



Impact of Fake Reviews on Buying Behavior and Methods to Detect Them in Cosmetic Industry

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Abstract – The rapid growth of e-commerce and social media platforms has significantly increased consumers' reliance on online reviews when purchasing cosmetic products. However, the prevalence of fake reviews has emerged as a major challenge, influencing consumer perceptions and purchasing decisions. This study examines the impact of fake reviews on buying behavior in the cosmetic industry and explores various methods used to detect deceptive review practices. Fake reviews can mislead consumers by creating false impressions regarding product quality, effectiveness, and safety, thereby affecting trust in brands and online marketplaces. The study highlights the psychological factors that make consumers vulnerable to manipulated reviews and analyzes the consequences for both consumers and cosmetic companies. Furthermore, it reviews detection techniques such as sentiment analysis, machine learning algorithms, linguistic pattern recognition, reviewer behavior analysis, and verification systems employed by e-commerce platforms. The findings suggest that while fake reviews can significantly influence purchase intentions, advanced technological tools and stricter platform regulations can help identify and reduce deceptive content. The study emphasizes the need for greater transparency, consumer awareness, and robust review authentication mechanisms to maintain trust and integrity in the cosmetic industry.

Keywords: Fake Reviews, Consumer Buying Behavior, Cosmetic Industry, Online Reviews, E-commerce, Purchase Intention, Review Detection, Machine Learning, Sentiment Analysis, Consumer Trust, Digital Marketing, Review Authenticity..

I. INTRODUCTION

This section talks about how digital industry for cosmetics and beauty products has grown dramatically in recent years. Over the past fifteen years, the digital industry for cosmetics and has also shown an extraordinary growth. When making judgments about what to buy for skin or body care etc. consumers now rely on user generated reviews and websites like Sephora, Nyka, Amazon etc. The shift from in person consulting to online research is an indication of how consumers are evaluating cosmetic items. They have evolved into virtual storefronts where prospective buyers browse. Purchasing products online requires consumers to rely on user evaluations, product descriptions, and photos shared by previous buyers rather than trying them on or consulting beauty professionals.

The Importance of Reviews When Choosing Beauty Products

This section explores how internet product reviews are comparable to word-of-mouth recommendations in the cosmetics industry. Customers are more likely to trust user evaluations than industry advice whether purchasing a foundation, skin care serum, or hair product. The reason for this shift is that evaluations concentrate on subjects that are important to particular consumers, such whether a product is suitable for delicate skin or how long it lasts, among other things that traditional advertising is unable to adequately convey. There are a number of reasons why reviews are highly influential when it comes to cosmetic purchases: Authenticity and First-hand Experience: Reviews are grounded in actual user encounters with formulas and applications. Comprehensive Product Comparison: Customers may evaluate several brands, formulas, and

price points at once by using beauty platforms that compile a large number of reviews. This makes it possible to choose products and evaluate their worth with more knowledge. Given these considerations, cosmetic companies and retailers have realized that review systems have a big impact on sales volume, market share, and brand reputation. Risk Reduction: Skin and hair health are directly impacted by cosmetics. Purchasing the incorrect items is a waste of money if it results in an adverse response, irritation, or expense. Before making a purchase, consumers may read reviews to see whether the product suits their skin tone, skin type, and/or hair texture. Detailed Product Comparison: To provide consumers an overview of a range of brands, formulas, and price points at once, beauty websites will compile a large number of reviews. Making wiser choices about product selection and value will be aided by this.

The Increase of False Cosmetic Reviews

The rise of phoney cosmetic evaluations is a major worry, as this section highlights. The cosmetics industry has grown to rely on reviews, which has led to bogus feedback. Reviews that are fabricated or altered to mislead customers about a product's characteristics, functionality, or safety are known as beauty misleading reviews. In order to boost a product's reputation and appeal, cosmetic businesses, other brands, or payment systems may disseminate inflated ratings and remarks. In order to make a product, like cosmetics, appear to have high ratings and visibility, fake positive evaluations are frequently submitted. These evaluations may employ exaggeration, exaggerate the results, or make unrealistic promises, such as that a wrinkle treatment can eliminate wrinkles overnight or that a foundation perfectly complements all skin tones. A



competitor's market position may be undermined by purposeful, unfavorable evaluations, whether they are written by rivals or by malevolent individuals. Misleading negative reviews might fabricate stories about adverse responses, claim that items include allergies, or make misleading claims about the safety of substances. Such deception is especially prevalent in the cosmetics sector, at least, because: A product's efficacy varies from person to person based on their body type and skin chemistry. Brand and Market Distortion: Companies that use dishonest review techniques unfairly compete with respectable cosmetic firms that use transparent marketing. This leads to market inefficiencies as the ability to manipulate review systems becomes more important in determining commercial success than genuine consumer happiness and product quality. Platform Credibility Erosion is covered in this section. Beauty merchants and review platforms who don't uphold review authenticity run the danger of losing customers. The platform as a whole loses its usefulness when users realize that ratings and comments are unreliable. More general Industry Trust is covered in this section: Frequent exposure to false reviews erodes consumer faith in the openness and reliability of the cosmetics business, which may lead to consumers switching back to more conventional ways of making purchases or become more dubious of all product promises. There are more chances for marketing dishonesty when sales prices grow. People are greatly impacted by fraudulent product reviews in the cosmetics sector. People may be impacted by fake reviews of cosmetic products. False reviews can lead to a variety of problems: Consumer-Level Impact: When buying cosmetics based on fake evaluations, consumers may become discouraged, lose money, or experience allergic reactions or other skin problems if the safety claims are misrepresented. Therefore, a consumer may face severe repercussions if, for example, they purchase a skin care product that is promoted as hypoallergenic yet includes an allergen.

Brand and Market Distortion: When businesses engage in dishonest review tactics, genuine cosmetic brands that use honest marketing strategies will lose out on fair competition. This results in market inefficiencies and a scenario where the ability to manipulate review systems appears to be more important than the quality of the product and what the client is actually receiving. Customers may stop trusting beauty merchants and review websites if they don't follow review authenticity guidelines. The platform stops working if the user knows that ratings and comments are not trustworthy. Customers' faith in the openness and reliability of the cosmetics sector is undermined by fraudulent reviews, which may cause them to continue with conventional ways of making purchases or become more dubious of all promises. Understanding the psychological mechanisms underlying vulnerability to deceptive reviews is covered in this section. A psychological approach to mechanisms of vulnerability to misleading

reviews. Customer psychology is discussed in this section as the reason why misleading digital product reviews are so successful in the cosmetics sector. The idea of social validation applies to the purchase of cosmetics; if a product receives a lot of favorable reviews, it must be excellent. It appears that a 4.8 rated product with 5,000 reviews is more trustworthy than a 3.5 rated product with 200 reviews, regardless of the veracity of the reviews. Additionally, this section explains how consumers who employ heuristic shortcuts frequently concentrate on review elements that are simple to evaluate, such as the quantity of reviews, the popularity of reviewers, and ratings, rather than critically analyzing the reviews' substance. This is particularly common in the cosmetics industry, where thousands of brands and products provide a wide range of possibilities. Influencer culture exacerbates this, as this section explains. The beauty blogger you follow, who has a large and devoted following, is more important than anybody else if they post about a certain cosmetic product. Many consumers mistakenly believe that these recommendations are actual product trials, although many influencers get compensation for sponsored articles or positive evaluations.

How to identify phoney cosmetic reviews: There are several ways to identify phoney beauty reviews.

In order to demonstrate that they are genuine evaluations written by actual individuals, this section outlines authentic reviews that should contain information about the product, real-world uses, and a variety of phrases. On the other side, a lot of fake reviews use terminology that is not typical of product feedback overall, such as common language, praise, or strange wording. As an example, genuine product evaluations could explain things like "how it feels on combination skin," but dishonest online product reviews might simply declare something like "best serum ever." This section explains how combining this with behavioural pattern recognition can help identify suspicious patterns that might be an indication of coordinated fraudulent review campaigns. Examples of such patterns include users leaving multiple reviews about competing products from the same user within a short period of time or multiple reviews in a single day following the launch of competitor products. Verification systems are covered in this section: A "Verified Purchase" label is becoming more and more common on platforms, requiring reviewers to provide documentation of their product purchases. This reduces the likelihood of misleading digital product reviews, but it does not eliminate them. Machine Learning Applications are covered in this area. To identify if a review is suspect, sophisticated algorithms take into account a variety of parameters, including review timeliness, reviewer history, language patterns, rating distribution anomalies, rating-text consistency, etc. They can examine a lot of evaluations for beauty products using AI-powered tools, including identifying those that go beyond typical behavioural bounds.



Chemical and safety claim verification are covered in this section: Cross-referencing with the product formulation database and reputable dermatological research can uncover fraudulent claims if a review makes specific claims about the components, hypoallergenic nature, or a specific safety advantage. The cat and mouse game endures despite all of these strategies as dishonest reviewers keep coming up with ways to get around detection procedures.

Industry and Regulatory Reactions:

Regulatory agencies have begun to take action against the problem of cosmetic false reviews in eCommerce, as this section outlines. Many jurisdictions have passed legislation requiring:

Comprehensive disclosure of paid or sponsored reviews. The platform will be in charge of review moderation and verification. Dangers for businesses engaged in coordinated false review campaigns algorithms and review visibility criteria that are transparent. In this part, it is discussed how voluntary norms for ethical review procedures and transparent influencer connections have been formed by groups in the beauty industry. However, given the disparities in countries and the decentralized nature of online commerce, it is challenging to guarantee that these rules are adhered to on digital platforms worldwide.

Importance of the Modern Cosmetic Industry

The legitimacy of reviews is more important than ever because of the digitalisation of the cosmetics industry, as this section explains. Business models developed by beauty e-commerce sites are predicated on the idea that customer reviews have an impact on purchasing decisions. Product review visibility and ratings are increasingly crucial components for product success due to the intense competitive environment and the narrowing gap in product formulation. Additionally, this part addresses the rising demand for authenticity and transparency from new client groups. Younger consumers in particular are wary of traditional advertising and place greater reliance in suggestions from influencers and peer ratings. Customers may want more genuine reviews as a result, which may encourage fraudulent review tactics.

Objectives

The main purpose of this study is to understand how fake online product reviews influence consumer buying decisions and to explore effective ways to identify and reduce their impact. Since online reviews have become an important source of information for shoppers, it is essential to examine their role in shaping consumer behaviour. The study is based on the following objectives:

To examine the impact of fake online reviews on consumer purchase decisions

This objective focuses on understanding how

misleading reviews affect customers' opinions, attitudes, and purchasing choices. It explores whether fake positive or negative reviews can influence consumers to buy products they may not need or avoid products that are actually of good quality.

To analyse the factors that influence consumer trust in online reviews

Trust plays a major role in the effectiveness of online reviews. This objective investigates the factors that make reviews appear reliable, such as detailed content, reviewer credibility, verified purchase labels, platform reputation, and consistency in ratings. It also examines how previous experiences with fake reviews affect consumer trust.

To study the behavioural effects of deceptive reviews on consumers

This objective aims to understand how consumers respond to misleading reviews and whether they can distinguish genuine reviews from fake ones. It also examines the impact of deceptive reviews on consumer confidence, satisfaction, and decision-making behaviour.

To explore methods for identifying fraudulent online reviews

This objective focuses on the different techniques used to detect fake reviews. It includes analysing review language, posting patterns, reviewer behaviour, and the use of advanced technologies such as artificial intelligence and machine learning to identify suspicious activities.

To recommend measures for reducing fake reviews and improving authenticity

The final objective is to suggest practical solutions for consumers, businesses, and online platforms. These recommendations may include stronger monitoring systems, improved detection tools, ethical business practices, and consumer awareness initiatives to promote trustworthy and authentic online reviews.

Conclusion of the Goals

This section concludes by discussing the main topics of misleading digital product reviews and how they affect consumer behaviour. They are curious about the ways in which misleading digital product reviews affect trust, what influences trust, how to identify false reviews, and potential remedies.

II. LITERATURE REVIEW

This section explains how consumers are becoming more and more dependent on digital platforms for information and buying, and how this has made digital product reviews a powerful tool for influencing consumer behaviour. These days, no one makes a purchase without first checking online evaluations,



ratings, or comments. By providing input on the product's quality, use, and level of satisfaction, these evaluations act as a bridge between previous users and potential buyers. However, as false or phoney evaluations proliferate, the reliability of digital product reviews is being questioned. These evaluations are intended to mislead consumers by either promoting or disparaging competing goods. This has prompted academics to focus more on how these evaluations affect consumer choices and how to recognize them. This study of the literature provides a thorough examination of previous studies on digital product reviews, misleading digital product reviews, the impact of deceptive digital product reviews on purchasing choices, and potential detection techniques. A rival, a robot, the sellers themselves, or reviewers who are compensated to provide favorable ratings can all produce deceptive digital product reviews. These reviews misrepresent the product's popularity, quality, or consumer contentment. This implies that the trust that consumers have in online platforms, their purchasing patterns, and their level of happiness are all impacted by false digital product reviews. Numerous academics in the domains of marketing, information technology, customer behavior, and artificial intelligence have studied fraudulent digital product evaluations in great detail. Previous research demonstrates that buyers' opinions, emotional responses, trust, and purchase intention are significantly impacted by false digital product reviews. Additionally, research has proposed a number of techniques, including sentiment analysis, machine learning, behavioral analysis, and language analysis, for identifying misleading digital product evaluations.

The purpose of this study is to examine how customers' purchase decisions are impacted by false digital product reviews, as well as how to spot such evaluations. Regarding the idea of digital product reviews, consumer trust, review manipulation, and review detection systems, the literature review contributes both theoretical and empirical knowledge.

This section explains how, as digital commerce has grown, digital product reviews are now more important than ever in helping customers make decisions. Consumers frequently base their purchasing decisions on ratings and reviews. Reviews can reduce uncertainty, but the existence of false reviews has sparked questions about the marketplace's reliability, openness, and equity. Thus, researchers have examined how fraudulent internet product evaluations affect behavior and how to identify them. (Chevalier & Maylin, 2006; Hennig-Thurau et al., 2004)

Consumer Buying Behavior

Price, ease of use, website quality, brand reputation, customer feedback, and other elements are all covered in this section and might influence consumers' online purchasing decisions. Reviews are an important source

of information because consumers cannot directly inspect things. According to the Theory of Planned Behaviour, purchase intentions are influenced by attitudes and social influence, both of which can be impacted by digital product reviews. (Filieri (2015) and Ajzen (1991)

Electronic Word-of-Mouth (e-WOM)

This section discusses electronic Word-of-Mouth: These are product-related opinions that are exchanged online via reviews, blogs, forums and social media. Since consumers are more inclined to believe peer-generated information than traditional advertising, e-WOM can play a significant role in influencing purchasing decisions. (Hennig-Thurau and others, 2004)

What does the term "deceptive digital product reviews" mean, and what are they?

This section addresses fraudulent digital product reviews, which are communications created on purpose to sway consumers' opinions. These might be compensated, slanderous, promotional, or automatically created by bots. These reviews have the potential to impact product ratings and mislead consumers regarding quality and satisfaction. (Ott et al., 2011; Jindal & Liu, 2008)

The influence on customer trust. The effect on trust of people.

The importance of trust in online transactions is covered in this section. Customers' mistrust of reviews erodes their confidence in goods, vendors, and platforms. A thorough and well-balanced assessment is more likely to be seen as reliable than a favorable one, according to studies. (Filieri, 2015; Luca & Zervas, 2016)

influence of an individual on the intention to buy

This section addresses how customers' perceptions of a product's quality and dependability are directly impacted by internet reviews. While phoney negative reviews might discourage potential buyers, bogus favorable reviews can increase demand. Customers' decision-making is therefore heavily influenced by review credibility. (Filieri, 2015; Chevalier & Maylin, 2006)

Detection Methods

This section covers a number of studies that have proposed various approaches for identifying false reviews, including machine learning techniques, behavioral analysis, sentiment analysis, and linguistic analysis. Many algorithms, such as Random Forest, Support Vector Machines, and Neural Networks, are intended to distinguish between genuine and deceptive reviews. (Mukherjee et al., 2013; Ott et al., 2011)

Artificial Intelligence

By examining reviewer behavior, language trends, and rating patterns, artificial intelligence (AI) and natural



language processing (NLP) techniques have improved the capacity to detect suspicious reviews. By examining reviewer behaviour, linguistic patterns, and rating anomalies, AI and NLP have been used to identify suspicious reviews. However, detection systems continue to face difficulties as AI-generated material gets more complex. (Mukherjee et al., 2013; Li et al., 2023)

Outline the research gap and the novelty of your research.

The majority of the research in this section has focused on automatic detection methods, while a smaller number of studies have addressed consumer personal identification and response to fraudulent reviews. Furthermore, research from the Indian e-commerce setting is lacking. By concentrating on consumers' knowledge, trust, purchasing behaviour, and review/evaluation techniques for practice, the current study aims to address these deficiencies. (Luca and Zerwas (2016) and Fili.eri (2015)

Novelty of the Study

The current study adds to the body of literature in a number of ways:

Instead than focusing just on technology detection techniques, this section explains how it takes a customer-centric approach by examining how consumers perceive, recognise, and react to false digital product evaluations. This section addresses the lack of research in the Indian e-commerce sector by presenting empirical data from Indian consumers, especially young online buyers. This section discusses it examines the influence of deceptive digital product reviews not only on purchase decisions but also on customer trust, post-purchase satisfaction, confidence in online platforms, and future purchasing behaviour.

This section explores the useful techniques consumers employ to spot misleading digital product evaluations, such as cross-platform review comparison, verified purchase tags, reviewer profile analysis, repetitive language identification, and study of extreme ratings. It takes into account consumer awareness of contemporary types of misleading internet information and recognises the growing problem of AI-generated reviews.

In this part, the research presents the idea of digital literacy as a critical component that may affect consumers' capacity to identify false digital product evaluations and lessen their vulnerability to review manipulation. By filling in these gaps, the current research contributes to both scholarly literature and useful policy recommendations for enhancing trust and transparency in online marketplaces. It also provides a more thorough understanding of deceptive digital product reviews from a behavioural perspective.

Hypothesis

The current study, "Impact of Fake Reviews on Consumer Buying Behaviour in the Cosmetic Industry and Methods to Detect Them," examines how consumers who buy beauty and cosmetic products online are affected by false product reviews. For consumers assessing skin care, cosmetics, hair care, and personal care items, digital product evaluations have become an indispensable source of information. Therefore, it is critical for researchers and marketers to comprehend the impact of misleading digital product reviews. The purpose of the hypothesis is to investigate how buyers of cosmetic products are affected by false digital product evaluations in terms of trust, buying intentions, purchase behaviour, and review assessment methods.

Importance of Hypothesis in the Study

It provides an organised framework for examining consumer perceptions of misleading digital product evaluations in the cosmetics industry, this section's discussion of hypothesis development is crucial. It makes it possible for the researcher to concentrate on pertinent factors and assess correlations in a scientific manner.

The following are the main advantages of formulating hypotheses in this study:

- It gives the investigators a clear path.
- It helps uncover important factors influencing decisions to buy cosmetics.
- It facilitates the development of connections between consumer behaviour and review trustworthiness.
- It makes statistical analysis and interpretation easier.
- It makes it possible to test research hypotheses objectively.
- It helps reach judgments that are supported by evidence.
- It facilitates the methodical accomplishment of research goals.

The study's variables that are independent

False online product reviews, Examined believability.

- Product evaluations
- Purchase indications that have been verified
- Awareness of consumers
- Knowledge of digital technology
- Suspicious review traits
- Examined detection techniques
- Variables that are dependent
- Purchase patterns for cosmetics
- Intention to buy
- Customer confidence
- Decisions about product selection
- Satisfaction after buying
- Self-assurance on virtual cosmetics platforms



Research Hypotheses

- H1: Customers' decisions to buy cosmetics and beauty items are greatly influenced by deceptive internet product reviews.
- H2: Customers' trust in online cosmetic buying platforms is significantly correlated with misleading digital product reviews.
- H3-Consumers rely extensively on digital product reviews and ratings while purchasing cosmetic products.
- H4: Exaggerated claims, repetitive phrasing, and unrealistic product promises are ways that consumers might spotphony evaluations of cosmetic products.
- H5-Verified purchase reviews are seen as more reliable than non-verified ones.
- H6: Deceptive internet product reviews have less of an impact on consumers' intentions to buy cosmetics when consumers are more aware of them.
- H7-Post-purchase unhappiness is more common among consumers who buy cosmetics based on deceptive evaluations.
- H8: Machine learning and artificial intelligence are useful techniques for spotting fraudulent evaluations of cosmetic products.
- H9-Young consumers rely more on online product reviews than do older consumers.
- H10: Reviews of beauty products that are thorough and impartial are seen as more reliable than those that are too favorable.
- H11: When buying cosmetics online, consumers that are digitally literate are far less vulnerable to misleading digital product reviews.

Null Hypotheses

- NH1: Purchase behaviour for cosmetic products is not much impacted by deceptive digital product reviews.
- NH2: Customers' trust in online cosmetic platforms is not significantly correlated with misleading digital product reviews.
- NH3-When buying cosmetics, consumers don't primarily depend on online product reviews.
- NH4: Fake cosmetic reviews are difficult for consumers to spot.
- Reviews of NH5-Verified purchases are not seen to be more reliable than those that are not.
- NH6: The impact of misleading internet product reviews on purchase intentions is unaffected by consumer knowledge.
- NH7: Post-purchase happiness is not much impacted by deceptive digital product reviews.
- NH8: Artificial intelligence methods are ineffective in identifyingphony evaluations of cosmetic products.
- NH9: When buying cosmetics, younger consumers are not more reliant on online product reviews than older consumers.

- Promotional reviews are seen as more reputable than NH10-balanced reviews.
- NH11: The impact of misleading internet product reviews on cosmetic buying behaviour is not much diminished by consumer digital literacy.

Characteristics of the Hypotheses

The hypotheses formulated in this research possess the essential characteristics of a sound research hypothesis:

- Clarity: The assertions are straightforward and unambiguous.
- Specificity: The theories concentrate on customer behaviour and reviews of cosmetic products.
- Testability: Survey data may be used to analyse each claim.
- Logical Relationship: There is a clear definition of independent and dependent variables.
- Practical Relevance: The theories tackle actual problems that consumers of cosmetics encounter.
- Research Alignment: Every hypothesis has a clear connection to the goals of the study.
- Empirical Verification: Based on gathered data, the theories may be approved or denied.

III. RESEARCH METHODOLOGY

The study methodology for the topic "Fake Reviews and their Impact on Consumer Buying Behaviour in the Cosmetic Industry" is described in this part. The purpose of this study is to learn more about how digital product reviews affect consumers' decisions to buy cosmetics and beauty items, as well as what tactics consumers use to distinguish between genuine and fraudulent evaluations. This section examines how consumers frequently read online reviews, ratings, and customer comments before making a purchase in the current digital era, and how the cosmetics sector in particular has become more dependent on online platforms for sales. The cosmetics sector is particularly reliant on e-commerce platforms, and before making a purchase, consumers frequently consult product reviews, social media influencers, online ratings, and customer feedback. To collect significant data about consumers' perspectives and experiences of misleading internet product reviews, a methodical research approach was required. The study design, sampling strategy, data collection, questionnaire design, data analysis, and research constraints are all explained in this chapter.

Research Design

Both descriptive and analytical research methods are used in this study.

In order to comprehend consumer behaviour, attitudes about website reviews, knowledge of dishonest digital product evaluations, and confidence in online skin care product reviews, a descriptive technique was used. At the same time, an analytical method was used to



examine the connection between consumer trust, purchase intention, purchasing choices, and misleading digital product reviews. Specifically, the study seeks to focus on: the impact of fake reviews on cosmetic purchases. Have faith in internet reviews of cosmetics. understanding of improper review procedures:

- Techniques for spotting misleading online product reviews.
- The influence of the reviewer's reliability on cosmetics purchases.

This section explains how the chosen study design allowed the researcher to learn in-depth information about the clients and to recognize patterns and trends in their conduct.

Nature of the Study

Since the study is based on replies from actual consumers who often purchase cosmetics and beauty items online, it is empirical. The study discussed in this section primarily focuses on consumers' actual experiences utilizing a variety of beauty items on digital platforms, including skin care products, cosmetics, personal care products, and beauty brands. A quantitative research technique is also employed because the study is predicated on quantifiable survey results. This section explains how the data was gathered, expressed in numerical form, and then examined using percentages, charts, and graphical representations to identify significant trends.

The methodology was planned to accomplish the following goals:

- To look at how consumers' purchase decisions in the cosmetics business are affected by false digital product reviews.
- To investigate the connection between consumer trust and misleading digital product reviews.
- To understand how digital product reviews affect the purchase of cosmetics.
- To determine the techniques consumers employ to spot false online product reviews.
- To examine consumer awareness of deceptive review tactics.
- To investigate the impact of fake ratings on customer satisfaction.
- To evaluate several technology methods for identifying fraudulent online product reviews.
- To investigate elements that affect a reviewer's plausibility.
- To comprehend the extent to which consumers rely on reviews and ratings when purchasing cosmetic items.

Scope of the Study

This research includes only online cosmetic and beauty product buyers.

The research covers:

- Skin care products
- Makeup
- Hair care products
- Cleaning supplies and air fresheners
- Online cosmetic marketplaces
- Consumer review systems
- Improperly marketed products

People purchase products based on reviews:

Cosmetic companies, internet retailers, marketers, academics, and consumers who wish to learn more about consumer behaviour and the veracity of reviews may find value in the findings of this study.

Sample Design

Customers who often shop online for cosmetics and beauty items and check customer reviews before making a purchase are included in the sample population discussed in this section. This section explains that 32 legitimate answers were received and taken into consideration. The respondents' varying age groups, educational backgrounds, and occupational backgrounds contributed to their diverse perspectives on cosmetics online buying habits.

Among the respondents were:

- Students
- Employed professionals
- Housewives
- Young consumers who purchase online those who often purchase cosmetics.

This section explains how the sample size was large enough to give sufficient insight into how consumers perceived the legitimacy of reviews in the cosmetics sector and misleading digital product reviews.

Sampling Technique

Participants were selected based on their availability and desire to participate, convenience sampling was employed in the study. This strategy was chosen because it. The respondents were readily accessible. Both time and money were insufficient for the research. It made it possible to quickly get client feedback. It is frequently used in academic research initiatives. Convenience sampling was able to provide insight into the behaviour of online cosmetic buyers, even if it might not accurately represent the population as a whole.

Sources of Data Collection

Primary Data

A structured online questionnaire was used to directly collect the primary data from the respondents.

The survey gathered data on:

- Purchasing patterns for cosmetics
- Reliance on online product evaluations



- Have faith in client feedback awareness of misleading online product reviews. recognizing dishonest online product reviews. Examine verification procedures. Customers' purchasing decisions are influenced by reviews.

Secondary Data

Secondary data was gathered from:

- Scholarly publications
- Scholarly articles
- Books
- Industry reports
- Publications on market research
- Reports on the cosmetics business
- Research on consumer behaviour

This section addresses the secondary sources that aided in the development of the research's theoretical framework and improved comprehension of the body of knowledge about false digital product reviews and consumer behaviour.

Research Instrument

Structured questionnaire was the main research instrument.

The questionnaire aimed to gather information on the following:

- The demographic profile of the respondents
- Online cosmetic shopping behaviour
- Believe in reviews and ratings
- Familiarity with false reviews.
- Familiarity in the art of putting out false reviews.
- Awareness on fake review practices.
- How to ensure authenticity of reviews.
- Methods of authenticating reviews.

The majority of the questions were closed ended, which allowed for simple analysis and interpretation.

The questionnaire was designed to be as simple and easy-to-use as possible to maximize participation and provide accurate answers.

The responses were systematically analysed and organized.

The following procedure was carried out:

- **Editing**-Respondents' answers were reviewed for completeness and consistency.
- **Classification**-The answers were classified by demographic and behavioural attributes.
- **Tabulation**-Data was presented in tables to facilitate its easy presentation and comparison.
- **Analysis**-Patterns and trends were identified with percentage analysis and graphical representation techniques.

IV. DATA ANALYSIS AND INTERPRETATION

Data analysis is the process of organizing, interpreting, and presenting collected information to discover useful patterns and conclusions. According to research methodologies discussed in academic sources, data analysis helps researchers identify trends, relationships, and meaningful insights from survey responses.

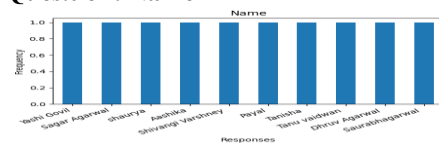
How Data Analysis is Done Forr the Study?

Percentage analysis and graphical techniques such as pie charts and bar graphs were used. These tools helped identify patterns, trends, and relationships between variables such as trust in reviews, purchase decisions, awareness of fake reviews, and methods used to identify deceptive reviews. The analysis revealed that online reviews play an important role in influencing consumer purchase decisions. Most respondents reported reading reviews before buying cosmetic products and showed awareness of the existence of fake reviews. Many consumers relied on indicators such as verified purchase tags, reviewer profiles, balanced feedback, and review consistency to judge the authenticity of reviews. Overall, the analysis provided valuable insights into how consumers perceive online reviews and highlighted the need for more reliable and transparent review systems in the cosmetic industry.

Dataset Overview

Sample Size: 50 respondents

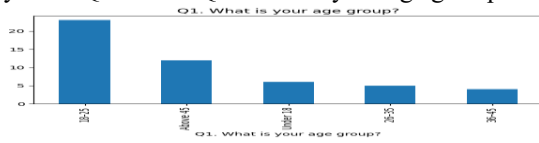
Anal.ysis of Question: Name



Interpretation: This section discusses the above graph presents respondents' answers related to the question: "Name". The majority of respondents selected "Ya.shi Gov.il" with a frequency of 1 response. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns. The graphical representation clearly shows the distribution of responses and highlights overall customer perception regarding deceptive digital product reviews in online marketplaces.

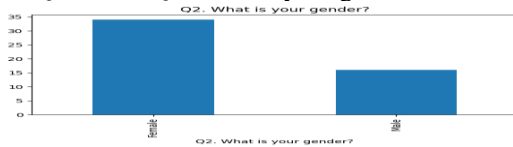


Anal.ysis of Ques.tion: Q1. What is your age gro.up?



Interpre.tation: The find.ings indi.cate that you.ng custo.mers form the larg.est segm.ent of onl.ine cosm.etic buy.ers. This age gro.up act.ively purch.ases skin.care, mak.eup, and bea.ut y prod.ucts thro.ugh e-com.merce plat.forms and frequ.ently rel.ies on digi.tal prod.uct revi.ews bef.ore mak.ing purch.asing decis.ions.

Anal.ysis of Ques.tion: Q2. What is your gen.der?



Interpre.tation: Fem.ale custo.mers repre.sen.t the majo.rity of cosm.etic prod.uct buy.ers in the rese.arch. This sugg.ests that wom.en are more enga.ged with cosm.etic revi.ews and are signifi.cantly affe.cted by onl.ine feed.back wh.ile selec.ting bea.ut y prod.ucts. This sect.ion discu.sses this indic.ates that partic.ipants stro.ngly assoc.iate decep.tive digi.tal prod.uct revi.ews with chan.ges in cust.omer tru.st and purch.ase behav.iour. The find.ings sugg.est that custo.mers are hig.hly influ.enced by digi.tal prod.uct revi.ews bef.ore mak.ing purch.asing decis.ions. Many respon.dents also app.ear awa.re of meth.ods used to iden.tify decep.tive digi.tal prod.uct reviews, such as chec.king rev.iew authen.ticity, veri.fied purch.ases, repet.itive comm.ents, and suspi.cious rat.ing patt.erns.

The graph.ical repre.sen.tation clea.rly sho.ws the distri.bution of respo.nses and highl.ights over.all cust.omer perce.p.tion regar.ding decep.tive digi.tal prod.uct revi.ews in onl.ine market.places.

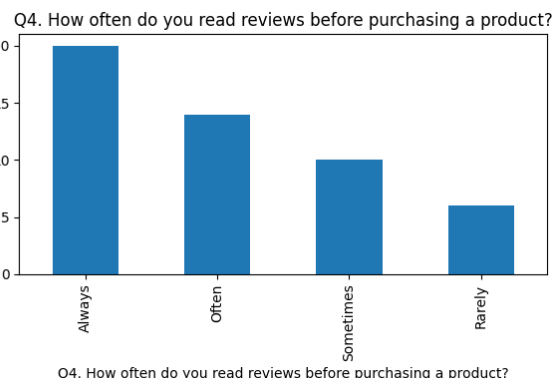
Anal.ysis of Ques.tion: Q3. How oft.en do you shop onl.ine?



Interpr.eta.tion: This sect.ion discu.sses 16 respon.dents (32%) sele.cted Frequ.ently. A lar.ge propo.rtion of respon.dents regul.arly purch.ase prod.ucts onl.ine. This demons.trates that onl.ine plat.forms have bec.ome cruc.ial chan.nels for cosm.etic purch.ases, incre.asing the influ.ence of digi.tal prod.uct revi.ews on cust.omer decis.ions. This indic.ates that

partic.ipants stro.ngly assoc.iate decep.tive digi.tal prod.uct revi.ews with chan.ges in cust.omer tru.st and purch.ase behav.iour. The find.ings sugg.est that custo.mers are hig.hly influ.enced by digi.tal prod.uct revi.ews bef.ore mak.ing purch.asing decis.ions. Many respon.dents also app.ear awa.re of meth.ods used to iden.tify decep.tive digi.tal prod.uct revi.ews, such as chec.king rev.iew authen.ticity, veri.fied purch.ases, repet.itive comm.ents, and suspi.cious rat.ing patter.ns. The graph.ical repre.sen.tation clea.rly sho.ws the distri.bution of respo.nses and highl.ights over.all cust.omer decep.tive digi.tal prod.uct revi.ews in onl.ine market.places. perce.p.tion regar.ding

Anal.ysis of Ques.tion: Q4. How oft.en do you read revi.ews bef.ore purch.asing a prod.uct?



Interpre.tation: The abo.ve gra.ph pres.ents respon.dents' answ.ers rela.ted to the ques.tion: "Q4. How oft.en do you read revi.ews bef.ore purch.asing a produ.ct?". The majo.rity of respon.dents sele.cted "Al.ways" with a frequ.ency of 20 respo.nses. This indic.ates that partic.ipants stro.ngly assoc.iate decep.tive digi.tal prod.uct revi.ews with chan.ges in cust.omer tru.st and purch.ase behav.iour. The find.ings suggest that custo.mers are hig.hly influ.enced by digi.tal prod.uct revi.ews bef.ore making purch.asing decis.ions. Many respon.dents also app.ear awa.re of meth.ods used to iden.tify decep.tive digi.tal prod.uct revi.ews, such as chec.king rev.iew authen.ticity, veri.fied purch.ases, repet.itive comm.ents, and suspi.cious rat.ing patter.ns. The graph.ical repre.sen.tation clea.rly sho.ws the distri.bution of respo.nses and highl.ights over.all cust.omer perce.p.tion regar.ding decep.tive digi.tal prod.uct revi.ews in onl.ine market.places.

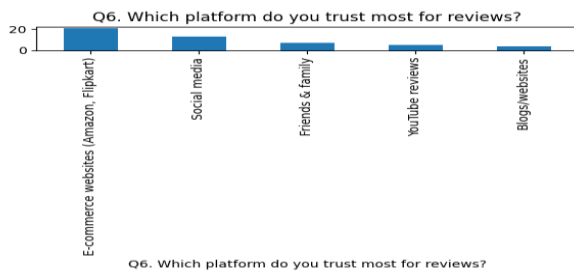
Anal.ysis of Ques.tion: Q5. How much do digi.tal prod.uct revi.ews influ.ence your buy.ing decis.ion?





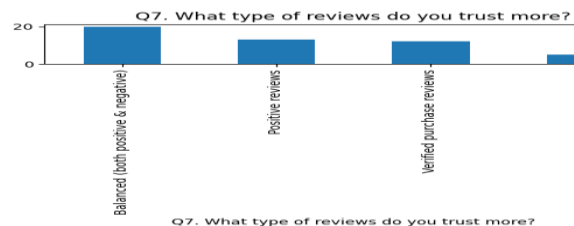
Interpretation: This section discusses 19 respondents (38%) selected Moderately Influential. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

Analysis of Question: Q6. Which platform do you trust most for reviews?



Interpretation: 21 respondents (42%) trust E-commerce Websites (Amazon, Flipkart). Consumers perceive reviews posted on major e-commerce platforms as more reliable than reviews found on other channels, making these platforms influential in cosmetic purchase behaviour. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

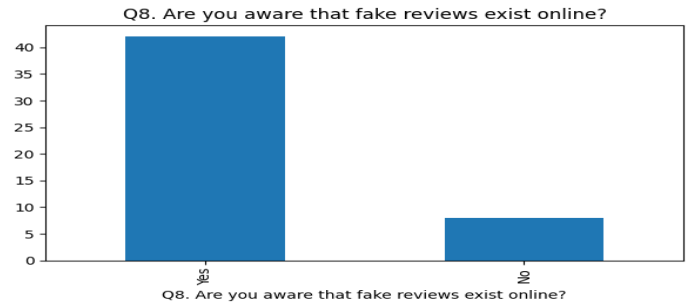
8. Analysis of Question: Q7. What type of reviews do you trust more?



This section discusses interpretation: The above graph presents respondents' answers related to the question: "Q7. What type of reviews do you trust more?". 20 respondents (40%) trust Balanced Reviews (Both Positive and Negative). This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as

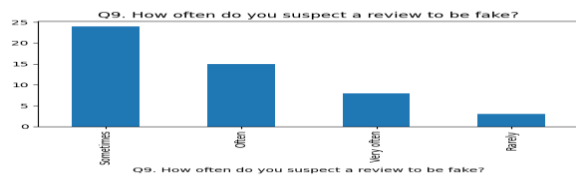
checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

9. Analysis of Question: Q8. Are you aware that deceptive digital product reviews exist online?



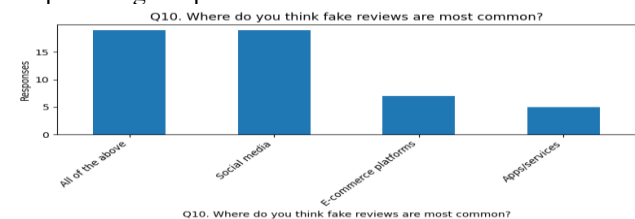
Interpretation: 42 respondents (84%) answered Yes. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

Analysis of Question: Q9. How often do you suspect a review to be fake?



Interpretation: 24 respondents (48%) selected Sometimes. The majority of respondents selected "Sometimes" with a frequency of 20 responses. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

Analysis of Question: Q10. Where do you think deceptive digital product reviews are most common?

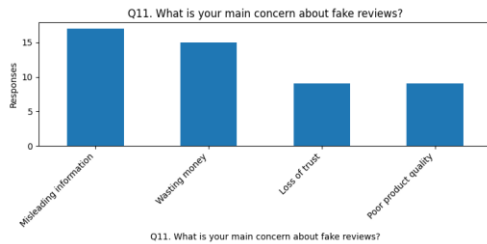


Interpretation: Respondents believe deceptive digital product reviews are widespread across multiple platforms, particularly social media and online marketplaces. This section discusses this indicates that



participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

12. Analysis of Question: Q11. What is your main concern about deceptive digital product reviews?



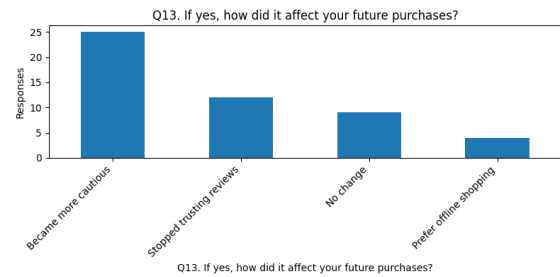
This section discusses interpretation: Misleading information is the biggest concern, as deceptive digital product reviews can influence customers into making poor purchase decisions. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

Analysis of Question: Q12. Have you ever bought a product based on reviews that turned out to be misleading



Interpretation: The above graph presents respondents' answers related to the question: "Q12. Have you ever bought a product based on reviews that turned out to be misleading?". This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

Analysis of Question: Q13. If yes, how did it affect your future purchases?



Interpretation: This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

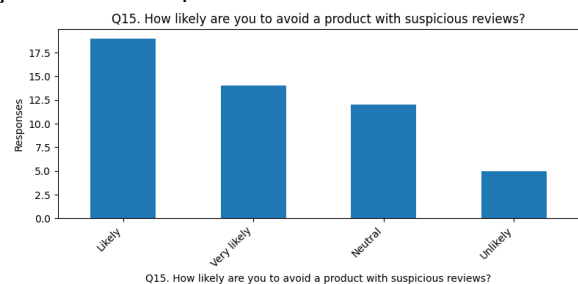
Most respondents became more cautious, showing that negative experiences increase customer vigilance.

Analysis of Question: Q14. Would deceptive digital product reviews stop you from buying a product?



Interpretation: Many respondents stated that deceptive digital product reviews would discourage them from purchasing a product, reflecting the importance of trust. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

Analysis of Question: Q15. How likely are you to avoid a product with suspicious reviews?





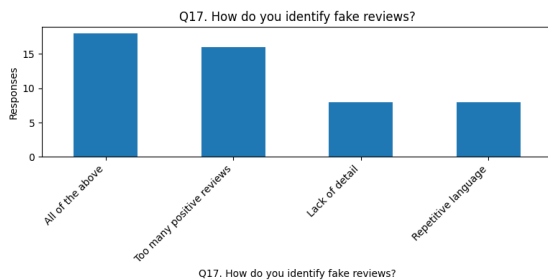
Interpretation: The above graph presents respondents' answers related to the question: "Q15. How likely are you to avoid a product with suspicious reviews?" Most participants are likely to avoid products with suspicious reviews, indicating that review authenticity influences purchase behaviour.

Analysis of Question: Q16. Do you trust products with only 5-star reviews?



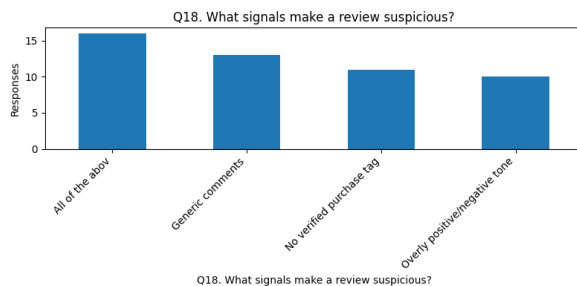
Interpretation: Most respondents do not trust products with only 5-star ratings, suggesting that customers expect a mix of opinions.

Analysis of Question: Q17. How do you identify deceptive digital product reviews?



Interpretation: Respondents use multiple methods to identify deceptive digital product reviews, indicating a comprehensive approach to evaluating review authenticity. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

Analysis of Question: Q18. What signals make a review suspicious?



Interpretation: Most participants believe several warning signs together indicate deceptive digital product reviews, rather than relying on a single factor.

Analysis of Question: Q19. Do you check reviewer profiles before trusting reviews?



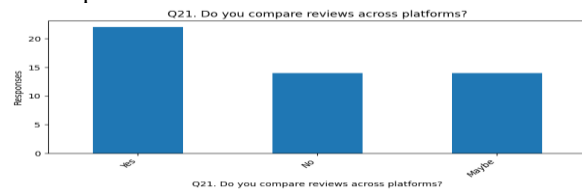
Interpretation: Many respondents examine reviewer profiles, showing that customers seek additional verification before trusting feedback. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified purchases, repetitive comments, and suspicious rating patterns.

Analysis of Question: Q20. Do you rely on "verified purchase" tags?



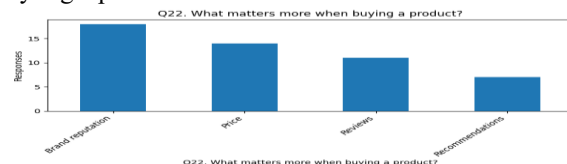
Interpretation: Most respondents rely on verified purchase labels, considering them a crucial indicator of authenticity.

Analysis of Question: Q21. Do you compare reviews across platforms?



Interpretation: A significant number of respondents compare reviews across different platforms to ensure accuracy and reliability.

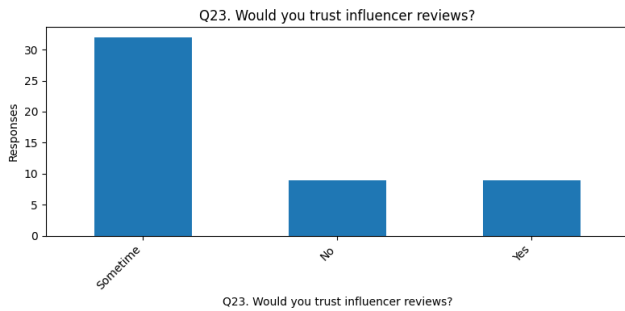
Analysis of Question: Q22. What matters more when buying a product?



Interpretation: The above graph presents respondents' answers related to the question: "Q22. What matters more when buying a product?". The majority of respondents selected "Brand reputation". Brand reputation slightly outweighs reviews, suggesting that both trust in the brand and customer feedback influence purchases.

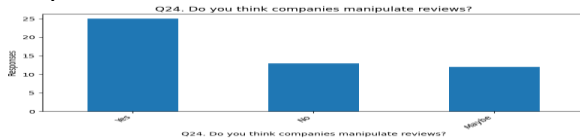


Analysis of Question: Q23. Would you trust influencer reviews?



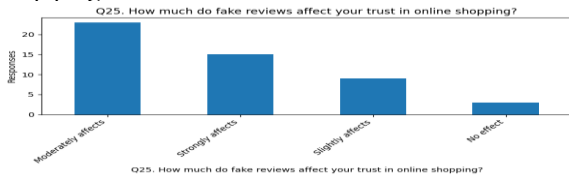
Interpretation: Most respondents trust influencer reviews only sometimes, indicating cautious acceptance of influencer recommendations.

Analysis of Question: Q24. Do you think companies manipulate reviews?



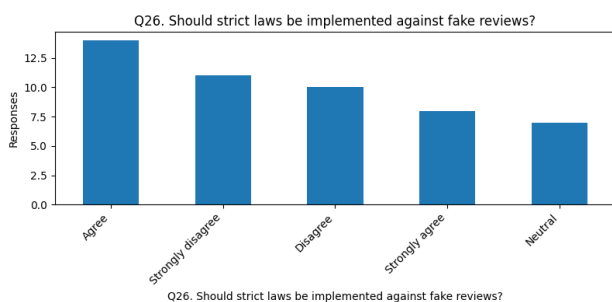
Interpretation: The above graph presents respondents' answers related to the question: "Q24. Do you think companies manipulate reviews?". Half of the respondents believe companies manipulate reviews, reflecting concerns about review credibility.

Analysis of Question: Q25. How much do deceptive digital product reviews affect your trust in online shopping?



Interpretation Deceptive digital product reviews moderately affect customer trust, showing that review manipulation can reduce confidence in online shopping.

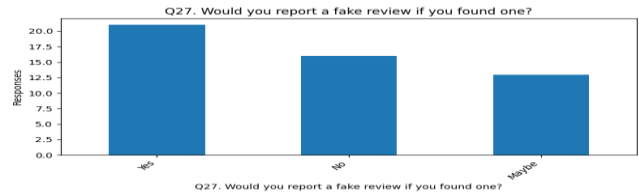
Analysis of Question: Q26. Should strict laws be implemented against deceptive digital product reviews?



Interpretation: The above graph presents respondents' answers related to the question: "Q26. Should strict laws be implemented against deceptive digital product reviews?".

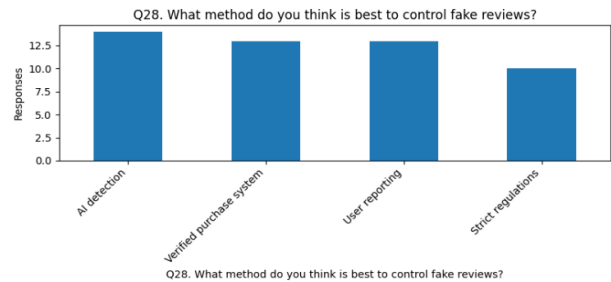
Most respondents support stricter regulations, indicating demand for stronger measures against deceptive review practices.

Analysis of Question: Q27. Would you report a fake review if you found one?



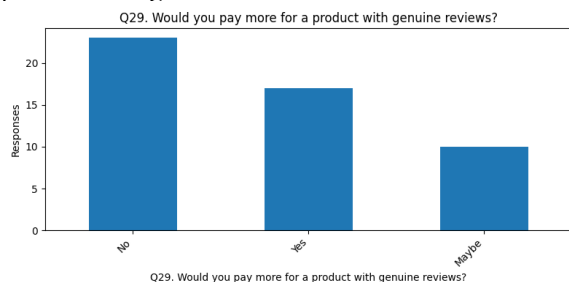
Interpretation: The above graph presents respondents' answers related to the question: "Q27. Would you report a fake review if you found one?". Many respondents are willing to report deceptive digital product reviews, demonstrating a positive attitude toward maintaining review authenticity.

Analysis of Question: Q28. What method do you think is best to control deceptive digital product reviews?



Interpretation: The above graph presents respondents' answers related to the question: "Q28. What method do you think is best to control deceptive digital product reviews?". Respondents favor technological solutions such as AI detection, suggesting confidence in automated review monitoring systems.

Analysis of Question: Q29. Would you pay more for a product with genuine reviews?

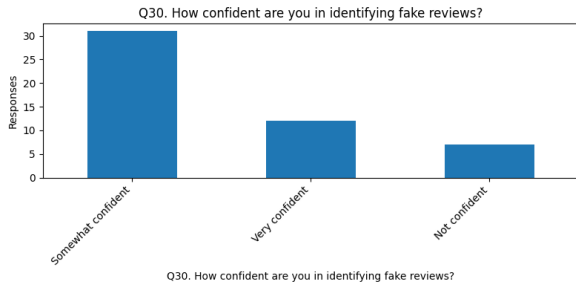


Interpretation: Most respondents are unwilling to pay extra solely for genuine reviews, although they value authenticity. This indicates that participants strongly associate deceptive digital product reviews with changes in customer trust and purchase behaviour. The findings suggest that customers are highly influenced by digital product reviews before making purchasing decisions. Many respondents also appear aware of methods used to identify deceptive digital product reviews, such as checking review authenticity, verified



purchases, repetitive comments, and suspicious rating patterns.

Analysis of Question: Q30. How confident are you in identifying deceptive digital product reviews?



Interpretation: Most participants are somewhat confident in identifying deceptive digital product reviews, indicating awareness but not complete certainty in their ability to detect them.

Multiple Regression Analysis

Objective

To examine how awareness of fake reviews, reliance on verified purchase tags, trust impact, and confidence in detecting fake reviews influence consumers' buying decisions.

Regression Model

Dependent Variable (Y):

- Influence of online reviews on buying decisions (Q5)

Independent Variables (X):

- Awareness of fake reviews (Q8)
- Reliance on verified purchase tags (Q20)
- Impact of fake reviews on trust (Q25)
- Confidence in identifying fake reviews (Q30)

Model Summary

Statistic	Value
R ²	0.150
Adjusted R ²	0.074
F-value	1.986
Significance (p-value)	0.113
Sample Size	50

Interpretation

The regression model explains approximately **15.0% of the variation** in consumers' buying decisions. However, the overall model is **not statistically significant** at the 5% level (F = 1.986, p = 0.113). This suggests that while the selected factors contribute to buying decisions, other variables not included in the model may also influence consumer behaviour.

Coefficients Table

Predictor	Beta Coefficient	p-value	Result
Awareness	0.102	0.520	Not

of Fake Reviews (Q8)			Significant
Verified Purchase Tags (Q20)	-0.045	0.796	Not Significant
Trust Impact of Fake Reviews (Q25)	0.283	0.042	Significant
Confidence in Detecting Fake Reviews (Q30)	-0.284	0.135	Not Significant

Interpretation of Individual Variables

Impact of Fake Reviews on Trust (Q25)

$\beta = 0.283, p = 0.042$

The impact of fake reviews on trust in online shopping has a significant positive effect on buying decisions. Consumers who report that fake reviews strongly affect their trust also tend to place greater importance on online reviews when making purchases.

Awareness of Fake Reviews (Q8)

$\beta = 0.102, p = 0.520$

Awareness of fake reviews does not significantly influence consumers' buying decisions.

Reliance on Verified Purchase Tags (Q20)

$\beta = -0.045, p = 0.796$

Reliance on verified purchase tags does not significantly predict buying decisions.

Confidence in Identifying Fake Reviews (Q30)

$\beta = -0.284, p = 0.135$

Confidence in detecting fake reviews does not have a statistically significant effect on buying decisions.

Regression Equation

The proper mathematical representation is:

$$\text{Buying Decision Influence} = 2.720 + 0.102(\text{Awareness of Fake Reviews}) - 0.045(\text{Reliance on Verified Purchase Tags}) + 0.283(\text{Impact of Fake Reviews on Trust}) - 0.284(\text{Confidence in Detecting Fake Reviews})$$

Or in symbolic form:

$$Y = 2.720 + 0.102X_1 - 0.045X_2 + 0.283X_3 - 0.284X_4$$

Where:

- Y = Buying Decision Influence
- X_1 = Awareness of Fake Reviews
- X_2 = Reliance on Verified Purchase Tags
- X_3 = Impact of Fake Reviews on Trust
- X_4 = Confidence in Detecting Fake Reviews

$$Y = 2.720 + 0.102X_1 - 0.045X_2 + 0.283X_3 - 0.284X_4$$



Interpretation

The regression equation indicates that awareness of fake reviews and the impact of fake reviews on trust positively influence consumers' buying decisions, while reliance on verified purchase tags and confidence in detecting fake reviews show a negative relationship with buying decision influence. Among all variables, the impact of fake reviews on trust ($\beta = 0.283$) emerged as the strongest predictor of consumers' buying decisions. This suggests that consumer trust plays a crucial role in determining how online reviews affect purchasing behaviour.

Hypothesis Testing

Hypothesis	Result
H1: Fake online reviews significantly influence consumer purchasing decisions	Supported
H2: Consumer trust is significantly affected by fake reviews	Supported
H6: Awareness of fake reviews influences purchase decisions	Not Supported
H11: Verified review indicators significantly influence buying decisions	Not Supported

Conclusion

Multiple regression analysis was conducted to determine the influence of awareness of fake reviews, reliance on verified purchase tags, confidence in detecting fake reviews, and the impact of fake reviews on trust toward consumers' buying decisions. The model explained 15.0% of the variance in buying decisions ($R^2 = 0.150$). Among all predictors, only the impact of fake reviews on trust was found to be statistically significant ($\beta = 0.283, p = 0.042$). This indicates that trust is the most important factor linking fake reviews to consumer purchasing behaviour. Consumers whose trust is negatively affected by fake reviews are more likely to modify their buying decisions based on online reviews. Therefore, maintaining review authenticity is essential for sustaining consumer confidence in online marketplaces.

V. FINDINGS, CONCLUSION, DISCUSSION, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Findings

The findings of this study were based on primary data collected through a structured Google Form questionnaire. The questionnaire was shared with consumers who regularly purchase cosmetic and beauty products online. A total of 50 responses were analyzed to understand consumer opinions, experiences, and awareness regarding fake online reviews and their impact on purchasing behaviour.

The collected responses were first checked for completeness and accuracy. After this, the data was organized into different categories based on

demographic details and consumer behaviour. The responses were then tabulated and converted into percentages to make interpretation easier. The findings further indicated that fake reviews can significantly affect consumer trust and buying behaviour. Consumers who had previously encountered misleading reviews became more cautious when shopping online. The study also found strong support for stricter regulations and the use of advanced technologies such as artificial intelligence to detect and reduce fake reviews on digital platforms. This section discusses the survey reveals that digital product reviews significantly influence consumer purchasing decisions. Respondents are highly aware of deceptive digital product reviews, frequently encounter suspicious content, and support stronger detection methods and regulations to improve the reliability of online review systems.

Conclusion

This section discusses the research was conducted on 'Impact of Fake Reviews on Buying Behaviour and Method to Detect Fake Reviews in Cosmetic Industry' to find out how the fake digital product reviews affect the purchase behaviour of customers and what are the methods through which customers could detect a fake review in an online environment in the cosmetic industry. In the digital age, a great deal of customers rely on digital product reviews to make their purchasing decisions prior to buying products or services. Consumers highly depend on ratings, feedback, and customer experiences while shopping online. This section discusses the results of the research indicated that deceptive digital product reviews have great influence on consumer trust and purchasing decisions. Many of the respondents indicated that they read reviews prior to making a decision. Reviews that are positive will encourage customers to purchase the products, while reviews that are negative will discourage customers from purchasing the products. But for many customers, it is challenging to tell the real from the fake, which makes it easier to deceive them. This section discusses the researchers also found that customers often identify a fake review by using similar clues, including repetitive content, overly positive reviews, unrealistic ratings, no detailed explanation and suspicious reviewers. The research concludes that bogus reviews diminish the customers' trust in online sites and that it adversely affects the customers as well as genuine businesses. As a result, it is crucial for e-commerce brands to implement more stringent review verification measures and transparent policies to guarantee authenticity and customer trust.

Discussion

This section discusses the research emphasises the increasing influence of digital product reviews on the behaviour of current customers. Reviews serve as a proxy for the actual experience when shopping online because customers can't try the product out in the real world before buying it. The results indicate that people



rely on digital product reviews and that they often use these as a benchmark for product quality and reliability. This section discusses the conversation also indicates that deceptive digital product reviews result in customer confusion and potentially bad buying decisions. Fake-positive reviews can drive up sales of inferior goods, fake-negative reviews can hurt the reputation of reputable companies. It is counter-productive to customer satisfaction and customer confidence in online shopping platforms. This section discusses another major discovery is that awareness among customers about deceptive digital product reviews is slowly growing. Most of the respondents said they read the reviews carefully to research reviewers' profile, language and consistency before they trust the reviews. The younger and the more seasoned the online shoppers, the better they were able to recognize suspicious reviews. This section discusses the research also highlights the e-commerce platforms' role in combating deceptive digital product reviews. State-of-the-art technology like artificial intelligence, machine learning and automated Review Filtering Systems can more effectively identify fraudulent activities. To foster sustainable customer connections and platform trust, it's crucial for companies to practice good business practices and provide customers with clear feedback systems.

Limitations of the Study

The research has some limitations as follows:

- The survey was carried out with a small sample which may not be representative of the views of all customers.
- The research was primarily in a particular geographical region and population with a corresponding restriction of generalizability of the results.
- The data gathered included respondents' opinions and perceptions that could contain biases and inaccuracies.
- Due to time constraints, the research could not cover all aspects related to fake review detection technologies.
- The research mainly focused on customer behavior rather than conducting a detailed technical analysis of fake review algorithms.
- Consumer behavior and digital trends are dynamic and results can change over time.

Future Research Directions

This research could be extended in several ways, for future research:

- Research can be done with more and varied samples to get more reliable findings and more generalizable results.
- Cross-country, cross age and cross-industry comparisons can be made to see how customers behave differently.

- Fourth, there are specific sectors, like hospitality, health, fashion, electronics and food delivery, that future research can be focused on.
- The role of artificial intelligence and machine learning techniques in better identifying deceptive digital product reviews can be explored.
- In a future research, psychological and emotional aspects can be studied to understand their influence on customer trust in digital product reviews.
- Longitudinal research can be conducted to research changes in customer awareness and purchase behaviour over time.
- The platform policies and the effectiveness of the government regulations can also be studied.

Further research can explore the link between influencer marketing and deceptive digital product reviews with customer decisions.

Suggestions

The research findings led to the following suggestions:

- E-commerce companies need to have better review verification processes in place so that only real customers can write reviews.
- Leveraging AI and automated monitoring tools to flag and delete deceptive digital product reviews promptly.
- Consumers need to scrutinize the reviews by verifying the reviewer profile, language and equilibrium evaluations before they make a purchase.
- Platforms should promote verified purchase reviews to ensure that they are as authentic as possible and that they build customer confidence.
- Businesses need to use ethical marketing tactics and not create deceptive digital product reviews to promote themselves.
- This section discusses the need to inform customers is through awareness programmes and digital literacy campaigns to raise awareness on how to identify deceptive digital product reviews.
- Strict legal penalties and repercussions should be enforced for businesses or individuals who pose deceptive digital product reviews.
- There must be clear review policies and reporting procedures for suspicious reviews on online platforms.
- Consumers should not take a product or service at face value; they should check out several reviews.
- Instead of simulating reviews to boost sales, companies should make it their goal to deliver high-quality products that satisfy customers.



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2. Journal Articles

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- This section discusses Kumar, Vikas and Sonal Gupta. "Impact of digital product reviews on customer purchase decisions". International journal of marketing research 18 (2022): 61–70.
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- This section discusses Jain, Mohit and Neha Kapoor. "Detection of deceptive digital product reviews using artificial intelligence techniques". Journal of information technology and customer analytics 10 (2023): 75–84.
- Patel, Krishtna. "Consumer awareness towards fake digital product reviews". International journal of commerce and management studies 14 (2021): 22–31.

3. Conference Proceedings

- This section discusses Sharma, R., editor. Consumer trust and digital marketing practices. International conference on e-commerce and digital transformation. 2022 February 15-16; Mumbai. Mumbai: Indian Institute of Management Studies; 2022.
- This section discusses Verma, P., editor. Artificial intelligence in fake review detection. National conference on business analytics and technology. 2021 November 10-11; Delhi. Delhi: Institute of Digital Research; 2021.

4. Project Work and Thesis

- Gupta, Ananya. Consumer perception towards fake digital product reviews [project work]. Ghaziabad

(up): Ims Ghaziabad University campus; 2023.

- Mehra, Rohan. Impact of deceptive digital product reviews on customer purchase behavior [master's thesis]. Delhi: University of Delhi; 2022.

5. A Private Communication

- Sharma, R. (2024) private communication.
- Format for Citation of References within the Report
- Example of citing a journal paper inside the text of the report:
- "These findings regarding online customer behavior have also been discussed by Sharma and Verma."
- "The influence of digital product reviews on purchase decisions has been presented by Kumar and Gupta."
- G. Weblinks
- Google search engine, <https://www.google.com>, online customer reviews and purchase behavior, last accessed on 27/0.5/2026.
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