optimalizace pro vyhledávače, Online prodej, Maloobchod, Elektronický obchod, Digitální marketing, Optimalizace klíčových slov, Budování odkazů, Optimalizace obsahu, Míra konverze, Výnosy, Analýza obsahu, Marketingové strategie, Online marketing

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1. Introduction

Many entrepreneurs have seized the opportunities that come with the increasing dominance of retail property development, in the small-to-medium scale, and in the world level. One of the most visible reflection of retail sector's growth is the change in the customers' buying behavior where the distinctive attention transferred to modern ones and overall shopping environment. Yet, it is essential to note that regardless of how the previous season panned out, the imminentness of the upcoming seasons makes them feel like they have arrived. Hardly any shops prevailed during the long freezing winter months, and for everyone else it was a hard time, too. The most widely used way to enhance your site or page as per the way it emerges in online search engines list items by use of a structured format is called . Optimization is the term used to refer to the same. Click SEO, by extending to image search and local search, are areas two where SEO may center on. Notwithstanding that other means are able to be used to market a site, SEO has proved to be the most potent. In more than one case this meant a hard closure of the business when the increased price of the most common things became too big of a barrier to run the business and survive as a brand. While the sector has received some good news and updates in regard to feedback from consumers, the retail industry is planning to face unfamiliar types of troubles in the coming season.

Customers regressing on the web obtain either natural or supports the joins. The relevance of organic links is determined by the terms entered by a user for search, whilst sponsored links are awarded through the competitive ad auction process to top advertisers. Nowadays publicists would like to facilitate using search engines by planting targeted hyperlinks that they themselves can plant in websites, thereby allowing consumers to view it as the most reliable content because they may think such the sites were freely visited by search engine algorithms. The research project will examine the effect of SEO on Sales Online in the retail industry by looking at various parameters. Further, it will investigate how SEO is influencing business operations. There will be an analysis of the influence of search engine optimization (SEO) and online sales. The discussion will shed light on the different kinds of SEO practice and how these help e-retailers to rank their web pages highly on search engines thereby steers traffic to their online stores. Retail industry strongly contribute to the economic growth of the country specifying employment opportunities as well as

income growth and also favorably influence the development of industries. The overview of the effect of SEO will also focus on its strategies for leading to shifting behavior of consumers and their purchase decisions and consequently influencing on the sales of online stores. Besides this, the paper will provide recommendations for retailers to increase sales by improving their position in an organic search engine.

The role of technological innovation in the retail industry, including big data driving AI commercial robots, automated delivery vans, etc., is attracting the focus of industry analysts where technology is depicted as the winner of twenty years or more. The new players in this arena also understand the role of SEO which is not easy to adopt by retailers. While retailers have had to learn how to overcome challenges, one of the biggest they face during the summer is to reflect changing habits of the modern customers. Go for providing clients with a higher level of contact and personalisation. The increased popularity of remote work over the past few years may pose a set of new problems to teams such as collaboration or teamwork particularly during summertime.

This article is a study of the monetary component of SEO site enhancements and its impact on users and paid advertisers as well as on search engine crawlers. A game theory model is the backbone of your work. It should include the needs and conflicts of all the ecosystem players. The review will focus on a link connecting the number of sales on the site to the improvement (optimisation) of the site and it shall provide a range of facts and suspicions to prove that relationship. The research identifies all the peculiarities of people who will visit the retail store and apply an effective social media strategy to reach the intended audience. Among the three areas covered in this portion, which were the website optimization strategies involved, the effect on sales and search engine rankings of these strategies, and the main recommendation for retailers to improve website optimization systems and thus the process of running their online businesses, this article will focus more on the other two above which were the effect on sales and search engine rankings of the website optimization strategies retailers employed and detailed the main recommendations for retailers.

2. Objectives and Methodology

2.1 Objectives

This chapter states the main objectives of the thesis, which are focused on developing an indepth understanding of the subject matter and research questions addressed in the study. The content of this section will start with a quick introduction about the importance of SEO in the context of the retail industry and between search engine optimization (SEO) and online sales. Subsequently, it must provide the exact specific objectives which target the SEO method impacts on the online sales performance conducting and customer behavior. What follows, the chapter justifies, is the necessity of deploying both quantitative and qualitative research strategies to make sure that the initial objectives will be achieved accurately.

2.1.1 Objectives

This section details the primary objectives of the thesis: This section details the primary objectives of the thesis:

- ✓ **To Explore the Relationship Between SEO and Online Sales:** Objectives is consequently closely observing the tactics behind SEOs carried by retailers who implement them as to improve the visibility of their website on search engines and direct traffic to their e-commerce platforms. The target of the project then is to determine how far efficient SEO practices result in higher sales online in retail sector.
- ✓ **To Analyze the Influence of SEO Techniques on Consumer Behavior:** This objective is to scrutinize both the ways in which SEO strategies influence decision-making of consumers and how these techniques influence their purchasing behaviors surfing the net. The target is to recognize what is an SEO influence algorithm`s mechanism through which SEO practices influence consumer tastes and choice.
- ✓ **To Identify Key SEO Techniques Employed by Retailers:** First objective for me is going to be to define and understand different SEO strategies that the retailers use in order to maximize their online existence.

This whole will provide details about the how the retailers are using exact strategies and tactics to achieve their goal of bettering their search engine page positions and to get targeted customers.

- ✓ **To Provide Recommendations for Enhancing SEO Strategies:** This goal is oriented toward empowerment of retailers with sound SEO strategies so that they can boost their website performance and, as a result, increase their online sales. The ultimate goal here is to come up with an actionable insights that are reflectively drawn from the study's findings and which provide retailers with the right tools to improve their digital marketing initiatives.

A conclusion of the chapter includes a restatement of the research objectives, with the main point being the weight of the problem investigation for SEO effects on online sales in retailing. By this intro, it will be easy to understand the layout of the conference, which is going to consist of methodology, literature review, findings, and conclusion parts.

2.2 Methodology

This chapter outlines the methodology employed to address the research objectives and investigate the relationship between search engine optimization (SEO) and online sales in the retail industry. It discusses the rationale behind adopting a mixed-methods approach, combining quantitative and qualitative research methodologies to gather comprehensive insights into the subject matter.

2.2.1 Mixed-Methods Approach

The research adopts a mixed-methods approach, integrating both quantitative and qualitative research methodologies. This allows for a holistic investigation into the impact of SEO on online sales, combining statistical analysis with in-depth qualitative insights.

2.2.2 Data Collection

Quantitative Data Collection: Quantitative data will be gathered through surveys or questionnaires distributed to industry SEO experts, project managers, and professionals specializing in SEO. The surveys will collect information on various aspects of SEO strategies and their perceived impact on online sales performance.

Qualitative Data Collection: Qualitative data will be obtained through semi-structured interviews with retailers and other stakeholders in the retail industry. These interviews will provide in-depth insights into retailers' experiences, perceptions, and challenges related to SEO and online sales.

2.2.3 Data Sampling

Sampling Technique: The research will utilize purposive sampling to select participants who possess relevant expertise and experience in SEO and online retailing. This ensures that the data collected are representative and insightful.

2.2.4 Data Analysis

Quantitative Data Analysis: Quantitative data will be analyzed using statistical methods such as correlation and regression analysis. These analyses will help ascertain the relationships between different SEO techniques and online sales performance.

Qualitative Data Analysis: Qualitative data from interviews will be analyzed thematically to identify recurring patterns, themes, and insights. This qualitative analysis will provide a deeper understanding of the complexities of the relationship between SEO and online sales in the retail industry.

2.2.5 Ethical Considerations

Informed Consent: Participants will be provided with informed consent forms outlining the purpose and procedures of the study. Confidentiality and anonymity will be ensured, and participants will have the right to withdraw from the study at any time.

This chapter concludes with a summary of the methodology, highlighting the rationale behind the chosen research design, data collection methods, sampling techniques, data analysis approaches, and ethical considerations. It sets the stage for the subsequent chapters, which will present the literature review, findings, and recommendations of the study.

3. Literature review

3.1 Introduction

The retail business has entered a new era when having an online presence is not only desirable but necessary for long-term survival due to the digital revolution of commerce. Search Engine Optimisation (SEO) is a key player in this environment, influencing retail enterprises' visibility, reach, and conversion potential in the vast world of e-commerce (Hasanat et al., 2020). In the context of the ever-changing retail industry, this literature review aims to explore the complex link between SEO tactics and their ensuing influence on online sales.

3.2 SEO's Role in Online Retail

The digital marketplace offers an environment where SEO acts as a beacon directing customers to goods and services because of its wide range of platforms and users. It represents not just the strategies for improving search engine rankings but also the skill of creating an online presence that speaks to the interests, needs, and actions of users. In this situation, SEO becomes a versatile instrument that influences buying decisions and generates organic traffic (Baye et al., 2016).

The way SEO has changed in the retail industry is a reflection of how customer behaviour is always changing, how technology is developing, and how search engine algorithms are changing. Comprehending this progression offers valuable perspectives on the flexibility and sophistication needed by modern enterprises to maneuver the intricacies of the digital marketplace. This review's driving force is the urgent need to understand the complexities of SEO's impact on online retail sales (Terrance et al., 2018). In an environment where digital real estate is very valuable, companies looking to succeed in the cutthroat online marketplace must be able to identify the concrete impacts of SEO tactics on customer behaviour and buying habits.

The literature review integrates and summarises a wide range of empirical research, academic publications, industry reports, and professional opinions to illustrate the mutually beneficial link between SEO tactics and online sales within the retail sector. It attempts to examine important aspects, such as how SEO affects user

experience, conversion rates, website exposure, and new trends in the retail industry. This review aims to enhance and expand our knowledge of how SEO tactics interact with and impact online sales in the ever-changing retail industry by analysing and combining the available literature (Husain et al., 2020). In the end, it aims to provide practitioners, scholars, and companies with useful information to improve their digital strategies and take advantage of SEO's ability to propel online retail success.



Figure 1: Impacts of SEO

[Source: Husain et al., 2020]

E-commerce SEO is a technique for marketing used by brands to attract more traffic to the store by making it more visible on the result pages of search engines. A fixed rank is given to the pages to receive more traffic so that the brand gears the highest rank and more visibility compared to other results from the search. Unlike paid advertisements that attract traffic to the website by click. SEO is essential to attention to the content of the website (Erdmann et al., 2022). It is possible to enhance e-

commerce SEO by comprehensive pages on the web store, optimized descriptions of products, implementation of a blog, or simply running a technical audit on the website. To make a web page rank higher it is important to make sure that the website is optimized for the search engine. One of the main factors of key Google ranking was providing users with a premium experience. If the sight is targeting correct keywords for the target audience and answering queries the website visitor might be having then the search engine notices a positive experience and ranking consequently starts rising. Focusing on the optimization of the experience of the user in the form of SEO has a positive impact on customers who will find the web store more attractive to adopt as well as to use. E-commerce SEO helps the web store receive extra traffic that consequently expense the reach of the brand. SEO marketing is a very effective practice. E-Commerce SEO provides the traffic to the website which probably would not have gotten without it (Bhandari & Bansal, 2018). It consequently expands the overall richness of the brand. Ranking towards the keywords can be extremely competitive and this goal especially for keywords that are of high volume can help the plants to capture a lot of traffic towards the website especially for business-to-business organizations specifically can draw relevant traffic which are likely to convert while conducting keyword research.



Figure 2: E-com SEO

[Source: Pohjanen, 2019]

Search Engine Optimisation (SEO) plays a multifaceted and vital function in increasing e-commerce sales for online firms to succeed (Khraim, 2015).

Organic Traffic Generation: The main goal of SEO tactics is to make websites more relevant to users. SEO provides e-commerce sites with focused, high-quality traffic by matching user search intent, keywords, and content optimization. Users who are actively looking for the items or services the website offers often make up the traffic that is produced by efficient SEO. Compared to non-targeted traffic, these visitors with strong intent have a higher chance of converting, which improves conversion rates (Nagpal & Petersen, 2021).

Increased Awareness of the Brand and Visibility: E-commerce websites that optimize for search engines perform better in search engine results pages (SERPs). Increased visibility and exposure to prospective clients looking for similar goods or services are brought about by higher rankings. Credibility is increased as well as visibility with a solid SEO plan. Increased search engine rankings establish credibility and trust, making the e-commerce brand appear more trustworthy to customers.

Economical Promotional Channel: The results of SEO are long-lasting, in contrast to sponsored advertising. Once up and running, a well-optimized website can sustain its flow of visitors and exposure without ongoing investment, which lowers marketing expenses and offers long-term advantages. When compared to other marketing methods, SEO is renowned for having a comparatively greater ROI. Once established, a steady flow of organic visitors can generate steady income and sales without constant financial investment (Pohjanen, 2019).

User Interaction and Experience: Optimizing for a great user experience is part of SEO. Better usability, quicker load times, and interesting, relevant content are all hallmarks of SEO-optimized websites, which increase user engagement. Repeat business and consumer loyalty are encouraged by a great user experience. Customers who are happy with their purchases are more inclined to make more purchases on the online store, which supports steady sales development.

Adaptability and a Competitive Advantage: E-commerce websites that employ effective SEO methods may beat rivals by gaining a better search engine position, drawing more visitors, and taking up a bigger market share. Search engine algorithms and market dynamics both influence how SEO methods change over time. Businesses in the e-commerce industry that consistently improve their SEO can react to changes and preserve their competitive advantage (Panchal et al., 2021).

SEO is essential for increasing sales and income in the e-commerce industry. It plays a critical function in driving targeted traffic, increasing exposure, building brand reputation, providing affordable marketing, boosting user experience, and maintaining competitiveness. A strong SEO strategy aims to build a steady stream of quality visitors that converts into more e-commerce sales and long-term business success, not only to rank higher (Mohan, 2020).

3.3 SEO's Role in Driving Organic Traffic

SEO (Search Engine Optimization) plays a crucial role in driving organic traffic to a website as part of digital marketing. Organic traffic refers to the visitors who find your website through unpaid search engine results, and SEO involves optimizing various elements of your website to improve its visibility and ranking on search engine results pages (SERPs). In the world of online retail, search engine optimization, or SEO, is critical as it is the main means of increasing online store exposure and drawing in natural visitors (Matta et al., 2020). It serves as the cornerstone of digital marketing strategies by making it easier for customers to find goods and services among the intense competition found online. In the fiercely competitive world of e-commerce, where a plethora of companies compete for the attention of consumers, search engine optimization (SEO) becomes indispensable for building a solid online presence and improving brand awareness (Yang et al., 2015).

Here's how SEO contributes to driving organic traffic:

Improved Visibility: SEO helps your website appear higher in search engine results for relevant keywords. Higher visibility means more users are likely to click on your link, driving organic traffic to your site.

Keyword Optimization: SEO involves researching and targeting relevant keywords that your target audience is searching for. Researching and using keywords effectively is the cornerstone of e-commerce SEO (Chen & Sénéchal, 2023). It is essential to comprehend user search intent and effectively integrate pertinent keywords into product descriptions, metadata, and website content. To increase exposure and search engine ranking, material must be aligned with user searches rather than just having a high keyword density.

On-Page Optimization: This includes optimizing elements within your website, such as meta titles, meta descriptions, headings, and content. A key component of e-commerce SEO is optimizing individual web pages (Natorina, 2020). This entails paying close attention to headers, content organization, meta descriptions, and titles. Creating content that appeals to search engine algorithms as well as users increases the possibility of higher ranks and more user engagement.

Quality Content Creation: Producing high-quality, valuable, and relevant content is a cornerstone of SEO. Quality content not only engages users but also attracts backlinks from other websites, further enhancing your website's authority and search engine ranking (Kumari et al., 2022). While it may take time to see the full impact of SEO efforts, the results are often long-lasting. A well-optimized website continues to attract organic traffic even after initial efforts.

Technical SEO: Backend optimizations are the main emphasis of this part of SEO, to make websites easier for search engine bots to crawl and operate. It includes elements like site architecture, mobile friendliness, structured data markup, performance, and correct page indexing. A website that is technically optimized makes it easier for search engines to crawl and index it, which raises its rating (Parmanand, 2023).

In essence, SEO aligns your website's content, structure, and technical aspects with what search engines and users are looking for. By doing so, it increases the likelihood of your website being discovered by users who are actively searching for the products, services, or information you offer. SEO helps your website appear in

search engine results, making it more visible to potential visitors. This increased visibility can drive organic traffic to your site (Angeloni & Rossi, 2021). Quality content helps in increasing the engagement of users by attracting links from other websites and enhancing the authority of the website of the brand and ranking of the engine it takes a certain time to finish the complete effect of the efforts of SEO. Resizing images to appropriate dimensions before uploading them to the website ensures faster loading times. It is beneficial to optimize images for both desktop and mobile devices to enhance the site's responsiveness (Alfiana et al., 2023).

3.4 User Experience and SEO In E-Commerce

Mobile optimization is becoming essential due to the widespread use of mobile devices. Since Google favours mobile-first indexing, smartphone responsiveness plays a big role in search engine results. E-commerce websites that are optimized for mobile devices typically have higher rankings since they efficiently serve visitors who access the site using tablets or smartphones (Forghani et al., 2022).



Figure 3: SEO Mobile Optimisation

[Source: Schultheiß & Lewandowski, 2021]

AMPs are condensed versions of websites intended to load more quickly on mobile platforms. By enabling blazing-fast page loads, AMP implementation improves user experience and has a good effect on SEO rankings, particularly for mobile searches.

SEO and Site Speed

User experience is greatly influenced by site performance. Pages that load slowly have increased bounce rates and decreased user engagement. Quicker-loading websites are given preference by search engines, as they are deemed essential in their algorithmic ranking (Schultheiß & Lewandowski, 2021).

SEO is directly impacted by a website's loading speed. Faster-loading websites typically show up higher in search results. Caching techniques, decreasing server response times, and image optimization are a few of the tactics used to increase site speed for better SEO results.

Navigation structures that are easy to use improve the browsing experience. Intuitive and uncomplicated navigation guarantees that users can locate content or items with ease, which lowers bounce rates and promotes extended site exploration (Zumstein & Kotowski, 2020).

User engagement metrics like time spent on site and number of pages viewed in a session are positively impacted by improved navigation. Increased interaction tells search engines that the website has quality material, which helps the site rank higher in search results.

Relevance of content is essential in e-commerce. User intent is satisfied and the user experience is improved by offering thorough, educational product descriptions, pertinent category pages, and interesting content.

Content that answers users' questions is given priority by search engines. More user engagement, longer session times, and lower bounce rates are all results of high-

quality, pertinent content. These factors also indicate to search engines that the website provides useful information, which raises SEO ranks (Ponzoa & Erdmann, 2021).

For e-commerce to provide a smooth, user-focused online buying experience, user experience and SEO must be combined. In the fiercely competitive world of e-commerce, features like mobile responsiveness, site speed optimizations, straightforward navigation, and contextually relevant content all work together to improve user experiences, resulting in increased engagement metrics and better SEO performance.

3.5 Importance Of Understanding SEO's Impact

Knowing SEO is essential in the cutthroat world of online shopping, where exposure is paramount. Retailers may use it to successfully optimize their websites so that search engine results show them prominently. A thorough grasp of SEO tactics enables companies to outperform rivals and draw in more potential clients and organic traffic. SEO aims to influence user behavior in addition to increasing traffic (Puri & Kumari, 2020). A thorough comprehension of SEO concepts enables shops to build websites that successfully engage users. User-friendly experiences and optimized content created with SEO tactics may boost engagement, promote extended user interactions, and have a big impact on purchase choices. Conversion rates and income creation are directly correlated with the nuances of SEO. Retailers acquire relevant visitors by using focused SEO methods. Because they were found through efficient SEO methods, these qualified prospects have a higher chance of becoming customers, which means the retail company will make more money (Sainy et al., 2022).

Both search engine algorithms and consumer behavior are always changing. Retailers that comprehend SEO are better able to quickly adjust to these developments. Because of their flexibility to adapt, companies can successfully reach a wider range of consumers and keep in line with changing trends and algorithmic adjustments. Examples of such shifts include the increasing significance of mobile optimization and local search (Šaković et al., 2020). SEO is a continuous activity rather than a one-time event. By continuously improving their methods, shops may ensure sustained success by having a thorough grasp of SEO concepts. Constantly using SEO techniques

guarantees competitiveness and establishes brand authority, giving a company a prominent place in the ever-changing digital retail industry.

For several crucial reasons, the link between SEO tactics and how they affect online sales in the retail industry is quite important.

Digital Retail Dominance: The retail sector has experienced a notable transition towards digital platforms, with online sales becoming a crucial factor in a retailer's accomplishments (Lemos & Joshi, 2017). Since SEO tactics have a direct impact on a retailer's digital performance and income production, it is important to comprehend the relationship between them and online sales.

Increasing Online Exposure and Customer Reach: SEO tactics play a key role in boosting an online retailer's reach and online exposure. Examining this relationship is crucial to understanding how particular SEO strategies affect a retailer's ranking in search engine results, drawing in a wider range of prospective customers (Guyen, 2020).

Purchase Decisions and Consumer Behaviour: To fully investigate how SEO affects online sales, one must comprehend how SEO tactics affect customer behavior. Retailers can better understand how customer decision-making processes are impacted by optimized content, site layout, and user experience, which may result in higher conversion rates and sales.

Effects on Revenue and Conversion Rates: SEO has a big impact on income and conversion rates in addition to traffic generation. Retailers can determine which SEO tactics provide higher-quality traffic and, consequently, better conversion rates and income streams by looking into this relationship (Deepthi & Purna, 2021).

Flexibility in Response to Market Dynamics and Digital Trends: The digital environment is dynamic, always shifting due to shifts in customer preferences, market trends, and algorithms. Retailers may adjust their tactics to match changing trends and

maintain competitiveness and relevance in the online marketplace by analysing the link between SEO and online sales.

Efficient Marketing and Extended Durability: When used properly, SEO tactics provide shops with an affordable marketing option. Comprehending their influence on digital sales enables the development of enduring, long-term marketing strategies that depend less on sponsored advertising and more on natural, enduring outcomes (Basuki et al., 2023).

Brand positioning and industry competition: Retailers must understand the connection between SEO tactics and online sales to stay competitive. It supports the development of a powerful online presence, the establishment of brand authority, and the acquisition of a desirable position in the very competitive retail market.

For merchants to effectively navigate the digital realm, it is essential to investigate the link between SEO techniques and their impact on online sales within the retail industry (Drivas et al., 220). It goes beyond just getting higher ranks; it also involves using SEO wisely to increase exposure, shape customer behavior, increase conversion rates, be flexible in the face of changing market conditions, and maintain competitiveness in the dynamic digital retail landscape.

3.6 SEO Trends and Innovations

The environment of online shopping is always changing due to advancements and trends in SEO. This is a thorough analysis of the most recent developments and trends in SEO:

✓ QUALITY OF CONTENT AND E-A-T

Expertise, Authority, and Trustworthiness, or E-A-T, are emphasized by search engines as critical components in their ranking system. For e-commerce websites, building knowledge, authority, and trust via reliable, high-quality content becomes essential. Longer, more detailed articles that thoroughly answer user questions typically have higher performance rates. E-commerce

websites place a high value on in-depth content, covering subjects in great detail while maintaining relevance to user intent (Durmaz & Efendioglu, 2016).

✓ **TECHNICAL SEO AND USER EXPERIENCE**

The focus on user-centric technological optimizations is driven by Google's emphasis on Core Web Vitals, which include measures like page speed, interaction, and visual stability. For higher rankings, e-commerce websites give priority to visual stability, mobile friendliness, and site performance. Smartphone optimization is still essential because smartphone searches have surpassed desktop searches. Reactive design and mobile-first indexing are still essential components of e-commerce SEO strategies since they guarantee consistent user experiences across platforms (Manoharan & Narayanan, 2021).

✓ **VOICE AND VISUAL SEARCH**

Visual search optimization is used by e-commerce websites to enable consumers to look for items using photos. Incorporating visual search technology improves user experience and adds a new level of exploration for potential products. Making adjustments for conversational questions and long-tail keywords is part of optimizing for voice search. Voice search is taken into account in e-commerce SEO methods, which strive to give succinct, educational responses to spoken questions (Hasanat et al., 2020).

✓ **ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**

Algorithms driven by AI make personalized user experiences possible. Machine learning is used by e-commerce companies to improve customer engagement through personalized product suggestions, content creation, and user-specific search results. Understanding context and user intent is made easier by natural language processing. NLP is used in e-commerce SEO to improve content for natural language inquiries and to hone keyword strategy for higher search engine rankings (Erdmann et al., 2022)..

✓ **GOOGLE MY BUSINESS AND LOCAL SEO**

There is an increasing emphasis on local searches. E-commerce websites prioritize local link-building tactics, Google My Business profiles, and location-based keywords when optimizing for local search engine optimization. SEO for Google My Business becomes crucial for e-commerce websites that have physical locations. The incorporation of elements such as reviews, Q&A sections, and articles into GMB profiles improves user engagement and exposure (Nagpal & Petersen, 2021).

The focus of e-commerce SEO trends and developments is on delivering excellent, user-focused experiences. To stay up to date with changing search engine algorithms and user behaviours, e-commerce sites prioritize technological optimizations, visual and voice search, AI-driven personalization, and local SEO. To be competitive in the online market retain exposure, engage consumers, and generate conversions, e-commerce enterprises need to stay on top of current trends and advances (Panchal et al., 2021).

3.7 Challenges or Gaps In Current Research Related To SEO's Impact

Even though SEO has been the subject of much research, there are still several gaps, discrepancies, and inconsistencies in the available data:

✓ **CAUSATION AND ATTRIBUTION**

Because there are so many contributing components in the online sales funnel, it is difficult to attribute sales to SEO efforts alone. It's still challenging to separate the direct effects of SEO from other marketing campaigns, user behavior, seasonality, or website modifications (Chen & Sénéchal, 2023).

A definite causal association between particular SEO methods and direct internet sales has been found in limited studies. Few studies demonstrate a clear cause-and-effect link between SEO efforts and sales numbers; most just demonstrate correlations or relationships.

✓ **EFFECT AND MEASUREMENT ACROSS TIME**

Studies frequently overlook the long-term consequences of SEO tactics on sales in favor of concentrating on their immediate impacts. It's possible that immediate benefits like traffic surges or ranking gains won't transfer into steady revenue growth (Natorina, 2020).

There is a dearth of long-term data on SEO's consistent influence on sales growth. A more thorough study is still needed to fully understand how SEO activities contribute to cumulative sales growth over long periods.

✓ **COMPLEXITY OF AN ONLINE SALES FUNNEL**

While some studies imply that SEO plays a supporting function in the sales funnel helping to increase early exposure but not necessarily ultimate conversions, others credit a large share of sales to SEO (Kumari et al., 2022).

More specificity and consistency across research are required to define SEO's precise place in the complicated online sales funnel, including whether it is the main element influencing conversions or just one of many contributing aspects.

✓ **INDUSTRY-SPECIFIC ELEMENTS**

Because customer behavior, degrees of competition, and product kinds change across different retail sectors (e.g., fashion, electronics, grocery), research findings may vary as well. Industry-specific generalizations might not apply to everyone (Parmanand, 2023).

Further industry-specific research is needed to comprehend the effects of SEO on sales in different retail areas. Customized research might offer a more in-depth understanding of the subtleties and particulars of SEO's impact on various kinds of retail sales.

✓ **METHODOLOGIES AND DATA COLLECTION**

Differences in study methodologies, measurements applied, and analysis techniques cause disparities in results. Conflicting outcomes may arise from using different attribution models or from using different data sources (Alfiana et al., 2023).

Standardizing techniques and measurements to gauge SEO's effect on online sales might increase comparability and consistency between research and lead to more trustworthy findings.

Despite a wealth of studies, there are still gaps, discrepancies, and inconsistencies about SEO's effect on online retail sales. Clear definitions of SEO's function in the sales funnel, industry-specific analysis, more targeted studies that isolate the impact of SEO, longitudinal research to identify long-term effects, and standardized procedures for data collecting and assessment are all necessary to address these difficulties. Closing these disparities would allow for a more sophisticated comprehension of how SEO tactics affect online retail sales (Puri & Kumari, 2020).

3.8 Overview of literature review

The amount of research highlights how dynamic SEO is for the retail sector. It describes how SEO techniques have evolved from just optimizing keywords to a more comprehensive strategy that takes into account user experience, high-quality content, and technology flexibility. The recurring theme across the research is that successful SEO tactics have a big impact on retail enterprises' online exposure, traffic, and sales. But inside the intricate web sales funnel, this effect isn't isolated; it interacts with a plethora of other marketing initiatives and user behaviors (Sainy et al., 2022).

Key findings from the study highlight the fundamental principles that SEO affects. These pillars cover the essential areas that retailers must concentrate on to achieve strong SEO-driven sales growth: improving visibility through optimized content and technical practices, enhancing engagement and conversions through user-centric design, and building authority and trust through relevant, high-quality content. The body of research continually emphasizes how crucial local SEO tactics are to enhancing online visibility, especially for businesses that have physical storefronts.

One recurring theme in the literature is the importance of constant adaptability to the SEO environment (Güven, 2020). Retailers need to adapt to shifting consumer behaviors, search engine algorithms, and new technology advancements. This flexible strategy includes adopting cutting-edge developments such as voice, visual, and AI-powered personalization, as well as continuously improving user experiences to maintain competition and spur ongoing growth in online sales. Even though the research offers valuable insights into how SEO affects online retail sales, gaps, ambiguities, and inconsistencies are still common. These gaps center on issues related to attribution, defining SEO's place in the sales funnel, assessing the long-term impact, industry-specific analysis, and standardizing methods for accurate measurement (Basuki et al., 2023).

The summary of the literature concludes that SEO is a fundamental component supporting online sales in the retail industry. For stores looking to maximize their online sales potential, a comprehensive strategy for SEO that includes content, user experience, technical optimization, local targeting, and ongoing adaptation is still essential. A more sophisticated knowledge of SEO's complex interaction with online retail sales would be made possible by filling in the gaps with more targeted research methodology and standardized procedures. This would provide retailers with practical insights for long-term success. SEO tactics must constantly change in response to the ever-changing consumer landscape, which is defined by altering search behaviors, technology improvements, and changing tastes. It is becoming more and more difficult for retailers to match their SEO strategies to new consumer trends, such as the rise in smartphone usage, the preference for voice-activated searches, and the tendency towards video content consumption. Studies have repeatedly shown how crucial it is to match SEO tactics to these changing customer preferences to stay current and reachable to the intended audience (Drivas et al., 2020).

One significant issue that has been brought up in the literature is the difficulty of precisely calculating and attributing sales to SEO efforts alone. Although there are recognized links between SEO efforts and enhanced metrics such as traffic and rankings, it is still difficult to pinpoint the precise effect of SEO on final sales statistics.

Attributing income to SEO strategies alone might become inconsistent due to the blurring of borders caused by diverse attribution models and the interaction of different marketing channels.

Furthermore, the subtleties that exist across various retail industries complicate the effects of SEO. The research indicates that because different customer behaviors, degrees of competition, and product kinds exist in each industry like fashion, electronics, grocery, etc., SEO's impact may change. Customized SEO tactics for certain retail niches are essential, but there isn't much in the way of thorough study clarifying industry-specific SEO tactics (Manoharan & Narayanan, 2021).

The importance of seamless omnichannel experiences in generating retail sales is highlighted by the convergence of online and physical channels. While omnichannel strategies are important for improving the customer journey, and as the literature recognizes, a deeper examination of how SEO interacts with these strategies, especially in terms of bridging the gap between online discovery and offline conversions presents a promising avenue for future research.

Future studies should focus more intently on filling in these gaps as the area of SEO in retail continues to develop. A thorough grasp of SEO's complex impact on online sales in the retail sector would be possible by addressing attribution modeling challenges, performing industry-specific analyses, investigating the interaction of SEO within omnichannel experiences, and developing standardized metrics for longitudinal impact assessment. In summary, the review of the literature provides deep insights into the complex function that SEO plays in boosting online sales in the retail industry (Forghani et al., 2022). The aforementioned highlights not only the fundamental principles and recurring trends of SEO's impact, but also the dynamic character of consumer behaviour, attribution difficulties, industry-specific subtleties, and the use of omnichannel tactics. Close these gaps by using more targeted and concentrated research approaches, which should provide retailers with thorough insights and point them in the direction of more powerful and successful SEO tactics for long-term development in online sales.

4. Practical part

This chapter is devoted to showing up the results of the research, which we have conducted with 130 respondents and were focused on revealing different aspects of search engine optimization (SEO) effect in online sales running in retail industry. The study is descriptive in nature in that it includes demographic data, descriptive data analysis of the stated variables and correlating equations to help test their strength.

4.1 Demographics analysis

Demographics analysis which is a key feature in the comprehension of populations` features assessment is the necessary source of information for decision-making processes in many areas. The word I concentrate on in my study is that of understandably impact of demographics analysis on managing policies, approach to marketing, and allocation of resources. Through the identification of key demographic features such as age, sex, socioeconomic status, education, and location, I attempt at innovating clip-on patterns and trends within the citizen. By appending sophisticated statistical methods and data visualization techniques, I aim to unravel the population growth and migration trends, consumer velocity and socio-economic disproportions. Through census-based and study data, demography-related research is meant to help to know more about the nature, structure, and behavior of the population in each society and then make evidence-based decisions in different sectors.

Age		
	Frequency	Percent
Below 25 years	24	18.5
26 to 30 years	52	40.0
31 to 35 years	21	16.2
36 to 40 years	18	13.8
Above 40 years	15	11.5
Total	130	100.0

Table 1: Frequency and percentage of age of the respondents

Source: Author

The above table discusses the frequency and percentage of age of the respondents. In below 25 years group, Frequency is 24 and percentage is 18.5%. In 25 to 30 years group, Frequency is 52 and percentage is 40.0%. In 31 to 35 years group, Frequency is 21 and percentage is 16.2%. In 36 to 40 years group, Frequency is 18 and

percentage is 13.8%. In above 40 years group, Frequency is 15 and percentage is 11.5%.

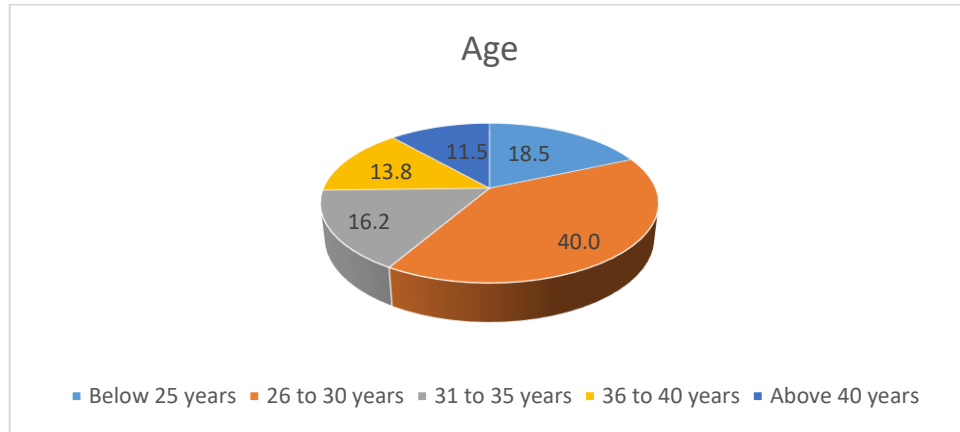


Figure 4: Graphical representation of Age of the respondents

Source: Author

Gender		
	Frequency	Percent
Male	82	63.1
Female	48	36.9
Total	130	100.0

Table 2: Frequency and percentage of gender of the respondents

Source: Author

The above table discusses the Frequency and percentage of Gender of the respondents. In male group, Frequency is 82 and percentage is 63.1%. In female group, Frequency is 48 and percentage is 36.9%.

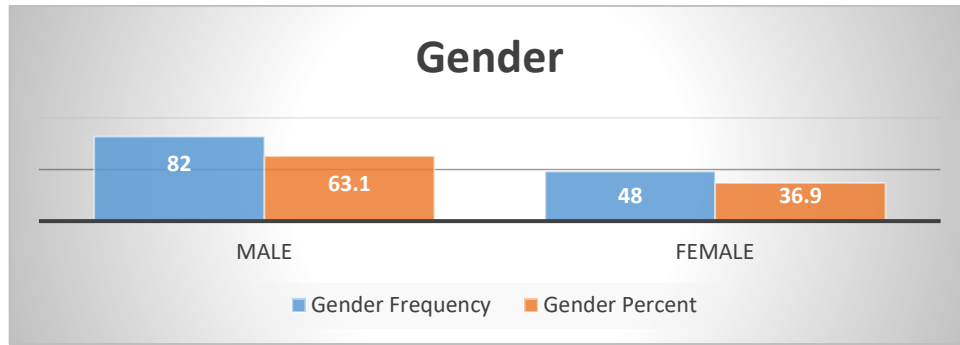


Figure 5: Graphical representation of Gender of the respondents

Source: Author

Years of Experience		
	Frequency	Percent
<1 year	42	32.3
1-3 years	49	37.7
3-5 years	21	16.2
5-10 years	18	13.8
Total	130	100.0

Table 3: Frequency and percentage of Years of Experience

Source: Author

The above table discusses the frequency and percentage of Years of Experience. In <1 years, Frequency is 42 and percentage is 32.3%. In 1-3 years, Frequency is 49 and percentage is 37.7%. In 3-5 years, Frequency is 21 and percentage is 16.2%. In 5-10 years, Frequency is 18 and percentage is 13.8%.

Job Role		
	Frequency	Percent
Seo expert	26	20.0
Project manager	33	25.4
Sales executive	23	17.7
Data Analysts	30	23.1
Social media manager	18	13.8
Total	130	100.0

Table 4: Frequency and percentage of Job Roles

Source: Author

The above table discusses the frequency and percentage of Job roles. In SEO Expert, Frequency is 26 and percentage is 20.0%. In project manager, Frequency is 33

and percentage is 25.4%. In Sales executive, frequency is 23 and percentage is 17.7%. In data analysts, frequency is 30 and percentage is 23.1%. In Social media manager, Frequency is 18 and percentage is 13.8%.

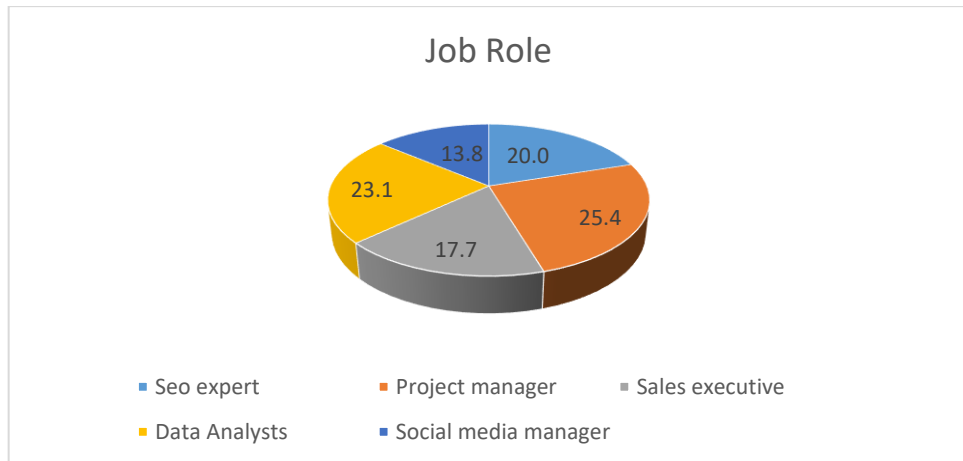


Figure 6: Graphical representation of Job Roles

Source: Author

Education		
	Frequency	Percent
Associate's Degree	29	22.3
Bachelor's Degree	54	41.5
Master's Degree	37	28.5
Doctoral Degree	10	7.7
Total	130	100.0

Table 5: Frequency and percentage of Education of the Respondents

Source: Author

The above table discusses the frequency and percentage of Education of the respondents. In Associate's degree, Frequency is 29 and percentage is 22.3%. In Bachelor's degree, Frequency is 54 and percentage is 41.5%. In master's degree, Frequency is 37 and percentage is 28.5%. In doctoral degree, Frequency is 10 and percentage is 7.7%.

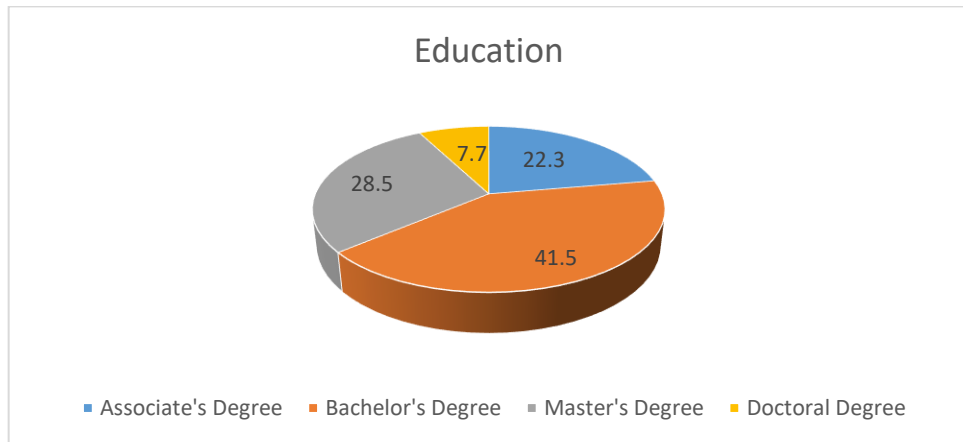


Figure 7: graphical representation of Education of the Respondents

Source: Author

4.2 Descriptive statistics

Descriptive statistics are first in line regarding evaluation of data and its interpretation since statistics supply inquisitive parties with some of the best briefs about the facts. In my thesis, I give a comprehensive account of using descriptive statistics all across the disciplines where data is being analyzed. To begin with, I will apply measures of central tendency such as mean, median, and mode, and measures of variability or spread like range, standard deviation to effectively translate the core of the data set in one sentence. Moreover, the use of visual aids like graphs, histograms, box plots, and scatterplots demonstrates the data distribution patterns and associations between the variables studied. In my dissertation, I examine descriptive statistics in detail as I am merely trying to make it clearer and simpler to get the idea of working with data to shed light on the problems that span the research field.

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Keyword research is a fundamental aspect of our SEO strategy.	130	1.00	5.00	3.7615	1.00235	1.005

We regularly analyze keyword performance and adjust our content accordingly.	130	1.00	5.00	3.669 2	.99913	.998
Our website's content is optimized with relevant keywords to attract organic search traffic.	130	1.00	5.00	3.838 5	.99459	.989
I prioritize long-tail keywords in our content strategy to target specific audience segments.	130	1.00	5.00	3.738 5	1.08944	1.187
I believe keyword optimization significantly contributes to our website's search engine ranking.	130	1.00	5.00	3.646 2	1.04073	1.083
Valid N (list wise)	130					

Table 6: Descriptive Statistics (keyword optimization)

Source: Author

The given descriptive data shed light on the distribution and central patterns of reactions to different parts of the SEO strategy that involve keyword optimisation. One hundred thirty individuals' responses make up the data. When it comes to the statement "Keyword research is a fundamental aspect of our SEO strategy," participants generally assess it positively (3.715), with a standard deviation of 1.00235 indicating considerable variety in replies. A somewhat less favourable but generally consistent perception is indicated by the statement "We regularly analyse keyword performance and adjust our content accordingly," which has a mean rating of 3.6692 and a

comparable standard deviation of.99913. Conversely, participants gave a higher mean rating of 3.8385 and a slightly lower standard deviation of.99459 to the statement, "Our website's content is optimised with relevant keywords to attract organic search traffic," indicating a higher level of agreement among respondents regarding the significance of website content optimisation. The mean rating for the prioritisation of long-tail keywords in content strategy is 3.7385, while the standard deviation is 1.08944, which is comparatively larger and indicates more variability in replies. This suggests that although the significance of long-tail keywords is acknowledged, opinions regarding their order of importance might differ greatly. In conclusion, regarding the assertion that "I believe keyword optimisation significantly contributes to our website's search engine ranking," the average rating is 3.6462, with a standard deviation of 1.04073. This suggests a moderate degree of response variability and a generally positive view regarding the significance of keyword optimisation for search engine ranking.

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
I actively seek opportunities for backlinks from authoritative websites in our industry.	130	1.00	5.00	3.6923	1.05541	1.114
Our website has a diverse and natural backlink profile.	130	1.00	5.00	3.2923	1.14422	1.309
I invest time and resources in creating high-quality content to attract natural backlinks.	130	1.00	5.00	3.4923	1.08725	1.182
Link building is a crucial component of our off-page SEO efforts.	130	1.00	5.00	3.4308	1.14078	1.301
I believe that acquiring relevant backlinks positively impacts our website's search engine visibility.	130	1.00	5.00	3.9385	.93803	.880

Valid N (list wise)	130					
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Table 7: Descriptive Statistics (Link building)

Source: Author

In response to the statement, "I actively seek opportunities for backlinks from authoritative websites in our industry," the average rating among participants is 3.6923, showing a moderate degree of agreement. The standard deviation of the replies, however, is 1.05541, suggesting some variability. On the other hand, there is more variation in opinions as evidenced by the lower mean rating of 3.2923 and higher standard deviation of 1.14422 for the statement, "Our website has a diverse and natural backlink profile." This implies that views on the diversity and naturalness of backlink profiles are more varied. Comparably, the mean rating for the statement "I invest time and resources in creating high-quality content to attract natural backlinks" is 3.4923, with a standard deviation of 1.08725. This suggests that participants have a moderate degree of agreement regarding the importance of content quality in attracting backlinks, as well as moderate variability in their responses. With respect to the claim that "Link building is a crucial component of our off-page SEO efforts," the average score for this statement is 3.4308, and the standard deviation is 1.14078. These results indicate that opinions on the importance of link building in off-page SEO techniques vary somewhat. Finally, there is greater agreement among participants on the beneficial influence of relevant backlinks on search engine visibility for the statement, "I believe that acquiring backlinks positively impacts our website's search engine visibility," as evidenced by the highest mean rating of 3.9385. The comparatively low standard deviation of .93803 indicates a higher degree of consistency in the participants' perceptions of the significance of backlinks in improving search engine visibility.

Descriptive Statistics						
	N	Mini mum	Maximu m	Mean	Std. Deviation	Variance

Our website's content is regularly updated to align with current SEO best practices.	130	1.00	5.00	3.6923	1.05541	1.114
I We optimize our content structure and formatting for better search engine indexing.	130	1.00	5.00	3.2923	1.14422	1.309
Our content strategy includes the creation of valuable and engaging content for our target audience.	130	1.00	5.00	3.5923	1.12544	1.267
I utilize multimedia elements such as images, videos, and info graphics to enhance our content's appeal.	130	1.00	5.00	3.5308	1.06523	1.135

Content optimization plays a significant role in driving organic traffic to our website.	130	1.00	5.00	3.3462	1.13923	1.298
Valid N (listwise)	130					

Table 8: Descriptive Statistics (Content optimization)

Source: Author

There is a moderate amount of agreement among participants when it comes to the statement "Our website's content is regularly updated to align with current SEO best practices," as indicated by the mean rating of 3.6923. The standard deviation of the replies is 1.05541, indicating some variability. This implies that the significance of upgrading material in compliance with SEO best practices is well acknowledged. On the other hand, there is more variation in opinions as evidenced by the lower mean rating of 3.2923 and higher standard deviation of 1.14422 for the statement, "We optimise our content structure and formatting for better search engine indexing." This implies that views on the best ways to optimise content formatting and structure for search engine indexing are more varied. Similarly, the mean rating for the statement "Our content strategy includes the creation of valuable and engaging content for our target audience" is 3.5923, with a standard deviation of 1.12544. This suggests that participants agree that creating valuable and engaging content is important, but there is also some variability in their responses. The statement, "I use multimedia elements like images, videos, and info graphics to improve the appeal of our content," received a mean rating of 3.5308 out of a possible 1.06523 standard deviation, indicating moderate variability in opinions about the use of multimedia elements in content creation. Finally, the statement "Content optimisation plays a significant role in driving organic traffic to our website," the standard deviation of 1.13923 suggests some variability in responses regarding the perceived significance of content optimisation in

driving organic traffic, while the mean rating of 3.3462 indicates a moderate level of agreement among participants.

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Online sales are a crucial aspect of our retail business.	130	1.00	5.00	3.8615	.96251	.926
Improving our website's visibility on search engines is essential for driving traffic to our online store.	130	1.00	5.00	3.7769	1.16981	1.368
Our online sales performance heavily relies on our website's ranking in search engine results.	130	1.00	5.00	3.8077	.94086	.885
Increasing online visibility through search engine optimization (SEO) is important for attracting potential customers.	130	1.00	5.00	3.6231	1.00592	1.012
Effective SEO techniques directly contribute to the success of our online sales efforts.	130	1.00	5.00	3.7308	1.02518	1.051

Valid N (list wise)	130					
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Table 9: Descriptive Statistics (Online sales)

Source: Author

With a reasonably low standard deviation of 0.96251, showing consistency in responses, and a mean rating of 3.8615 for the statement "Online sales are a crucial aspect of our retail business," participants appear to be in strong agreement. This emphasises how important internet sales are to retail business operations, as is well acknowledged. Comparably, there is some variation in opinions about how important it is to have a website visible. For example, the statement "improving our website's visibility on search engines is essential for driving traffic to our online store" has a mean rating of 3.7769 and a greater standard deviation of 1.16981. Even yet, the average number indicates a high degree of agreement between participants. When it comes to the statement, "Our online sales performance heavily relies on our website's ranking in search engine results," participants agreed that search engine rankings have a significant impact on online sales performance. The mean rating for this statement is 3.8077, with a low standard deviation of 0.94086. When it comes to the statement, "Increasing online visibility through search engine optimisation (SEO) is important for attracting potential customers," the average rating is 3.6231, and the standard deviation is moderate at 1.00592. This indicates that opinions regarding the significance of SEO in attracting potential customers vary somewhat. Finally, there is moderate variability in perceptions regarding the direct contribution of SEO techniques to online sales success for the statement "Effective SEO techniques directly contribute to the success of our online sales efforts," as indicated by the mean rating of 3.7308 and the standard deviation of 1.02518.

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance

Consumers heavily rely on search engines to find information about products or services.	130	1.00	5.00	3.6385	1.17469	1.380
Online reviews and ratings significantly influence consumers' purchasing decisions.	130	1.00	5.00	4.0077	1.13093	1.279
Consumers tend to trust and prefer websites that appear at the top of search engine results.	130	1.00	5.00	3.6923	1.21901	1.486

The ease of finding a website through search engines affects consumers' likelihood of making a purchase.	130	1.00	5.00	3.9385	1.01732	1.035
The visibility of a website on search engines impacts consumers' perceptions of its credibility and trustworthiness.	130	1.00	5.00	3.7385	1.11754	1.249
Valid N (list wise)	130					

Table 10: Descriptive Statistics (Consumer behaviour)

Source: Author

"Consumers heavily rely on search engines to find information about products or services." A moderate amount of agreement among participants is shown by the mean rating of 3.6385, while a standard deviation of 1.17469 suggests some heterogeneity in the responses. This implies that although the value of search engines in information retrieval is acknowledged, perspectives on how much of a reliance on them should be placed may differ. "Online reviews and ratings significantly influence

consumers' purchasing decisions." The standard deviation of 1.13093 indicates moderate variety in replies, whereas the mean rating is greater at 4.0077, indicating stronger agreement among participants. This suggests that there is a general understanding of the important influence that internet reviews and ratings have on consumers' purchase decisions. "Consumers tend to trust and prefer websites that appear at the top of search engine results." With a standard deviation of 1.21901, the mean rating of 3.6923 indicates a moderate degree of agreement among participants, however there may be some response variability. This implies that although users have a propensity to believe websites that rank highly in search results, perspectives on the degree to which this preference is held may differ. "The ease of finding a website through search engines affects consumers' likelihood of making a purchase." With a standard deviation of 1.01732, which suggests moderate response variability, and a mean rating of 3.9385, which is higher and indicates more participant agreement. This suggests that search engine usability has a broad impact on the likelihood that a buyer will make a purchase. "Customers' opinions of a website's legitimacy and dependability are influenced by its search engine presence." A moderate amount of agreement among participants is shown by the mean rating of 3.7385, but the standard deviation of 1.11754 suggests some heterogeneity in the responses. This implies that while the impact of search engine visibility on credibility and trustworthiness is acknowledged, perspectives on the precise degree of this influence may differ.

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
The visibility of a website on search engines significantly influences consumers' purchase decisions.	130	1.00	5.00	3.8692	1.38311	1.913

Websites that rank higher in search engine results pages (SERPs) are more likely to attract potential customers.	130	1.00	5.00	4.0923	1.20365	1.449
Consumers tend to trust and purchase from websites that appear at the top of search engine results.	130	1.00	5.00	3.8462	1.24802	1.558
The ease of finding a website through search engines is a critical factor in driving consumer purchases.	130	1.00	5.00	3.7000	1.32156	1.747
The appearance of a website on search engines significantly impacts consumers' perceptions of its credibility and reliability.	130	1.00	5.00	3.7692	1.43888	2.070
Valid N (list wise)	130					

Table 11: Descriptive Statistics (Purchase decision)

Source: Author

"The visibility of a website on search engines significantly influences consumers' purchase decisions." The participants' mean rating of 3.8692 indicates a moderate level of agreement, while the standard deviation of 1.38311 indicates a reasonably high amount of variability in the responses. This implies that although the importance of search engine exposure on purchasing decisions is acknowledged, perspectives on how much of an impact it has are likely to differ. "Websites that rank higher in search engine results pages (SERPs) are more likely to attract potential customers." With a standard deviation of 1.20365, which suggests moderate response variability, and a mean rating of 4.0923, which is higher and indicates more participant agreement. This suggests that the relationship between search engine ranking and customer appeal is well acknowledged. "Consumers tend to trust and purchase from websites that appear at the top of search engine results." With a standard deviation of 1.24802, the mean rating of 3.8462 indicates a moderate degree of agreement among participants. However, there is some heterogeneity in the responses. This implies that although users have a propensity to believe websites with high rankings, perspectives may differ on how much of a preference this is. "The ease of finding a website through search engines is a critical factor in driving consumer purchases." A moderate amount of agreement among participants is shown by the mean rating of 3.7000, but the standard deviation of 1.32156 suggests some heterogeneity in the responses. This implies that although the significance of search engine usability is acknowledged, perspectives on how much of an impact it has on consumer purchases may differ. "The appearance of a website on search engines significantly impacts consumers' perceptions of its credibility and reliability." The participants' mean rating of 3.7692 indicates a moderate level of agreement, while the standard deviation of 1.43888 indicates a rather high amount of variability in the responses. This implies that while the impact of search engine appearance on trustworthiness and dependability is acknowledged, perspectives on the precise degree of this influence may differ.

4.3 Regression analysis

Regression is the base of various kinds of statistical modeling, and makes predictions based on observed data possible. Such kind of prediction is developed on so-called correlation between variables. In my dissertation, I analyze regression analysis as an invaluable tool with interactive applications in different areas together. Through looking at how closely correlated variables are distinct from variables having

independent stands, I am trying to find any possible relationships that link a set of variables together. Implementing models such as linear regression, logistic regression, and polynomial regression allows me to generate the numbers that evidence the explanatory factors on the impact of associated variables. On the other hand, I may sample applicable diagnostic measures like residual analysis, and goodness-of-fit tests to determine the model's precision and reliability. This concise study of the regression analysis is crucial in an effort to deepen not only the comprehension of complex phenomena but also assist in making decisions of research, business, and policymakers.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.558 ^a	.311	.306	2.97421
a. Predictors: (Constant), Online sales				

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	511.143	1	511.143	57.783	.000 ^b
	Residual	1132.280	128	8.846		
	Total	1643.423	129			
a. Dependent Variable: keyword optimisation						
b. Predictors: (Constant), Online sales						

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.024	1.423		5.641	.000
	Online sales	.565	.074	.558	7.602	.000
a. Dependent Variable: keyword optimisation						

Table 12: Regression Test on keyword optimisation and online sales

Source: Author

Multiple regression analysis employs analysis of variance (ANOVA) to evaluate the degrees of variability within a regression model and build a framework for conducting significance tests. The findings suggest the presence of statistically

significant variables. The findings of the study indicate that keyword optimization has a significant impact of 55% on online sales, while the remaining variance remains unexplained. There is a statistically significant relationship between keyword optimization and online sales, as indicated by the R value of 0.31 ($F=57.78$, $p<0.00$). The aforementioned data indicate that the keyword optimization has a substantial impact on online sales. The coefficient table commonly exhibits positive and statistically significant B-coefficients. The preference for translating B-coefficients over beta coefficients is influenced by the consistency in indicator dimensions. The presence of a significance value provides evidence supporting the substantial impact of keyword optimization on online sales.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.510 ^a	.260	.254	3.08238
a. Predictors: (Constant), Consumer behaviour				

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	427.288	1	427.288	44.973	.000 ^b
	Residual	1216.135	128	9.501		
	Total	1643.423	129			
a. Dependent Variable: keyword optimisation						
b. Predictors: (Constant), Consumer behaviour						

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.603	1.376		6.976	.000
	Consumer behaviour	.476	.071	.510	6.706	.000
a. Dependent Variable: keyword optimisation						

Table 13: Regression test on keyword optimisation and Consumer behaviour

Source: Author

Multiple regression analysis employs analysis of variance (ANOVA) to evaluate the degrees of variability within a regression model and build a framework for conducting significance tests. The findings suggest the presence of statistically significant variables. The findings of the study indicate that keyword optimization has a significant impact of 51% on Consumer behaviour, while the remaining variance remains unexplained. There is a statistically significant relationship between keyword optimization and Consumer behaviour, as indicated by the R value of 0.26 ($F=44.97$ $p<0.00$). The aforementioned data indicate that the keyword optimization has a substantial impact on Consumer behaviour. The coefficient table commonly exhibits positive and statistically significant B-coefficients. The preference for translating B-coefficients over beta coefficients is influenced by the consistency in indicator dimensions. The presence of a significance value provides evidence supporting the substantial impact of keyword optimization on Consumer behaviour.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.423 ^a	.179	.173	3.24672
a. Predictors: (Constant), purchase decision				

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	294.147	1	294.147	27.904	.000 ^b
	Residual	1349.276	128	10.541		
	Total	1643.423	129			
a. Dependent Variable: keyword optimisation						
b. Predictors: (Constant), purchase decision						

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.146	1.636		6.203	.000
	purchase decision	.441	.084	.423	5.282	.000
a. Dependent Variable: keyword optimisation						

Table 14: Regression test on keyword optimisation and Purchase decision

Source: Author

Multiple regression analysis employs analysis of variance (ANOVA) to evaluate the degrees of variability within a regression model and build a framework for conducting significance tests. The findings suggest the presence of statistically significant variables. The findings of the study indicate that keyword optimization has a significant impact of 42% on purchase decision, while the remaining variance remains unexplained. There is a statistically significant relationship between keyword optimization and purchase decision, as indicated by the R value of 0.17 ($F=27.90$, $p<0.00$). The aforementioned data indicate that the keyword optimization has a substantial impact on purchase decision. The coefficient table commonly exhibits positive and statistically significant B-coefficients. The preference for translating B-coefficients over beta coefficients is influenced by the consistency in indicator dimensions. The presence of a significance value provides evidence supporting the substantial impact of keyword optimization on purchase decision.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.496 ^a	.246	.240	3.36177
a. Predictors: (Constant), Online sales				

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	472.330	1	472.330	41.794	.000 ^b
	Residual	1446.593	128	11.302		
	Total	1918.923	129			
a. Dependent Variable: Link building						
b. Predictors: (Constant), Online sales						

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.628	1.608		4.744	.000

	Online sales	.544	.084	.496	6.465	.000
a. Dependent Variable: Link building						

Table 15: Regression test on Link Building and online Sales

Source: Author

Multiple regression analysis employs analysis of variance (ANOVA) to evaluate the degrees of variability within a regression model and build a framework for conducting significance tests. The findings suggest the presence of statistically significant variables. The findings of the study indicate that Link building has a significant impact of 49% on online sales, while the remaining variance remains unexplained. There is a statistically significant relationship between Link building and online sales, as indicated by the R value of 0.24 (F=41.79, p<0.00). The aforementioned data indicate that the Link building has a substantial impact on online sales. The coefficient table commonly exhibits positive and statistically significant B-coefficients. The preference for translating B-coefficients over beta coefficients is influenced by the consistency in indicator dimensions. The presence of a significance value provides evidence supporting the substantial impact of Link building on online sales.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.512 ^a	.262	.256	3.32676

a. Predictors: (Constant), Consumer behaviour

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	502.303	1	502.303	45.386	.000 ^b
	Residual	1416.620	128	11.067		
	Total	1918.923	129			

a. Dependent Variable: Link building

b. Predictors: (Constant), Consumer behaviour

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.033	1.486		5.407	.000

	Consumer behaviour	.516	.077	.512	6.737	.000
a. Dependent Variable: Link building						

Table 16: Regression test on Link Building and consumer Behaviour

Source: Author

Multiple regression analysis employs analysis of variance (ANOVA) to evaluate the degrees of variability within a regression model and build a framework for conducting significance tests. The findings suggest the presence of statistically significant variables. The findings of the study indicate that Link building has a significant impact of 51% on Consumer behaviour, while the remaining variance remains unexplained. There is a statistically significant relationship between Link building and Consumer behaviour, as indicated by the R value of 0.26 ($F=45.38$ $p<0.00$). The aforementioned data indicate that the Link building has a substantial impact on Consumer behaviour. The coefficient table commonly exhibits positive and statistically significant B-coefficients. The preference for translating B-coefficients over beta coefficients is influenced by the consistency in indicator dimensions. The presence of a significance value provides evidence supporting the substantial impact of Link building on Consumer behaviour.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.344 ^a	.118	.111	3.63562
a. Predictors: (Constant), purchase decision				

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	227.052	1	227.052	17.178	.000 ^b
	Residual	1691.871	128	13.218		
	Total	1918.923	129			
a. Dependent Variable: Link building						
b. Predictors: (Constant), purchase decision						

Coefficients ^a				
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error	Beta		
1	(Constant)	10.371	1.832		5.663	.000
	purchase decision	.388	.094	.344	4.145	.000
a. Dependent Variable: Link building						

Table 17: Regression test on Link Building and purchase decision

Source: Author

Multiple regression analysis employs analysis of variance (ANOVA) to evaluate the degrees of variability within a regression model and build a framework for conducting significance tests. The findings suggest the presence of statistically significant variables. The findings of the study indicate that Link building has a significant impact of 34% on purchase decision, while the remaining variance remains unexplained. There is a statistically significant relationship between Link building and purchase decision, as indicated by the R value of 0.11 ($F=17.17$, $p<0.00$). The aforementioned data indicate that the Link building has a substantial impact on purchase decision. The coefficient table commonly exhibits positive and statistically significant B-coefficients. The preference for translating B-coefficients over beta coefficients is influenced by the consistency in indicator dimensions. The presence of a significance value provides evidence supporting the substantial impact of Link building on purchase decision.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.280 ^a	.078	.071	4.27828
a. Predictors: (Constant), purchase decision				

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	199.353	1	199.353	10.891	.001 ^b
	Residual	2342.870	128	18.304		
	Total	2542.223	129			
a. Dependent Variable: content optimization						
b. Predictors: (Constant), purchase decision						

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.450	2.155		4.848	.000
	purchase decision	.363	.110	.280	3.300	.001

a. Dependent Variable: contenet optimization

Table 18: Regression test on Content optimization and Purchase Decision

Source: Author

Multiple regression analysis employs analysis of variance (ANOVA) to evaluate the degrees of variability within a regression model and build a framework for conducting significance tests. The findings suggest the presence of statistically significant variables. The findings of the study indicate that content optimization has a significant impact of 28% on purchase decision, while the remaining variance remains unexplained. There is a statistically significant relationship between content optimization and purchase decision, as indicated by the R value of 0.07 (F=10.89, $p < 0.00$). The aforementioned data indicate that the content optimization has a substantial impact on purchase decision. The coefficient table commonly exhibits positive and statistically significant B-coefficients. The preference for translating B-coefficients over beta coefficients is influenced by the consistency in indicator dimensions. The presence of a significance value provides evidence supporting the substantial impact of content optimization on purchase decision.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.470 ^a	.220	.214	3.93480

a. Predictors: (Constant), Consumer behaviour

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	560.441	1	560.441	36.198	.000 _b

	Residual	1981.782	128	15.483		
	Total	2542.223	129			
a. Dependent Variable: contenet optimization						
b. Predictors: (Constant), Consumer behaviour						

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.088	1.757		4.034	.000
	Consumer behaviour	.545	.091	.470	6.016	.000
a. Dependent Variable: contenet optimization						

Table 19: Regression test on content optimization and consumer behaviour

Source: Author

Multiple regression analysis employs analysis of variance (ANOVA) to evaluate the degrees of variability within a regression model and build a framework for conducting significance tests. The findings suggest the presence of statistically significant variables. The findings of the study indicate that contenet optimization has a significant impact of 47% on Consumer behaviour, while the remaining variance remains unexplained. There is a statistically significant relationship between contenet optimization and Consumer behaviour, as indicated by the R value of 0.22 ($F=36.19$ $p<0.00$). The aforementioned data indicate that the contenet optimization has a substantial impact on Consumer behaviour. The coefficient table commonly exhibits positive and statistically significant B-coefficients. The preference for translating B-coefficients over beta coefficients is influenced by the consistency in indicator dimensions. The presence of a significance value provides evidence supporting the substantial impact of contenet optimization on Consumer behaviour.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.497 ^a	.247	.242	3.86617
a. Predictors: (Constant), Online sales				

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	628.977	1	628.977	42.080	.000 ^b
	Residual	1913.246	128	14.947		
	Total	2542.223	129			
a. Dependent Variable: contenet optimization						
b. Predictors: (Constant), Online sales						

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.662	1.849		3.062	.003
	Online sales	.627	.097	.497	6.487	.000
a. Dependent Variable: contenet optimization						

Table 20: Regression Test on content optimization and online sales

Source: Author

Multiple regression analysis employs analysis of variance (ANOVA) to evaluate the degrees of variability within a regression model and build a framework for conducting significance tests. The findings suggest the presence of statistically significant variables. The findings of the study indicate that contenet optimization has a significant impact of 49% on online sales, while the remaining variance remains unexplained. There is a statistically significant relationship between contenet optimization and online sales, as indicated by the R value of 0.24 ($F=42.08$, $p<0.00$). The aforementioned data indicate that the contenet optimization has a substantial impact on online sales. The coefficient table commonly exhibits positive and statistically significant B-coefficients. The preference for translating B-coefficients over beta coefficients is influenced by the consistency in indicator dimensions. The presence of a significance value provides evidence supporting the substantial impact of contenet optimization on online sales.

4.4 Correlation analysis

Correlation analysis is one of the most important statistical techniques which allows to show how strong and in what direction the relationship between two or more

variables is. The topic of correlation analysis is important for different spheres; it is the essence of my thesis. Through the study of changing levels of one factor along with another, I seek to determine these relationships and the patterns and relations which exist in sets of data. Through employing a variety of methods such as correlation coefficients like pearson's r, spearman's rho, and kendall's tau i hope to quantify the strength of linear or monotonic relationship outcomes. To boot, the graphical depiction like scatter plots can be used and used for the job of visualizing the nature of the correlation. Correlation research is intended for providing clearance in understanding connection between the variables. Such ideas may be applied in practice across different areas of social and business life.

Correlations							
		keyword optimisa tion	Link building	contenet optimiza tion	Online sales	Consu mer behavi our	purchase decision
keywo rd optimi sation	Pearson Correlatio n	1	.708**	.629**	.558**	.510**	.423**
	Sig. (2- tailed)		.000	.000	.000	.000	.000
	N	130	130	130	130	130	130
Link buildin g	Pearson Correlatio n	.708**	1	.890**	.496**	.512**	.344**
	Sig. (2- tailed)	.000		.000	.000	.000	.000
	N	130	130	130	130	130	130
contenet optimi zation	Pearson Correlatio n	.629**	.890**	1	.497**	.470**	.280**
	Sig. (2- tailed)	.000	.000		.000	.000	.001
	N	130	130	130	130	130	130
Online sales	Pearson Correlatio n	.558**	.496**	.497**	1	.678**	.388**
	Sig. (2- tailed)	.000	.000	.000		.000	.000
	N	130	130	130	130	130	130

Consumer behavior	Pearson Correlation	.510**	.512**	.470**	.678**	1	.574**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	130	130	130	130	130	130
Purchase decision	Pearson Correlation	.423**	.344**	.280**	.388**	.574**	1
	Sig. (2-tailed)	.000	.000	.001	.000	.000	
	N	130	130	130	130	130	130
**. Correlation is significant at the 0.01 level (2-tailed).							

Table 21: Correlations Test

Source: Author

This correlation table provides insights into the relationships between different variables related to online marketing and consumer behavior.

Let's interpret the correlations in detail:

Keyword Optimization:

Strong positive correlations with:

- ✓ Link building ($r = 0.708$, $p < 0.01$)
- ✓ Content optimization ($r = 0.629$, $p < 0.01$)
- ✓ Online sales ($r = 0.558$, $p < 0.01$)
- ✓ Consumer behavior ($r = 0.510$, $p < 0.01$)
- ✓ Purchase decision ($r = 0.423$, $p < 0.01$)

These correlations suggest that effective keyword optimization is significantly associated with higher levels of link building, content optimization, online sales, consumer behavior, and purchase decision.

Link Building:

Strong positive correlations with:

- ✓ Keyword optimization ($r = 0.708$, $p < 0.01$)
- ✓ Content optimization ($r = 0.890$, $p < 0.01$)
- ✓ Online sales ($r = 0.496$, $p < 0.01$)
- ✓ Consumer behavior ($r = 0.512$, $p < 0.01$)
- ✓ Purchase decision ($r = 0.344$, $p < 0.01$)

This suggests that effective link building is significantly associated with higher levels of keyword optimization, content optimization, online sales, consumer behavior, and purchase decision.

Content Optimization:

Strong positive correlations with:

- ✓ Keyword optimization ($r = 0.629, p < 0.01$)
- ✓ Link building ($r = 0.890, p < 0.01$)
- ✓ Online sales ($r = 0.497, p < 0.01$)
- ✓ Consumer behavior ($r = 0.470, p < 0.01$)
- ✓ Purchase decision ($r = 0.280, p < 0.01$)

This indicates that effective content optimization is significantly associated with higher levels of keyword optimization, link building, online sales, consumer behavior, and purchase decision.

Online Sales:

Strong positive correlations with:

- ✓ Keyword optimization ($r = 0.558, p < 0.01$)
- ✓ Link building ($r = 0.496, p < 0.01$)
- ✓ Content optimization ($r = 0.497, p < 0.01$)
- ✓ Consumer behavior ($r = 0.678, p < 0.01$)
- ✓ Purchase decision ($r = 0.388, p < 0.01$)

This suggests that higher online sales are significantly associated with effective keyword optimization, link building, content optimization, consumer behavior, and purchase decision.

Consumer Behavior:

Strong positive correlations with:

- ✓ Keyword optimization ($r = 0.510, p < 0.01$)
- ✓ Link building ($r = 0.512, p < 0.01$)
- ✓ Content optimization ($r = 0.470, p < 0.01$)
- ✓ Online sales ($r = 0.678, p < 0.01$)
- ✓ Purchase decision ($r = 0.574, p < 0.01$)

This indicates that consumer behavior is significantly associated with effective keyword optimization, link building, content optimization, online sales, and purchase decision.

Purchase Decision:

Strong positive correlations with:

- ✓ Keyword optimization ($r = 0.423, p < 0.01$)
- ✓ Link building ($r = 0.344, p < 0.01$)
- ✓ Content optimization ($r = 0.280, p < 0.01$)
- ✓ Online sales ($r = 0.388, p < 0.01$)
- ✓ Consumer behavior ($r = 0.574, p < 0.01$)

This suggests that purchase decision is significantly associated with effective keyword optimization, link building, content optimization, online sales, and consumer behavior.

4.4.1 Conclusion of Quantitative analysis

Likewise, by utilising the quantitative analysis, this research has come across the significant connections between the different strategies of SEO, internet sales and consumer behaviors amongst the retail business. The study has extensively employed the statistical method to establish strong link between the dependent variables like keyword optimization, link building, content optimization, online sales, etc. and the independent variables like consumers behavior and purchase decisions. Such market research demonstrates that SEO strategies rich in detail are the only ones that can strengthen online visibility, formulate market audience's mindset, and result in consumer buying activity. Through the analyses of customer insights, retailers can make their strategic direction stronger online by strengthening their presence and creating a deep connection with the audiences and this will help positively push their business towards more growth and success in the dynamic e-commerce.

4.5 Qualitative analysis

The qualitative method of analysis is the main technique that researching researchers apply to provide meaning to the phenomena studied, and in some cases to analyze the nonquantified data. In my thesis, I skirt through the topic of qualitative analysis and its prominence in various disciplines. By using techniques such as thematic analysis, content analysis, or grounded theory, we aim at detecting content, patterns and meanings that might be found inside qualitative data. A comprehensive quantitative analysis involves the deep assessment and interpretation of stories, themes and contexts which give one an insight in the subjective attitudes, views and behaviours of individuals or groups of people. In addition thereto, qualitative research

is based on interviews being foremost data collection instrument. The type of interview may depend on the research purpose and may range from such structured interviews on the predetermined list of questions to the semi-structured interviews allowing more flexibility and the emergence of related themes. Application of the interviews type and qualitative analysis approach as research methods can lead to greater insights about the phenomena under study, provide for further progress in science and technology. Lets see the general view and summary of each and every SEO experts:

Expert 1 (SEO Specialist):

Right now, I work as an SEO Specialist in a popular fashion shop that is known for its customizable SEO strategy, I contribute significantly to the successful business development of the company in this capacity. Accumulating a satchet of knowledge in digital marketing industry in particular, I am capable of search engines optimization practice to create website visibility and generate organic visitors. We have understood the role SEM plays at the fashion shop for us to remain competitive in the online marketplace world. During the last five years, we particularly introduced the e-commerce facility on our website by using the search engine optimization (SEO) methods to make search engines find our site first. My tasks involve comprehensive keyword research to establish long-tail and high-value key phrases, followed by the optimization of content, including title tag, meta description, headings, and body text, so that they align with the target keywords and for the purpose of acquiring quality backlinks which will in effect boost our site's authority. I am guided by continuous monitoring the main performance indicators, for example the website traffic, the rate of conversion as well as the keywords ranking, i always am improving our SEO strategy to ensure it reaches the full potential of driving the online business sales and increasing the brand awareness in the market, which is very competitive among many fashion enterprises.

Expert 2 (Marketing Manager):

I am the Marketing Manager at a mid-sized store selling electronics and as such, I lead the whole marketing efforts, which include SEO (Search Engine Optimization), social media, and e-mail marketing. In the last ten years, our company had a fairly powerful web-based platform, but in the last two years, eith

kn emphasis on SEO, we have focused to obtain even better results. As such, the change in the focus of our efforts was in due course linked to a growing understanding of SEO as a key factor for generating organic traffic and e-commerce conversions. Our website has been enhanced by improving its performance and the efforts we've made with SEO activities have played a considerable role in getting more customers and improving online visibility.

Expert 3 (Marketing Manager):

In my position as the Chief Marketing Manager, I have responsibility for managing in their entirety areas of digital marketing development, such as search engine optimization (SEO), content generation, and social media management. Our organization that was building its online sales business for the last 10 years knows the critical endeavor to stay in lead of the curative digital environment that is changing daily. Our top struggle has been the challenge of coming up with the marketing plan that will accommodate the specific requirements consumers. Through keeping track of the most trending and updated digital marketing technologies, we aspire to make ourselves competent while furthering our sales to greater stratospheres.

Expert 4 (Ecommerce Manager):

In the capacity of ecommerce manager, I work on the website functioning and order processing from order booking through shipment of goods. Also, customer service support is a part of my routine work. Following five years of successful market development in online retail, I recognise how our company's online presence needs to be fine-tuned to maximise interest of the clients and long-term cooperation. The first one of our permanent problems is to convert visitors, who meet its criteria for visiting our site on our target market and separating ourselves from the competition is a challenging point. We plan on concentrating on user experience, providing competitive pricing and and transparency to our customer services which in effect will maximize our online sales and grow our business.

Expert 5 (SEO Specialist):

Being an experienced and knowledgeable SEO specialist, I've created a full SEO plan that will help our organization achieve the goal of delivering the traffic that requires no paid source. This plan focuses on three key areas: press release distribution, keyword research and optimisataion, as well as content marketing. Through website speed and mobile compatibility optimization, title and meta description improvement of product pages and blog articles among contents on subject related to products creation, we will appeal to our target audience. We are checking the numbers constantly and they include website traffic, conversion rates of SEO keywords ranking to evaluate how good our efforts are as well as to make the right strategic steps that bring our online presence to the next level.

Expert 6 (Marketing Manager):

Our SEO baseline is considered a solid one, and our SEO department has already established a basic plan for our organization which has been implemented recently. Such strategy emphasizes on the keyword research and the on-page optimization to beat our rivals in sights and search engine result listing. Furthermore, we also analyze where the website traffic is heading and the awareness of the brand through our Social networks. Selling the brand through its social media outreach and good content is our main goal. We hope to shed the brand name in our audience's mind and lead people to our website which will eventually translate to higher sales on the website.

Expert 7 (SEO Specialist):

As an SEO Specialist, I understand what role of SEO is in organic website traffic since it is vital for the website's survival. The SEO strategy our company is using is full-blown, and it covers the main takes of on-page optimization, technical SEO and content marketing. Our goal is to help our website rank high through search engine optimization (SEO) and site speed as well as mobile friendliness optimization methods, and to actively involve our target audience by creating high-quality content. We periodically perform the analysis of such metrics as website traffic, conversions rate and the position in search engine rankings to assess the

outcome of our SEO strategies and carry out the required modifications to enhance the online profile and grow the business.

Expert 8 (Marketing Manager):

I have exactly eight roles of marketing manager for a small electronics distributor. I am the one who plans and supervises the tactics of marketing like SEO, email marketing, and social media. Our organization is aware of the priority of the SEO (Search Engine Optimization) actions providing good visibility and attracting much more traffic on the site, being based on eight years of practice in shopping on the worldwide web. Our website had been considerably improved for search engines for the past two years, which has in turn had an impact on the number of visitors that we get, and raised our positions on search engines.

Expert 9 (E-commerce Manager):

For my role as Ecommerce Manager for a home goods store, there are three important areas including how the online stores operate, user experience optimization, and the development of online sales. We are proud of achieving an online retail experience of five years now, which gave us a chance to devote the funds for building proper online visibility in order to draw and retain our clients. A major goal of ours is to provide a cohesive, reliable brand image and value for the customers. We are focused on supreme customer care, value pricing, and continuously improving our products to attract more online customer base. This will be done to push our online sales growth.

Expert 10 (SEO Specialist):

As a result of the SEO knowledge acquired, aptitude has been developed which in turn steers the organization SEO strategy in the right direction. This approach focuses on three fundamental domains: optimizing meta descriptions, headlines, and content, in addition to doing coding in SEO, and producing online marketing content. Via the use of keyword rich page names and meta descriptions, quality content, site speed and mobile friendly optimisations, we aim at attracting and engaging our target audience. We routinely review metrics like a number website visitors, conversion rates, and keyword rankings to measure the success of

our SEO and generate data-based decisions regarding the growing online presence and business growth.

Expert 11 (Marketing Manager):

Strictly on the basis of the basic principles of SEO that were recently implemented, we initiated an elementary SEO approach for our organization. This way spotlight on SEO elements like keyword research and on-page optimization techniques for increasing the website's visibility as well as search engine rankings. We not only conduct SEO, but also keep track of the website analytics and social media channels for the business brand awareness. Through social media engagement and sharing of beneficial content, we strive to increase brand reputation and web traffic, which in the long run should result in improved online sales for the brand.

Expert 12 (E-commerce Manager):

Having chosen the field of SEO as a means to be able effectively bringing my company's online sales to the next level, I am constantly refining my understanding of this discipline. On the other hand, we haven't yet got a divergent SEO strategy, still, we're convinced how it can incline our activities. In order its validity our e-commercial site, we identify such metrics as statistics of traffic, conversion rates and expenses of customers acquisition. Our strategy will include regularly collecting the analytic and data and doing data-driven decisions to promote online presence and growth and profit.

Expert 13 (SEO Specialist):

For the last ten years, I've successfully demonstrated numerous practical SEO skills and have first-hand knowledge of the role SEO plays in organic traffic generation. Our SEO plan incorporates with them all: on-page optimization, technical SEO, and content marketing. Search engine optimization, website performance and mobile friendliness on our website, as well as the provision of useful content, are what we see as the tools to achieve the goal of relevant homo sapiens attraction and engagement. We have an overall control of monitoring metrics like website traffic, conversion rates, and keywords rankings in order to see

the way the search engine optimization activities could impact our online presence and direction of our business development.

Expert 14 (Marketing Manager):

The head of marketing at a mid-size consumer electronics distributor is me. I handle all marketing activities and strategies that are geared to online sales growth. In contrast to our previous experience, we now have a good field of the eight years-long SEO practice activity, which helps us to understand how to improve visibility and traffic for our online store. The basis of the search engine optimization of webpages is keyword research and on-page optimization to make a website pop up among search engine results. We do not merely rest on our laurels even when SEO is successfully implemented; rather we use Google Analytics to track website traffic and keep an eye on social media participation to help us determine and measure our success and set strategic data-driven decisions to grow our online reputation.

Expert 15 (E-commerce Manager):

As an E-commerce manager at a world-famous fashion retail company, I am awaiting to lead the entirety of the online operations, including SEO strategy adjustments. Through the ten years of my carrier in the place of digital marketing, I am a highly knowledgeable and point professional who is ready to contribute to the organization. In the fashion shop I am responsible for generating an SEO strategy and its execution which further help to increase the online visibility our website and allows us to get organic traffic. By keywords research, content upgrading, link acquisition, etc, we seek to enhance our search engine rankings, attracting a good crowd to our online store. In the last couple of years, we have focused our attention on e-commerce, to the extent that we highly regard it as a key factor for both sales and customer acquisition. I keep an eye on core performance indicators, i.e. website traffic, conversion rates, and keyword performance, to apply the essential SEO optimization techniques and become a competitive playing a part in the highly dynamic digital world. Aimed at establishing ourselves as industry leaders in this field and generating a long-term growth of online sales, we pursue a comprehensive strategy of the optimization of our website.

4.5.1 Conclusion of Qualitative analysis

In examining the flow of SEO experts in the context of the retail industry as highlighted particularly in this study, glimmers of the real power of SEO on online sales in e-commerce sites have come into view. Employing phenomenological methodology through in-depth interviews of industry agents, we have unveiled a wide range of selling strategies and their perspective that help online businesses in maximizing their visibility and influence consumer behaviour. Incorporating a wide range of qualitative research tools and interview techniques, this study not only expands our knowledge about the interplay between SEO search engine optimization and retail sector but also serves as the foundation for more in-depth investigation aimed at improving online sales channels as well as a prelude to future attempts at shaping business success in a highly competitive digital environment.

5. Results and Discussion

This chapter is devoted to a detailed and intensive examination of the study outcomes and discussion and attention to the influence of SEO on online sale of the retailing industry. By integrating fine-graded numerical methods and textural clues, this section elucidates the intricate partnership between different SEO instruments and indicators such as e-commerce conversions, consumer behavior, and making purchase decisions. Our study produced strong correlations between the key SEO themes (keyword improvement, link creation, and content powering) and crucial business metrics. In addition, the in-depth investigation serves multiple purposes: the various judgments and opinions of SEO experts provide a fuller picture of the magnitude of SEO contribution towards getting online traffic organic, providing a great user experience, and helping with branding. This section emphasizes on the SEO's integral role in forming the e-commerce universe for retail businesses, and also, it gives an intangible meaning of the presentation for the academicians and the authorities in the area of the digital marketing.

5.1 Results

The significance of SEO in online retail sector has been investigated with a view to discerning how various SEO strategies impact on important key business indicators. By using both qualitative and quantitative analysis methods, this study has contributed to the overall knowledge of how SEO tools, such as keyword optimization, link building, and content optimization, affect the roentgen of online existence sales.

Datasheets suggesting a large degree of SEO's effects on e-commerce lead to online sales, consumer behavior, and purchase-making wheel. The role of keyword optimization was considered to be the key and most used factor (apart from improved webpage visibility and high level of organic search traffic) in attracting new visitors. Also, the link building and content optimization appeared to have a major influence on the sales metrics of different components of marketing, thus it is an irrefutable fact that comprehensive SEO strategies are the leading determinant of business success.

While the qualitative insights supplemented the main finding that SEO impacted online sales at retail companies, they further highlighted the great impact of SEO to

boost online sales at retail enterprises. Participants underscored that employing SEO techniques allows to attract traffic via the Internet in an organic way, makes users interact with a particular brand properly, and establishes brands' visibility as well. Particularly, the specialists suggested a favorable SEO for online sale while also pointed out the power of SEO as a potential driver of the increase in sales and that they need further investigation.

The final point of this study thus lend strong support to the fundamental role of SEO in reaching higher sales targets in terms of the retail industry. Smart SEO strategies which increase a website's visibility, capture audience's' attention, and boost the retail company's income can be achieved by retailers if they understand and implement these.

5.1 Discussion

These research findings of ours give a lot of recommendations for those of you who aim to enhance your online sales . Through acknowledging the significance of search engine optimization tactics e.g., keyword optimization, link building, content creation etc, retailers can come up with well-defined strategies that will favor their presence online and in so doing, build more customers.

It is also worth noting that these findings show the importance of the retailers to keep updating SEO trends and distribution of more modern technologies to be ahead in the game in the online retailing environment. Along with consumer behavior getting modified, SEO has to also be in transformation to fit the changing market preferences and needs.

Besides that, the input of industry experts through interviews helps shape the discussion of the the practical executions of SEO methods in boosting online retail sales. Experts generally share their experience and details, especially those related to highly dynamic nature of online retail. They explain how it works and give tips to retailers interested to boost online sales.

In sum, the findings of this research clearly show the paramount part of search engine optimization to reach online sales in retail business. Through using proven SEO strategies, retailers can achieve greater visibility on the internet, have attractive web pages as well as enhanced sales that probably will have a positive impact on the performance of their company in the modern competitive digital environment.

6. Conclusion

The Role of SEO in the Retail Industry has been the topic of our research and the result shows that there's a complex and interconnected relationship between the SEO strategies and the previous sales results. The research was conducted by the multifaceted methodologic approach that included the quantitative analysis as well qualitative insights in order to achieve the vital objectives that produced the different recommendations for the retailers functioning in the digital marketplace.

- ✓ Understanding the Relationship Between SEO Strategies and Online Sales
 - By conducting the quantitative analysis, within this study, showed the connections between SEO methods that include keyword optimizations, linking building and contents optimization and key business indices such as online sales, consumer behavior, and purchase behavior, are most important.
 - The results of the research which pointed out that the successful sites had decent SEO are the evident importance of building the such SEO plans to facilitate visibility in search engine results which could result in website traffic, thus improve the online sale.
- ✓ Examining the Influence of SEO on Consumer Behavior
 - Gathering firsthand experiences from industry masters offered valuable case studies that touched on consumer behavior as it relates to SEO, reinforcing the idea that SEO is not just another tactic to sell, buy or advertise.
 - The convergence of SEO strategies with consumer requirements and desires will capture the customer's confidence and faith, by seamlessly putting together the activities that ensure trust, loyalty, and repeat business.

- ✓ Identifying the Significance of SEO in Driving Purchase Decisions
 - The quantitative investigation revealed that the use of SEO strategies including keyword optimization, link building, and content optimization have relatively an important influence on purchase decisions, while it also shows that keywords optimization, link building, and content optimization are suggesting a statistically significant correlation with purchasing decisions.
 - The research results show how influencing the customers' beliefs, choice, buying are dependent on the using of SEO for retail companies that aim to be profitable.

- ✓ Practical Recommendations for Retailers
 - In line with these findings, some practical recommendations have been put forward for retailers aiming at improving their SEO strategies and performance in their online sales for the purposes of identifying profitable ways.
 - These pieces of advice include the identification of the most relevant keywords to improve search engine visibility; the application of high-quality link building techniques; as well as implementing constant content optimization. Furthermore, staying up to date with the latest SEO tendencies and technologies remain pivotal to keep up with the ever-changing online marketplace.

Through all, this research has delivered worth information about Search Engine Optimization (SEO) response on web sale in the retail sector aiming at key points and under objectives, presenting practical suggestions for retailers as they strive to increase their visibility and finally access the rising digital world. Those retailers who exploit the results originating from this investigation will be in a state of competitive stability for quite some time in the e-commerce's growing and evolving environment.

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8.3 List of abbreviations

- SEO:** Search Engine Optimization
- AI:** Artificial Intelligence
- SERPs:** Search Engine Results Pages
- e-commerce:** Electronic Commerce
- AMPs:** Accelerated Mobile Pages
- E-A-T:** Expertise, Authority, and Trustworthiness
- GMB:** Google My Business
- NLP:** Natural Language Processing
- ANOVA:** Analysis of Variance
- B:** Unstandardized Coefficients
- df:** Degrees of Freedom
- F:** F-statistic
- N:** Sample Size
- p:** p-value
- r:** Pearson Correlation Coefficient
- Sig.:** Significance Level
- Std. Error:** Standard Error
- τ :** Kendall's Tau
- ρ :** Spearman's Rho
- SEM:** Search Engine Marketing

Appendix

Questionnaire

Demographic questions

- Age
- Gender
- Years of Experience
- Job Role
- Education

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Keyword research is a fundamental aspect of our SEO strategy.					
We regularly analyze keyword performance and adjust our content accordingly.					
Our website's content is optimized with relevant keywords to attract organic search traffic.					
I prioritize long-tail keywords in our content strategy to target specific audience segments.					
I believe keyword optimization significantly contributes to our website's search engine ranking.					
I actively seek opportunities for backlinks from authoritative websites in our industry.					
Our website has a diverse and natural backlink profile.					
I invest time and resources in creating high-quality content to attract natural backlinks.					
Link building is a crucial component of our off-page SEO efforts.					
I believe that acquiring relevant backlinks positively impacts our website's search engine visibility.					
Our website's content is regularly updated to align with current SEO best practices.					
I We optimize our content structure and formatting for better search engine indexing.					

Our content strategy includes the creation of valuable and engaging content for our target audience.					
I utilize multimedia elements such as images, videos, and infographics to enhance our content's appeal.					
Content optimization plays a significant role in driving organic traffic to our website.					
Online sales are a crucial aspect of our retail business.					
Improving our website's visibility on search engines is essential for driving traffic to our online store.					
Our online sales performance heavily relies on our website's ranking in search engine results.					
Increasing online visibility through search engine optimization (SEO) is important for attracting potential customers.					
Effective SEO techniques directly contribute to the success of our online sales efforts.					
Consumers heavily rely on search engines to find information about products or services.					
Online reviews and ratings significantly influence consumers' purchasing decisions.					
Consumers tend to trust and prefer websites that appear at the top of search engine results.					
The ease of finding a website through search engines affects consumers' likelihood of making a purchase.					
The visibility of a website on search engines impacts consumers' perceptions of its credibility and trustworthiness.					
The visibility of a website on search engines significantly influences consumers' purchase decisions.					
Websites that rank higher in search engine results pages (SERPs) are more likely to attract potential customers.					

Consumers tend to trust and purchase from websites that appear at the top of search engine results.					
The ease of finding a website through search engines is a critical factor in driving consumer purchases.					
The appearance of a website on search engines significantly impacts consumers' perceptions of its credibility and reliability.					