MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY
FACULTY OF AERONAVIGATIONS, ELECTRONICS AND TELECOMMUNICATIONS
DEPARTMENT OF TELECOMMUNICATION AND RADIO ENGINEERING SYSTEMS

ADMIT TO DEFENCE
Head of the Department

Victor HNATIUK
"_____" _____ 2023

QUALIFICATION WORK
(EXPLANATORY NOTE)

MASTER'S DEGREE GRADUATE

Topic: «Analysis of consumer satisfaction with mobile operator services»

Performer: Yana ZHEZHEL
(signature)

Supervisor: Alina OSIPCHUK
(signature)

Consultants from individual sections of the explanatory note:

Consultant of the «Occupational Safety» section: Batyr KHALMURADOV
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Consultant of the «Environmental Protection» section: Andrian IAVNIUK
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Kyiv 2023

NATIONAL AVIATION UNIVERSITY

Faculty of air navigations, electronics and telecommunications

Department of telecommunication and radio engineering systems

Speciality: 172 "Telecommunications and radio engineering"

Educational professional program: Telecommunication systems and networks

ADMIT TO DEFENCE

Head of the Department

_____ V.Hnatiuk

"_____" _____ 2023

TASK
for execution of master qualification work

Yana Zhezhel

(full name)

1.Topic of diploma work: «Analysis of consumer satisfaction with mobile operator services»

approved by the order of the rector from «28» September 2023 No 1965/ст.

2. The term of the work: from 02 October 2023 to 31 December 2023 .

3.Initial work data: CSI calculation for mobile operator Vodafone Ukraine

4. Explanatory note content: introduction. chapter 1 explonation of customer service index; chapter 2 technological innovations in the telecommunication field; chapter 3 strategic priorities, calculations and conclusions

5. List of required illustrative material: data and graphical tables

6. Work schedule

№ n/p	Task	Term implementation	Performance note
1.	Write a detailed content of sections	03.10.2023-10.10.2023	Done
2.	INTRODUCTION	25.10.2023	Done
3.	CUSTOMER SATISFACTION INDEX	26.10.2023-01.11.2023	Done
4.	TECHNOLOGICAL INNOVATION	02.11.2023-12.11.2023	Done
5.	STRATEGIC PRIORITIES MOBILE OPERATOR VODAFONE ON THE TELECOMMUNICATIONS MARKET OF UKRAINE	13.11.2023-28.11.2023	Done
6.	OCCUPATIONAL SAFETY	29.11.2023-03.12.2022	Done
7.	ENVIRONMENTAL PROTECTION	04.12.2023-08.12.2023	Done

7. Consultants from individual sections

Chapter	Consultant (position, name, surname)	Date and	signature
		Task issued	Task accepted
Occupational safety	Ph.D. in medicine, professor Batyr KHALMURADOV		
Environmental Protection	Candidate of Science, Associate professor, Ph.D. in Biol., Andrian IAVNIUK		

8. Date of issue of the assignment: «29» September 2023.

Supervisor _____ Alina OSIPCHUK
                            (signature)   (full name)

Accepted task for execution _____   Yana ZHEZHEL
                                        (signature)   (full name)

ABSTRACT

Qualification work on the topic «Analysis of consumer satisfaction with mobile operator services». It contains 73 pages, 4 Figures, 10 sources.

The object of the study is calculations of CSI for Vodafone Ukraine.

The purpose of the thesis is to complete all stages of the process of calculations.

Research of the methods – collection the necessary data from mobile operator.

Customer Satisfaction is the extent to which the product or service provided by the company satisfies the customer's expectations. It is an abstract concept that includes factors such as the quality of the product, the quality of the service provided, the atmosphere of the place where the product or service is purchased, the price of the product or service, and many other related factors.

Material of diploma work is recommended to be used in conducting scientific research, educational process and practical activity in the teaching of undergraduate disciplines.

CONTENTS

LIST OF ABBREVIATIONS

CATI – Computer Assisted Telephone Interview

CSI – Customer Service Index

SWOT – Strengths, Weaknesses, Oportunities, Threats

CSAT – Customer Satisfaction Score

CES – Customer Effort Score

NPS – Net Promoted Score

PMF – Product Market Fit

RSI – Relative Strength Index

SMA – Simple Moving Average

EMA – Exponential Moving Average

GBP – Google Business Profile

RCM – Revenue Cycle Management

AI – Artificial Intelegence

CTS – Compatibility Test Suite

MIMO – Multiple Input Multiple Output

IBM – International Business Machine

AMR-WB – Adaptive Multi-Rate Wideband

LTE – Long-Term Evolution

INTRODUCTION

The degree to which the company's product or service meets the client's expectations is known as customer satisfaction. It is an abstract idea that encompasses several elements, including the cost of the good or service, the environment of the location where it is bought, the caliber of the product or service, and numerous other relevant elements. Customer satisfaction gauges how well your business's goods or services live up to the expectations of the clientele. Finding the elements, justifications, and incentives that affect a consumer's choice to buy as well as the actions of the intended audience is known as satisfaction research. A customer's level of satisfaction with a certain service parameter, product, or product in general is indicated via a satisfaction survey. The consumers of your goods or services who are currently clients of the business participate in the satisfaction survey. Methods for gathering information include face-to-face interviews, telephone surveys, and tablet surveys (CAPI).CSI is an excellent technique for raising satisfaction and converting skeptics into supporters.A statistic called the Customer Satisfaction Index (CSI) is used to gauge and assess how satisfied consumers are with a company, service, or product. It measures the extent to which consumers are happy with their experiences and may provide insightful data for enhancing client interactions, brand loyalty, and operational efficiency.

The purpose of the qualification work is to compute and use a Customer Satisfaction Index, following these steps: Define the Survey of CSI: Establish the objectives and parameters of your CSI survey. Choose the area of your company, product, or service where you want to gauge customer satisfaction. Make a Survey Tool: Create a survey instrument or questionnaire with questions that gauge client satisfaction. Both quantitative (rating scales) and qualitative (open-ended) questions may be used in these inquiries. Make sure the questions are unambiguous, objective, and relevant to the feature you're assessing. Gather Information: Send out the survey to your intended clientele. Numerous methods, such as phone interviews, in-person meetings, or online surveys, may be used to accomplish this. Get enough answers such that the results are statistically significant. While there are many different ways to calculate the Customer Satisfaction

Index, a popular method is to utilize a weighted average of survey answers from customers. Based on the relative significance of each survey item to overall satisfaction, assign weights to each one. Questions about the essential aspects of a product, for instance, could be given more weight than those regarding ancillary services. Determine the mean score for every inquiry (usually on a range, like 1 to 5) and then multiply the results by the corresponding weight. The CSI score is calculated by adding the weighted averages.

The object of the study is how to interpret the CSI Score more scores indicate more customer satisfaction. The CSI score often runs from 0 to 100. Consider the score in light of the expectations of your target market and your particular industry. In one industry, an 80 could be considered good, while in another, it might be below ordinary. Evaluate and Take Action: Examine the results to determine your strengths and opportunities for development. Utilize the survey's opinions and insights to influence your decision-making and help you put changes in place that will improve customer happiness. Keep an eye on trends: To monitor changes in customer satisfaction over time, conduct CSI surveys on a regular basis. This enables you to evaluate the effects of advancements and deal with new problems. Comparative analysis: To learn more about how you do in comparison to others in your profession, compare your CSI score to rivals' or industry standards. Share Outcomes: Inform your stakeholders and consumers about the enhancements and CSI findings. Trust and loyalty may be fostered via transparency. Businesses and organizations may use an effective Customer Satisfaction Index to better understand their consumers, make data-driven choices, and iteratively improve their goods and services. Maintaining and improving client relationships requires constant monitoring and responding since customer satisfaction is a dynamic metric that is subject to change.

The subject of the study is businesses and organizations utilize SWOT analysis, a technique for strategic planning, to evaluate their possibilities and threats from the outside as well as their internal strengths and weaknesses. It aids in identifying areas in need of development as well as viable approaches to goals. SWOT acronyms include: Strengths: These are intangible assets that set your company apart from competitors. These are skills or resources you have that you can use to help you reach your objectives. Strengths often

include assets, proficiencies, and attributes that are exclusive to your company. Weaknesses: These are inside elements that make your company less competitive than others. Weaknesses are areas that need improvement; they might be procedures, skills, or resource limits. Opportunities are outside events or circumstances that might be advantageous to your company. Opportunities are developments in the market, shifts in the business environment, or external trends that your company may take advantage of. Threats are outside events or circumstances that could endanger your company. Market rivalry, recessions, governmental changes, and other external difficulties are examples of threats that your company must be aware of and ready for. The following is a step-by-step manual for doing a SWOT analysis: Determine Your Goals: Clearly state why you are doing a SWOT analysis. What goals or issues are you attempting to resolve? It will assist in concentrating your analysis. assemble information Gather data and information on the possibilities and challenges that face your company from the outside as well as its internal strengths and weaknesses. This might include analyzing competitors, doing surveys, analyzing financial documents, and researching the market. Establish a SWOT matrix. Make a matrix with four quadrants and headers for Opportunities, Weaknesses, Strengths, and Threats. Determine Strengths: Enumerate your organization's intrinsic strengths. What benefits does your company provide over rivals? What tools and resources are available to you?Identify Weaknesses: Make a list of your organization's internal shortcomings or areas that want improvement. What resource, skill, or process-related difficulties does your company face? Identify possibilities: Make a list of outside possibilities that your company can take advantage of. These might include developing markets, fashions, innovations in technology, or shifts in customer behavior. Determine Threats: Enumerate outside risks that could endanger your company. Taking into account external issues such as legislative changes, economic concerns, and market rivalry. Examine and Set Priorities: Evaluate each item's importance in your SWOT analysis. Which assets may be used to take advantage of opportunities? Which vulnerabilities need quick fixing in order to lessen threats? Create Strategies: Create plans to strengthen your areas of strength, strengthen your weaknesses, take advantage of opportunities, and lessen dangers based on your research. These tactics have to be precise and implementable. Put into Practice and Track:

Put the methods into practice and keep an ongoing eye on their efficacy. A well-executed SWOT analysis may give useful insights for strategic planning, assisting companies in making informed choices and adapting to their changing environment. SWOT analysis is an iterative process that should be repeated often to adjust to changing conditions.

The scientific novelty of the obtained results is in order to prove that results from an examination of customer satisfaction with mobile operator services are scientifically innovative, it is important to draw attention to any new approaches, ideas, or discoveries that add to the corpus of current knowledge in the area.

Approbation of research results

Scientific and practical webinar on the platform Academia.edu, "The impact of branding on consumer satisfaction in Mobile Telecommunications Services", Buenos Aires, 10-11 May 2023

CHAPTER 1
CUSTOMER SATISFACTION INDEX

1.1. The overview

It is a headline statistic that expresses how happy people are with a company, a particular item or service. Its integrated, comprehensive approach is both its distinguishing feature and advantage. It follows that CSI evaluates more than simply general pleasure. Any firm must prioritize meeting the requirements and wishes of its customers. Additionally, happy consumers generate more revenue, are more devoted, and promote great word of mouth. Because of this, it's important to always have the Customer Satisfaction Index (CSI) in front of you. In order to maximize the efficacy and value of CSI, we provide an overview of its advantages, explain how to quantify it, and highlight seven recommended practices in this post. A headline indicator called the Customer Satisfaction Index (CSI) gauges how happy consumers are with a company, a particular item or service. Its integrated, comprehensive approach is both its distinguishing feature and advantage. Thus, CSI assesses more than simply general contentment. It also reveals which elements of your company's offering are succeeding, failing, or fulfilling demands. A company's sales, profitability, and brand equity may be adversely affected by neglecting, not meeting, or exceeding consumer demands, hence CSI is an important indicator to assess regularly over time. In summary, CSI is a reliable and strong instrument for gauging consumer satisfaction when utilized appropriately. However, why is CSI such a well-liked insight tool? CSI is a vital indicator that improves your company for a number of strong reasons. Flexibility: Compared to single indicators like the Net Promoter Score, this index is significantly more adaptable. CSI gives your company the ability to gauge and enhance the things that matter most to your clients. For example, if your organization is retail focused, then product quality and the shopping experience would probably be crucial. On the other hand, an accounting company is more likely to put trust and dependability first. Determine and Sort Opportunities by Priority:

You may identify, prioritize, and seize chances to incrementally enhance customer satisfaction in order to sustain and strengthen your competitive advantage when you regularly monitor the CSI measure. Boost the Retention of Customers: Loyalty is cultivated via customer pleasure. Consequently, devotion intensifies outcomes. Loyal consumers are significantly more cost-effective and valuable, as is often said. Spending on acquiring new customers is reduced. Additionally, devoted clients spend a great deal more and draw in new business on their own by recommending businesses to others. Identify Problems Rapidly: In today's hectic and fiercely competitive environment, you have to be quick to identify problems and take action. Should your firm take too long to respond, customers will probably go and spend their money somewhere else. As an index, it offers a comprehensive measurement that encompasses every recognized factor that influences customer happiness. So, it usually entails the following straightforward calculation: [Total number of attributes / sum of all recognized attributes] = CSI. However, what happens if the importance of each characteristic to consumer satisfaction is not equal? For example, if product quality is not as crucial as pricing. In such a scenario, creating a weighted index is advised. But before you can weight your index, you must first comprehend how the CSI and CSAT scores vary from one another. Distinguish between CSAT, or the Customer Satisfaction Score, and CSI. One significant distinction is that a CSAT is a metric, but a CSI is an indicator. Customers may rate their level of satisfaction with a particular characteristic on a 5, 7, 10, or 11-point response scale, which goes from, instance, "Very Dissatisfied" to "Very Satisfied," by asking questions such as "How satisfied are you with X, Y, or Z?" That implies all of your CSAT scores, or the ones that matter most, might be used to build your CSI. As such, your CSI score will be calculated by using pertinent CSAT metrics. Which CSAT results, nevertheless, have the most effects on customer satisfaction? It's always preferable to depend on facts, even while nothing prevents your staff from making expert decisions on what matters most to client pleasure. Research indicates that there are two ways to create a weighted CSI: statistical testing and direct consumer reports. One often does ranking using direct consumer reports.

This entails, for example, letting your clients assign varying rankings to various features so they may choose what matters most. Using your consumers' perspective, this

strategy shows how significant each feature is in relation to the others. Ranking may not be possible, however. For example, CSAT ratings might be assessed at many stages along the client journey. And this makes obvious sense—your clients' memories of the encounter will be fresh, for example, just after they get assistance from customer care. It is improbable, nevertheless, that you could measure every consumer touchpoint in a single session. What then is the other method for allocating attribute weights? You may compile CSAT results obtained from various touchpoints and times and do statistical analyses. Subsequently, you may examine the data (such as attribute factor loadings) to have a deeper comprehension of their respective significance when combined. Let's go back to the previous illustration. Let's imagine that price increases brought on by inflation result in a one-point drop in consumer satisfaction. Additionally, consider that pricing is significantly more important than other characteristics. A point decline in pricing satisfaction will impact your CSI score in the same way as a corresponding loss in another characteristic when using an unweighted index. However, with a weighted index, pricing would be more significant and hence have a greater impact on your CSI, signaling a more severe problem. To get the most out of your CSI, take into account seven more elements, even if some believe a weighted index to be best practice. Include What Is Most Important An index combines a set of qualities by definition. Its worth is thus determined by the components of your CSI. This entails ensuring that the key characteristics that impact total customer satisfaction are captured by your CSI. To get the overall picture, measure customer satisfaction on a regular basis at every customer touchpoint that has been identified along the customer journey. Choose Special Qualities Even if some overlap is inevitable, while creating a well-constructed index, you need to use indications that specifically add to consumer satisfaction. Price and value for money, for example, could seem too similar. Instead, identify the key factors that most influence customer happiness via data analysis, then choose the indication that most accurately represents that attribute. Look Up Any Missing Properties. After you've determined which features are significant and distinct, it makes sense to do a regression analysis.

To what degree do the characteristics you have found account for variations in overall customer satisfaction? It's crucial to review your customer experience if your

regression model isn't providing enough explanation. What do you lack that would provide more insightful information? Make It a Standout Feature on the Dashboard It is imperative that you maintain your focus. These days, you really need a dashboard with your key performance indicators on it. Since the CSI gathers a lot of important data, you could choose to use your CSI score as a headline indication. If a shift in customer satisfaction is seen, you may easily go further to see the underlying causes and take appropriate action. Take Up Benchmarking Human memory is not perfect. As a result, compare subsequent results to your first CSI score. Furthermore, you can quickly notice changes in your CSI data if you plot it as a time series, much as you do with a stock index. Employ A Reliable Source Of Insight As beneficial as CSI is, the way an insight tool is designed, delivered, and reported on affects how helpful it is. For this reason, we advise using a trustworthy insight supplier like Questback. The Questback team, as your insight partner, makes sure that all of your customers' measures and indices are legitimate, dependable, and user-friendly. Decisively Respond to Insights Any increase or decrease in your CSI warrants prompt notice and intervention. For example, you'll instantly identify your responsible attribute(s) if you see a rise. More significantly, this offers a chance to honor the individuals and projects that brought about this turnaround. In the event that your CSI score declines, you must also respond swiftly. Better still, if you use a weighted index, you may maximize the positive impact by concentrating on characteristics that have poor performance and high relevance. What matters most to your clients should be captured in the value that a well-constructed CSI offers. You will have the lucrative chance to correct errors and consistently maintain and raise your customer satisfaction levels to preserve your competitive edge by incorporating those characteristics, or CSAT scores, into a CSI.

1.2. Customer Surveys

Surveys should be conducted on a regular basis to get direct input on different areas of the service. One useful way to get direct input from consumers of mobile operator services is to conduct customer surveys. For the purpose of creating and executing efficient customer surveys, keep the following points in mind: Describe the precise goals

of the survey. Which mobile operator services are you interested in evaluating? Customer service, cost, network quality, and other factors may be included. Determine who the survey's target audience is. Take into account variables including geography, service kinds used, and demographics. Customize your questions to the traits of your clientele. To boost response rates, keep the survey brief and targeted. To collect both quantitative and qualitative information, combine open-ended and closed-ended (multiple-choice, rating scale) questions. Prior to going on to more specialized inquiries, start with broad ones. Make sure your questions are direct, simple, and free of bias. Inquire about people' experiences with call quality, data speed, and network coverage. Inquire about certain situations, such as use both inside and outside or at busy times. Evaluate how satisfied customers are with the responsiveness and accessibility of the customer care channels. Ask about the customer service agents' helpfulness and how problems are resolved. Assess opinions about value for money and price transparency. Find out whether there are any unstated costs and how satisfied customers are with the price arrangements overall. Incorporate inquiries about the desirability and practicality of supplementary services provided, such data limitations, roaming services, and packaged deals. Determine if consumers are aware of and satisfied with the mobile operator's use of new technology. Incorporate inquiries on the ease of invoicing, available payment methods, and contentment with account management functionalities. Request an overall customer satisfaction rating for the services provided by the mobile operator. Incorporate an inquiry about Net Promoter Score (NPS) to determine the probability of clients endorsing the offerings to their acquaintances. Provide a section including demographic data so that you may examine customer satisfaction levels among various consumer groupings. Give consumers the chance to make comments and recommendations by asking open-ended inquiries. Think about asking a follow-up question that inquires about potential ways the cell provider may enhance its offerings.

Customers should be reassured of their data privacy and the intended use of the acquired data should be made clear. Select suitable distribution methods for the survey, such as SMS, email, or the mobile operator's app. To boost response rates, think about offering incentives for involvement. Examine the survey data in detail and identify the

main areas that need improvement. Customers should be informed of results and action plans to show that you are committed to resolving their problems. Customer satisfaction may be gradually increased and mobile operator services can continue to improve with the regular administration of customer surveys and implementation of feedback. Consumer feedback may be gathered via customer surveys. They support businesses in doing market research, gauging expectations, measuring consumer involvement, and assessing customer happiness. The answers you get will provide you important information about what inspires, fascinates, and irritates your clients. Customer surveys are a means for businesses to get input from their customers in order to gauge their level of happiness, comprehend their expectations, and carry out market research. Rather of relying on conjecture, they assist in obtaining accurate and tangible information from clients. Net Promoter Score (NPS), Customer Satisfaction Score (CSAT), Customer Effort Score (CES), and Product-Market Fit are the four primary categories of customer satisfaction surveys. Customer satisfaction surveys may include open-ended, rating scale, binary scale, and Likert scale questions. Consumer surveys are a kind of research technique that companies and organizations use to learn more about the attitudes, views, habits, and preferences of their target market concerning certain goods or services. One of the most crucial instruments for advancing the business-customer dialogue is the customer satisfaction survey. They provide rapid, effective, and comprehensive consumer feedback at scale. Utilizing customer satisfaction surveys enables you to get insightful information about issues and trends that result in successful customer outcomes.

However, it doesn't end here. Reducing churn and raising the client lifetime value may be achieved by acting on the data you get. Surveys of customer satisfaction are all about numbers. Behind the scenes, even non-numerical scales have a quantitative significance. On a scale of 1 to 5, a joyful face may get a 5 when your analytics calculations are used. Let's examine each of these four survey kinds. In the Net Promoter Score (NPS) survey, the question "How likely are you to recommend our product to others?" is asked on a scale from 0 to 10. NPS uses a scale from -100 to 100 to calculate customer loyalty. The aggregated score derived from all of your survey replies indicates the general level of consumer satisfaction. An instantaneous assessment of a customer's

experience and degree of happiness with a particular product, feature, or team contact is known as the Customer happiness Score (CSAT). Customer satisfaction survey (CSAT) score Source: Hubspot To find out how satisfied customers are with your product overall, you need measure CSAT at several times along the user experience. Customers' perceived effort in utilizing a feature or carrying out an activity in your product (such updating or contacting support) is measured by the customer effort score (CES) survey. Although convenience isn't everything, it will eliminate everything that causes it. For this reason, tracking how much work it takes to use your product will enable you to determine where consumers are having difficulty as well as what they consider to be clear-cut and easy to use. Get extra information by following up on your CES survey and tailoring the question according to the user's first score. This will assist you in taking targeted steps to address the issues that are creating friction and duplicate user preferences. A customer satisfaction survey called Product-Market Fit (PMF) may tell you whether or not your product has reached product-market fit. The PMF score was created by startup adviser and entrepreneur Sean Ellis, and it is determined by questioning people.Asking consumers "How would you feel if you could no longer use the product?" allows you to calculate the proportion of respondents who say "very disappointed."Product-market fit has been attained by your product if your score is 40% or above. When you are not far enough into the life of your product to assess customer satisfaction with an NPS survey, this survey is very helpful. Unlike rating scales, open-ended inquiries let respondents express themselves in their own terms. They might highlight issues you might not have observed and you gain from their first-hand knowledge. As was previously said, an open-ended inquiry might come before or after a quantitative question. Aim to minimize personal biases while creating your survey and choose questions that won't affect respondents' responses. Questions using rating scales (1–5, 1–10, happy to sad, etc.) aid in your comprehension of patterns and benchmarks. As long as you are consistent in the scale you choose for a given measurement, they provide you with standardized data that you can evaluate over time. Quick yes/no responses are sought for in binary scale queries. In its most basic form, it is an evaluation of client satisfaction. Questions on a binary scale resemble measuring a pulse. Negative responses that show sudden surges should alert you to the need for further

investigation and action. The Likert scale gauges consumers' opinions about a specific message, in contrast to the rating scale that requests users to provide a score to an event. The first and final numbers on a scale of 1–5 or 1–7 indicate sharply opposed viewpoints, often agreement or disagreement. whether your users "agree" that your super special sales team is amazing and special, rather than asking whether they are "satisfied" with your super special sales team, then it is acceptable for a Likert question to include a value assessment. Your customer satisfaction survey may be coded specifically for you, or you can choose a no-code solution. What makes the two possibilities different, then? You should custom code your own surveys if you need complete modification freedom. While total customisation may seem good, can you picture the response your developers will get once they have to integrate and test all of the modifications after the survey has been launched? There is a better method (hint: it doesn't involve coding and is also totally customisable). A plethora of tools are available for creating user feedback surveys. While some, like Satismeter, are limited to assessing customer happiness, others, like Typeform, can create many survey formats that you can include into your app or website. With just one interface and no coding, you can add brand colors, different question kinds, and even photos or micro-videos to your surveys to further personalize them.
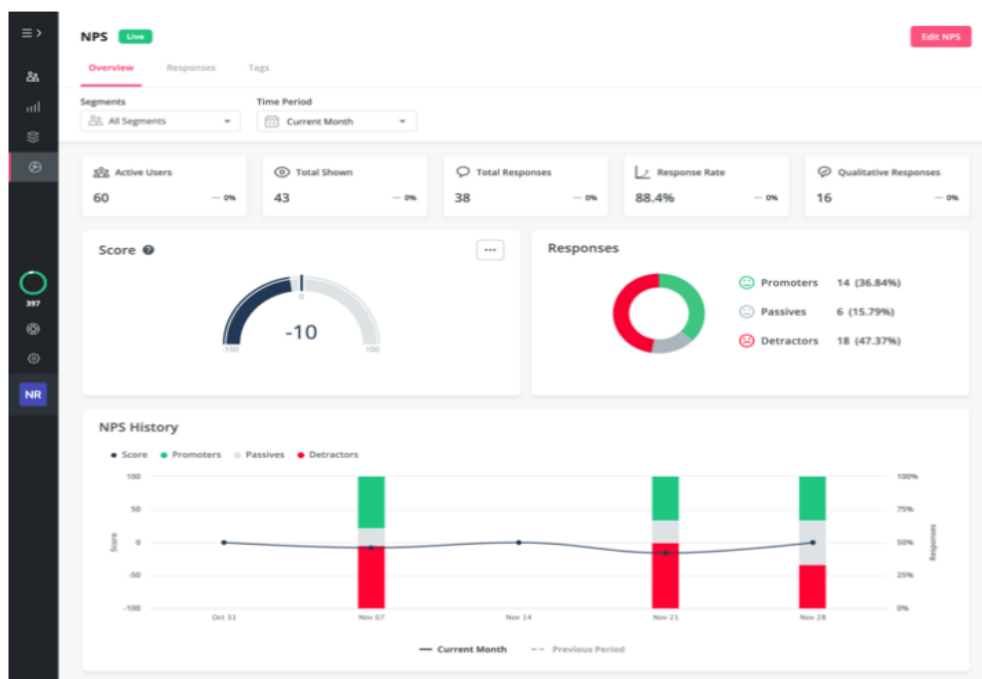

Fig.1.2.NPS commentary NPS questionnaires

Yes, the scale and question remain the same, but you are free to choose the location and level of customisation. Asana uses a pop-up to get NPS feedback. It may seem little, but not having a dismiss button might irritate consumers. It may either be closed on purpose by clicking on a random number to make it disappear, or inadvertently because of where it is placed. Make your NPS survey more engaging by designing it the way Hotjar does. Using the score from the first question, tailor the second question to the respondent. When you have accurate and current knowledge, you can make the greatest judgments. You may get such information via customer satisfaction surveys.

1.3. Social media monitoring

Keep an eye out on social media sites for comments and opinions from customers. These days, things happen rapidly, and you can see changing consumer trends in real time with our social media monitoring technology. Social media conversations are a great way to learn about how your target audience is evolving in terms of expectations, views, and behavior. Our sophisticated keyword tracking features provide you access to valuable social media information. For almost every company, a crisis may arise out of the blue, and it usually begins on social media before becoming more serious. These days, everyone is an influencer!

However, by identifying the key players in discussions that affect your brand and examining their audiences to determine whether or not they are authentic or at least not as relevant as you would want, our social listening tools may assist you in identifying the individuals who are really significant in your industry. With interactive visual dashboards, you can instantly understand the influence of your brand. Examine important indicators like sentiment, potential reach, current topics, media exposure, and more! Use pre-configured custom searches put up by our local support staff, or create ad hoc searches on the go. Get real-time updates by personalizing your email alerts. Send material via Slack, email, or text. Track an infinite number of keywords via all platforms. Keep tabs on rivals to keep one step ahead. Explore and hear from over 200 billion social exchanges. You may analyze stats by date, location, language, and sentiment using customizable dashboards.

Discover which rivals are becoming more popular and in which magazines. Make dashboards and compare them to those of your rivals. Make your next move instantly. Convert text with a single button click. Export data to various reporting formats, such as Excel. For mobile operator services, social media monitoring is essential to comprehending and controlling consumer contentment. Businesses that constantly monitor social media sites may get insightful information, spot new trends, and quickly resolve client issues. This is a manual for efficiently keeping an eye on social media: Determine which social media sites are most popular with your target audience. These may include LinkedIn, Instagram, Facebook, Twitter, and more. Specify exactly the mentions, hashtags, and phrases you want to keep an eye on in relation to your mobile operator services. This might contain phrases linked to popular services, product names, and corporate names. Use social media monitoring software to make the procedure more automated. Tracking mentions and sentiment across many channels may be facilitated by using tools such as Brandwatch, Sprout Social, or Hootsuite. Sort mentions into good, negative, and neutral categories using sentiment analysis methods. This might assist you in determining the general tone of conversations about your offerings. Resolve complaints, comments, and questions from customers as soon as possible. Since social media is a real-time medium, prompt reactions may show that a business values its clients' needs. In consumer feedback, look for reoccurring themes or trends. Recognizing patterns might assist you in anticipating problems and enhancing offerings. Keep an eye on your rivals' social media activity to learn about market trends and how your offerings stack up. Combine comments and recurring issues from social media into a single system for further examination. Other channels for receiving client input may be combined with this. Provide pertinent corporate departments, such customer service, marketing, and product development, with social media analytics. Working together guarantees a comprehensive strategy for handling client problems. Respond to comments on social media by making adjustments or enhancements to solve problems that have been pointed up. Reward and recognize satisfied customers who post about their experiences on social media. This may promote client loyalty and enhance a company's reputation. Keep a watch on industry thought leaders and influencers. Their views have the power to shape consumer

perceptions and reveal market trends. Make sure that the methods you choose for monitoring social media adhere to data privacy laws. Respect user privacy and make sure you have the right permissions before using data. Make constant improvements to your messages, client interaction tactics, and offerings by using the data gathered from social media monitoring.

Mobile operators may show their public commitment to customer happiness, keep updated about consumer attitudes, and immediately handle concerns by regularly monitoring social media. Make constant improvements to your messages, client interaction tactics, and offerings by using the data gathered from social media monitoring. Mobile operators may show their public commitment to customer happiness, keep updated about consumer attitudes, and immediately handle concerns by regularly monitoring social media. In 2023, there will be 2.77 billion social media users worldwide. These folks are posting not just photos of their meals and pets but also insightful marketing content. Any communication from a client pertaining to your sector is an opportunity for your company to expand by learning about the preferences, dislikes, needs, and wants of your clientele. The more interactions you hear from customers, the more data you collect. Future campaigns are then informed by this data, eliminating the need for you to guess what your customer expects. You're providing insightful answers to their questions and requests. Social listening and "social monitoring" are terms that are often used interchangeably. Although they both relate to a kind of social media intelligence, the names have different meanings. You may learn what your consumers are saying by monitoring. You may learn the purpose of such discussions by listening to them. The practice of compiling social media posts and discussions into a database of pertinent data is known as social media monitoring. You may also respond to every message you receive separately, answering grievances, queries, and concerns on every channel. Social media listening is the process of evaluating the insightful talks you record.

From there, you may expand your campaigns and modify your company's operations in response to patterns you see in the data. While listening is actively changing your company depending on what you learn and hear online, monitoring is more of a reactive approach. Effective listening yields valuable evolutionary ideas, while monitoring

keeps your company abreast of client feedback and issues. Social listening capabilities are included into the majority of social media monitoring products. These options, when used well, may improve your communication plan and fortify your brand. The following are some advantages of social media monitoring: enhancing the reputation of a brand: Being constantly aware of what your clients are saying allows you to promptly address their demands. Increased consumer engagement: Monitoring identifies chances for companies to engage in beneficial dialogue with clients. Over time, stronger connections result from this. Improved campaign insights: utilizing platforms like Sprout Social, you can examine how various audiences react to mixed messaging from your company by labeling messages and utilizing keywords. Stay up to date on everything: You won't have to be concerned about failing to recognize patterns in consumer satisfaction or mood. Social media monitoring makes sure you are constantly aware of the opinions and feelings of your audience. Using the appropriate technology is the simplest approach to participate in social media monitoring. Businesses may monitor and evaluate social media discussions started by their audience using tools like Sprout Social. To stay on top of your game in the market, you can even choose to keep an eye on communications that include the names of your rivals. Even the opportunity to regain lost clients is provided by social media monitoring solutions for companies. Knowing which customers are dissatisfied with your company allows you to quickly provide them with the superior solutions they want. The faster you address dissatisfied customers with a meaningful response, the more probable it is that they will become brand ambassadors.

1.4. Market trends

One important development has been the rollout and growth of 5G networks. In order to provide quicker and more dependable connection, mobile carriers are making infrastructure investments. There is growing interest in the incorporation of edge computing into mobile networks. This improves the performance of apps and services by enabling quicker data processing and lower latency. The proliferation of linked gadgets is driving the Internet of Things (IoT) to new heights, and mobile carriers are having to

adjust accordingly. Wearables, industrial IoT applications, and smart homes are all included in this. In order to improve user experiences, optimize operations, and launch cutting-edge services, mobile carriers are going through a digital revolution. This covers the use of data analytics, AI, and machine learning.

More adaptable and customized pricing schemes are becoming popular. To meet the diverse demands of its customers, mobile carriers provide a range of services and plans, such as family-sharing and unlimited data plans.

Enhancing the client experience is a primary goal. Improved customer service, streamlined invoicing procedures, and intuitive self-service interfaces are among the investments being made by mobile providers.

There is a rising focus on cybersecurity and data privacy due to the increased dependence on mobile services. To protect user data, mobile providers are putting precautions in place.

In an effort to improve their capacities, broaden their customer base, and provide packaged services, mobile operators have entered into a number of alliances and mergers within the sector.

Reliable mobile services are in more demand as a result of the transition to remote work in order to provide video conferencing, remote connection, and collaboration tools. Concerns about sustainability are growing, and mobile carriers are looking at methods to lessen their environmental effect by implementing sustainable practices and energy-efficient technology.More and more mobile services are integrating AR and VR, opening up new avenues for entertainment and immersive experiences.While keeping privacy issues in mind, mobile carriers are looking at methods to make money off of the massive quantities of data they gather. Providing clients with individualized services and insights is part of this. Recent market surveys, industry analysis, and news sources should be consulted for the most current and industry-specific information. Since mobile technology is a quickly developing subject, it is important for stakeholders in the business as well as consumers to remain up to date on the newest developments.

A market trend in technical analysis is the overall direction the market has been going in, whether it is up, down, or sideways. Since trends are tracked over time, a market

that has been rising over time may have downtrends at certain points. A market trend in technical analysis is the overall direction the market has been going in, whether it is up, down, or sideways. Since trends are tracked over time, a market that has been rising over time may have downtrends at certain points. Traders may recognize trends and trend reversals with the use of technical tools like moving averages. What do business analysts mean by market trends? You can improve your plans to match evolving customer wants and outwit your competitors by keeping a careful eye on market trends. Make more informed business choices. You may improve your company in general and create profitable goods or services, as well as develop marketing strategies, by having a solid understanding of market trends. A market trend is the direction of an asset's price over a certain time frame. All assets and markets, including foreign currency, commodities, stocks, and bonds, whose prices and trade volumes vary, are subject to market movements. However, what really is a market trend, and how can you use it to your advantage? Here, we examine the concept of a market trend and how it might influence your trading approach. The price direction of an asset over a certain time is known as its market trend. An asset or market is said to be in an uptrend or bull market if its prices rise generally over a certain period of time. An asset is considered to be in a downtrend or bear market when its price goes into a sequence of lower highs and lower lows. Investors and traders might find trading opportunities with the aid of market trends. The direction of an asset's price over time is known as its market trend. In technical analysis, an uptrend—often referred to as the bull market—occurs when prices make a string of higher highs and higher lows. On the other hand, when prices consistently experience lower highs and lower lows—a phenomenon known as the bear market—they are considered to be in a downtrend. Market trends assist traders in seeing possible changes in the market that they may forecast. Recognizing the variables that might influence a market trend is crucial to understanding what it means. Governments may influence the development of market trends by implementing changes to their fiscal and monetary policies. A nation's economic development, for instance, might be impacted by changes in a central bank's interest rate, which would directly effect the defensive and cyclical sectors of the economy. The attitude of market participants might influence market developments. A bullish trend may be

shaped by traders' and investors' positive view when they believe that a country's economy or a company's business prospects will improve.

On the other hand, traders' pessimistic views about the market may cause the asset's price to decline. The attitude of market participants might influence market developments. A bullish trend may be shaped by traders' and investors' positive view when they believe that a country's economy or a company's business prospects will improve. On the other hand, traders' pessimistic views about the market may cause the asset's price to decline. An upswing might be fueled by encouraging corporate quarterly reports or better-than-expected economic statistics. Negative news, on the other hand, can cause prices to decline and start a downward trend. Depending on the duration and factors that led to the trend, there are several kinds of market trends. Years or even decades might pass between secular trends. They are often influenced by demographic and economic structural shifts. One example of a secular trend is the present move towards renewable energy. Primary patterns might persist for many months or even years. They are influenced by political and economic developments in addition to shifts in the business cycle. One such tendency, for instance, is the cycle of monetary tightening by the US Federal Reserve (Fed). Secondary trends are characterized by shifts in investor emotion in addition to technical considerations, and they may last for many weeks to several months. Days or weeks may pass between these patterns. Usually, changes in the dynamics of supply and demand as well as market instability are what propel them. Small trends may last for only a few days. These are usually short-term movements influenced by shifts in trade volumes and news releases.
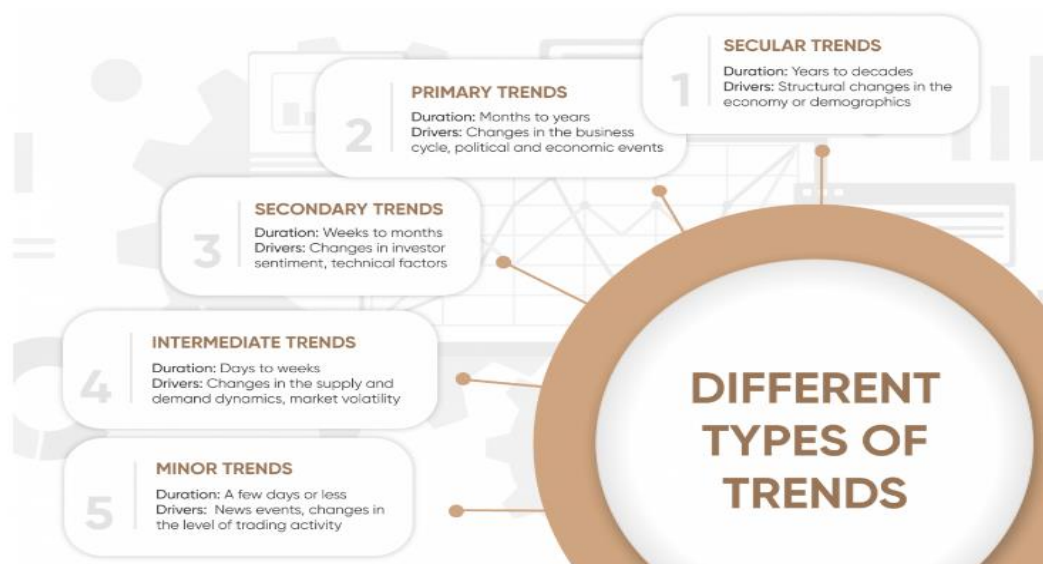
Fig. 1.4. Various kinds of trends

To determine market trends, one might use technical analysis as well as fundamental analysis. Trendlines, price action, the Relative Strength Index (RSI), and moving averages (MA) are prominent technical analysis tools among traders. A trendline is a straight line that stretches into the future and links a range of price points, including highs and lows. A support level for future price movements is created by an upward trendline joining a sequence of higher lows. The support level, on the other hand, is indicated by a downtrend trendline linking a sequence of lower highs. An RSI measures the rate and magnitude of price movements to identify whether a stock is overbought or oversold. When the RSI is 30 or below, the market is considered oversold; when it is 70 or above, the market is considered overbought. These two measurements suggest that a trend reversal is probably imminent. Moving averages, however, are used to separate discernible price movement from noise in the market. Simple moving average (SMA) and exponential moving average (EMA) are the two types of moving averages. SMA determines the average price of a group of prices over a certain amount of historical time. SMA, for instance, computes the average price over the previous 20, 50, 100, and so forth days. On the other hand, the EMA is a weighted average that highlights the price of a stock in the last few days, making it a more sensitive indicator to fresh data. Moving averages are also utilized to ascertain the general price trend and the levels of support and resistance for an asset's price. Fundamental analysis may also be used by investors to spot market trends by observing

shifts in economic or business indicators like sales and profits growth. A corporation is an example of a good market trend when its profits growth is positive for many quarters in a row.

Conversely, a negative trend is seen when a company's profits decline over a certain period of time. The second query is: In trading, how does a market trend operate? Traders usually believe that a rising market or asset price will continue unless they see clear signs indicating the price may decline. A price rise may be losing steam if it breaks below a trendline or if technical signs become negative. When using a trend-following strategy, traders would mostly purchase when the price is increasing and sell when the indications begin to point to a trend reversal, or when the price begins to decline. A trading strategy might benefit from the guidance of a market trend. Recall that the ultimate choice to trade should be based on your level of risk tolerance, knowledge of the market, and the size and makeup of your portfolio. Prior to trading, you should always do your own research. You should also never trade money you cannot afford to lose. A market trend may be influenced by a variety of variables, such as news from corporations and the economy, supply and demand dynamics, investor attitude, and government policy. When using a trend-following strategy, in which traders initiate positions in tandem with a trend, market trends are a crucial instrument. Moving averages, the trendline, and the Relative Strength Index (RSI) are common technical analysis techniques for spotting market trends. Fundamental analysis, such as long-term supply-demand dynamics or profits growth, may also be used by traders to assess trends. Short-term and long-term trends are the two primary categories into which market trends may be separated. Long-term trends are connected to the overall success of the market over time, but short-term trends are usually associated with market volatility.

CHAPTER CONCLUSIONS

To sum up, the Customer Satisfaction Index (CSI) is an essential indicator for assessing how satisfied customers are with mobile operator services overall. Through a methodical examination of several factors including network performance, customer

support, cost, extra features, and invoicing/account administration, service providers may acquire significant knowledge about their services' advantages and shortcomings. A thorough CSI includes qualitative information from consumer surveys, social media monitoring, and reviews in addition to quantitative measures. Operators are able to make well-informed judgments to improve their services and comprehend the changing demands of their clientele thanks to the integration of these insights. Important lessons learned to guarantee a high Customer Satisfaction Index are as follows: Make use of the CSI as a flexible instrument for ongoing development. Analyze market changes, customer input, and trends on a regular basis to improve and modify services. Make clear communication your first priority when it comes to services, invoicing, and any modifications..Proactively interact with consumers, responding to their issues promptly and exhibiting your dedication to provide top-notch support. uphold the strictest guidelines for data security and privacy, giving clients peace of mind that their data is being handled appropriately. Provide individualized services, a range of payment alternatives, and customizable plans to meet the specific needs and preferences of various clientele groups.Make sure that customer service is available, quick to respond, and prepared to handle questions, worries, and problems as soon as they arise.Review, rank, and compare the market reputation with rivals on a regular basis. Use the results to guide your strategic choices.In the end, a high CSAT not only denotes a satisfying client experience but also fosters word-of-mouth, customer loyalty, and the mobile operator's ability to develop sustainably in a cutthroat industry. Reevaluating and fine-tuning plans on a regular basis based on CSI findings is essential to remain competitive in a constantly changing telecom environment.

CHAPTER 2
TECHNOLIGICAL INNOVATION

2.1. The overview

Technological innovation is changing the world at an unprecedented rate, reshaping economies, cultures, and industries. Keeping up with technical improvements is not just a competitive advantage but also a requirement in the world of mobile operator services. This introduction explores the significant influence of technology innovation on services, customer experiences, and the industry's overall trajectory in the mobile operator sector. Thanks to technical advancements, the mobile operator sector has seen a significant transition in recent years. The capacity to adapt to new technologies is essential for operators to succeed in the current environment, which includes everything from the introduction of 5G networks to the use of artificial intelligence (AI) in service delivery. The goal of seamless connection is a major way that technical innovation is transforming the services provided by mobile operators. 5G networks are already being deployed and optimized, offering previously unheard-of data speeds, lower latency, and improved network dependability. This paves the way for revolutionary technologies like augmented reality (AR) and the Internet of Things (IoT), while also satisfying the increasing need for high-bandwidth applications. Network administration, service optimization, and consumer interactions are all being completely transformed by artificial intelligence.

Mobile carriers can forecast client preferences, tailor services, and simplify operations with the help of AI-driven algorithms. Artificial Intelligence (AI) is essential to improving customer experience and operational efficiency. Examples of this include chatbots that provide immediate customer help and predictive maintenance for network infrastructure. It is impossible to overestimate the significance of strong security measures as mobile services grow more and more integrated into our everyday lives. The development and implementation of sophisticated security measures, the protection of user data, and the mitigation of cyber threats are all made possible by technological progress.

Operators are using cutting-edge technologies, including as encrypted communication channels and biometric identification, to guarantee the security and privacy of their consumers. The rate of technology advancement not only meets present needs but also determines how mobile services will develop in the future. Upcoming technologies that promise even more connection, efficiency, and innovative service opportunities include edge computing, blockchain, and 6G. By deliberately adopting these advances, mobile operators have the opportunity to expand the scope of what is possible with mobile services. Nevertheless, the mobile operator industry faces a unique set of difficulties in its quest for technical innovation. Important factors to take into account include navigating regulatory environments, resolving privacy issues, and guaranteeing interoperability. However, these difficulties also provide chances for industrial cooperation, teamwork, and the joint development of creative solutions. Mobile operators' success in an ever-changing landscape is determined by their capacity to leverage technical innovation, which also has an impact on the wider digital ecosystem.

This series will focus on certain aspects of technical innovation in the mobile operator space, examining how these developments are changing the nature of services, fulfilling consumer demands, and bringing the sector into a realm of never-before-seen opportunities.

2.2. Adoption of new technologies

Examine whether the cell provider is embracing and using emerging technologies like 5G, the Internet of Things, or AI-powered services. The growth of mobile operator services is significantly influenced by the adoption of new technologies, which affects everything from network capabilities to consumer experiences. In this particular setting, the degree of service differentiation and the competitive landscape are largely determined by the incorporation of modern technology. This investigation explores the ways in which mobile operators are managing the uptake of new technologies and the effects on their offerings and the general posture of the sector. 5G Implementation: Fifth-generation (5G) network rollout is a revolutionary step forward for mobile communication. With 5G

infrastructure, mobile carriers will be able to provide faster data rates, less latency, and more dependable networks. This opens possibilities for novel applications like augmented reality and driverless cars in addition to improving already offered services. linked Ecosystems: As a result of the active integration of IoT by mobile carriers, linked ecosystems with seamless communication between gadgets, cars, and even municipal infrastructure have been created. This improves operational efficiency across a range of industries, including healthcare, agriculture, and smart cities, in addition to creating new income sources. Customer insights: Mobile operators are changing their understanding of and ability to meet customer requirements as a result of AI-driven analytics. Artificial Intelligence (AI) is revolutionizing operational procedures and improving the customer experience by means of customized service suggestions and predictive maintenance of network infrastructure.

Decreased Latency: Edge computing is becoming more and more popular. It processes data closer to the source instead of in centralized data centers. This is especially important for low-latency applications like augmented reality, real-time gaming, and industrial automation. Improved Security: Research is being done on using blockchain technology to improve the security and openness of mobile transactions. This includes the possibility of decentralized apps inside the mobile ecosystem, transparent charging procedures, and safe identity verification.

Immersive Experiences: In order to provide interactive and immersive experiences, mobile carriers are investigating the integration of AR and VR technologies. This has uses in virtual travel, education, and teamwork settings in addition to entertainment. Future Readiness: Although quantum computing is still in its infancy, mobile carriers are keeping a watch on it. This technology has the power to completely transform data processing capabilities, affecting anything from intricate simulations to encryption.

Green technology: In an effort to reduce their environmental effect, mobile carriers are progressively implementing sustainable technology. This include efforts to cut down on electronic waste, eco-friendly gadget designs, and energy-efficient network architecture.

Ecosystem Partnerships: Mobile operators are working with other industries to collaborate in order to fully use new technology. Collaborations with startups, IT firms, and other sectors promote the creation of novel solutions and the sharing of expertise. The use and assimilation of these technologies by mobile operators not only improves the quality of their services but also plays a part in the wider digital revolution of businesses and society. Mobile operators may stay ahead of the curve and adapt to the changing demands of their clients and the rapidly changing technology environment by strategically implementing new technologies. The process by which individuals or groups embrace and use new technologies is known as technology adoption. It entails picking up new skills and adjusting to new technology. Performance expectations, effort expectations, enabling circumstances, and social influence all have an impact on technology adoption. The process of embracing, incorporating, and using new technology in society is referred to as technology adoption. There are many phases to the process, which are often divided into categories based on the technology's users. Gathering and evaluating input from stakeholders like as workers and customers is crucial for implementing and adjusting to new technology and trends. This will assist you in assessing the worth and effect of your modifications as well as helping you find any problems or areas that might want better. Since new advancements in technology are continuously being made, it is always changing. Both technological goods and their applications evolve with time. You must keep up with technology developments that are pertinent to your industry if you want to continue in business. The features of the new product, such as its relative benefit and complexity, the qualities of the customer, such as personality traits and demographic or socioeconomic considerations, and societal influences, such as opinion leaders, all have an impact on this process.

Trialability: The ease with which a new idea may be tested out as it gains traction. A user is less likely to accept an invention if they find it difficult to use and attempt. Societies all across the globe choose how, when, and where to embrace new technologies based on cultural factors including conventions, behaviors, religion, and economics. Many technology that were introduced into the globe by Western Europeans a century ago have clashed with various communities. Customer behavior's process of accepting new

technology may be characterized as the technology adoption life cycle. It describes the process a product goes through over its life cycle and how customers adjust to new technology. The late majority, like the early majority, seeks a data-driven justification for technology adoption. People in this adopter group need to be persuaded that the technology is worthwhile by means of thorough investigation and compelling evidence. The late majority has a tendency to doubt the need of changes and dislikes taking chances. If they don't understand the benefits of learning and using a new system, even if they could be ok with change, they can oppose embracing the new technology. There is a learning curve for this technology, just like any other. Many people are reluctant to accept new technology because they have misconceptions about what it can really achieve; when they think of technology, they often think of robots and future machines. One way to adapt to technological change would be to replace your computer systems or use Google Docs instead of Microsoft Word. Respect for the source material and its devotees, as well as an awareness of how to translate particular concepts and expectations onto film without sacrificing the entertainment value of the final product are prerequisites for good adaptations. The streamlined bodies of aquatic fish and mammals, the light bones of flying birds and mammals, the sharp, dagger-like canine teeth of predators, and the long necks of giraffes for eating in the tops of trees are a few examples. Physiological, behavioral, and structural adaptations are the three categories. The physical appearance changes as a consequence of structural adaptation. Cellular biological alterations are the outcome of physiological adaptation. Adapted behavior based on environmental cues leads to behavior adaptations. The process of selecting, putting into practice, and using new or enhanced tools, systems, or procedures in your company is known as technology adoption. It may assist you in reaching business objectives, including increasing customer happiness, productivity, efficiency, and quality. Enhanced productivity is one of the main advantages of innovation from a practical standpoint. decreased expenses. heightened rivalry. Numerous clear benefits of digitalization include easier access to information, quick and simple communication, the capacity to exchange knowledge, the creation of new employment, and heightened rivalry in the business world. Depending on the kinds of websites people use on a regular basis, these platforms may aid in decision-making and

enhance their comprehension of the outside world. Technology and the internet can make topics we've never heard of easier for us to grasp. Developed countries' economies have benefited from increased productivity brought about by robotics and machine learning. Nations that have made investments in innovation have shown phenomenal increases in their overall economic performance. It's likely that society won't need as many workers in the future as it does now. Once you've embraced modern technology, you'll make the most of it and reap the rewards of using the upgraded system. For instance, a business may think about investing in a new project management system if it wants a better method of tracking projects. The new system is put to use by one or two departments. A thorough approach to guaranteeing the effective integration of novel technologies inside a company is a technology adoption plan. It describes the goals, steps, and activities required to get the intended outcomes, along with an implementation schedule. Technology, as defined by some, is the application of scientific knowledge to the goals of everyday life or, more colloquially, to the modification and manipulation of the human environment. The low awareness or interest from brands and advertisers in reaching certain audiences, a lack of a trusted source, and the high costs that content and service providers face in developing and localizing relevant content and services are the main causes of these consumer barriers. These obstacles include a lack of knowledge, inadequate human resources, political and economic ones (such as capital shortages, high transaction costs, incomplete cost pricing, and trade and policy barriers), institutional and structural obstacles, a lack of awareness of regional needs, and business-related obstacles.

Does it accurately replicate the original material? Does it make use of the content as a basis for anything new? Is it an outline or a blueprint? When is a tale, comic, or book the whole foundation for a TV show or movie, and when is it merely an inspiration? Recall that adaptation is an attitude supported by regular practice rather than just a matter of following the flow. This implies that you need to have a greater sense of self-awareness and be prepared to offer yourself frank and helpful criticism. Make it a habit to keep track of your development.

2.3. Device compatibility

Check for compatibility with a range of gadgets, such as the newest smartphones and cutting-edge technology. Because it directly affects the user experience and accessibility of services across a wide variety of devices, device compatibility is a crucial component of mobile operator services. This investigation explores the importance of device compatibility, the difficulties it presents, and the methods used by mobile carriers to guarantee smooth service delivery on a range of devices. A wide variety of devices, such as smartphones, tablets, wearables, and Internet of Things (IoT) devices, define the mobile landscape. To achieve a large user base, interoperability across this heterogeneous environment is essential. Different operating systems, including iOS, Android, and others, are used by different devices. To ensure flawless operation on various platforms, mobile carriers need to optimize their services while taking into consideration variations in user interfaces and technological requirements. Beyond the device itself, device compatibility includes integration with other network technologies. To provide the highest performance possible, this entails making sure that services are optimized for 4G, 5G, and other network generations. In order to help consumers manage their accounts, track data use, and access extra services, mobile carriers often provide specialized applications. For a consistent user experience, these applications must be developed and optimized for a range of devices and operating systems. For customers who utilize browsers to access services, mobile carriers also provide web-based interfaces. These interfaces are guaranteed to be functional and user-friendly across a range of screen sizes and devices by using responsive web design.

As wearables and Internet of Things devices become more popular, cell carriers must make sure that these new technologies work together. For these specific gadgets, this entails enabling connections, creating applications, and improving services. The flexibility of user interfaces is a component of device compatibility in addition to technological factors. Services should be responsive and intuitive in their design, taking into account the particularities of each kind of device. It's critical to stay up to date with firmware and software upgrades released by device makers. It is essential for mobile carriers to

guarantee that their services continue to function with the newest operating systems and device technology. Informing customers about device compatibility and offering assistance with typical problems are two things that mobile providers may do. This might include developing FAQs, knowledge bases, and customer support tools that handle issues with devices. Thorough testing and quality control procedures are necessary to find and fix compatibility problems prior to service deployment. This entails testing on a variety of hardware, operating systems, and network setups. Cross-platform integration is something that mobile carriers may do to let consumers move between devices without interruption and with synchronization. This contains functions like multi-device authentication and cloud synchronization. Working together with gadget makers is a smart move. Mobile operators may guarantee that their services are optimized for new devices when they hit the market by forging relationships with manufacturers.

Device compatibility should take disabled users' accessibility features into account. It is essential for mobile carriers to give top priority to the development of inclusive services that cater to a wide range of user demands. Mobile operators need to manage the intricacies of device compatibility in an era of rapid technical progress and a growing array of devices in order to provide a smooth and uniform user experience. Operators can guarantee the continuous accessibility and user-friendliness of their services across a constantly changing range of devices by tackling these obstacles and elevating compatibility to a strategic priority. Checking if software or mobile applications operate flawlessly across a range of devices, network conditions, browser versions, and operating systems is referred to as a device compatibility test. It is non-functional testing that is only carried out after the software's stabilization phase. A "compatible device" is any sort of equipment (such as a utility meter, pin pad, phone, point of sale, or mobile phone) that is connected to or using the company's or SP's services and may receive a signal as input; Sample 1.

However, a device may only be considered "Android compatible" if it is able to execute programs that are designed for the Android execution environment. The Android compatibility program defines the specifics of the Android execution environment. For a device to be deemed compatible, it must successfully complete the Compatibility Test

Suite (CTS). The Android Compatibility program gives OEMs the tools they need to make sure developer applications work across a range of devices and specifies technical specifications for the Android platform. The Android SDK comes with built-in tools that let developers specify exactly the device functionalities their applications need. When describing two items that go well together, such as peanut butter and jelly or your Wii and large-screen TV, use the term compatible. Although it's common knowledge that opposites attract, this doesn't always guarantee that they will get along in the long run. It seems to be a problem with the Android operating system developed by Google. Try cleaning the Google Play Store cache and then data to resolve the issue notice "your device is not compatible with this version." After that, try installing the program once again after restarting the Google Play Store. Outdated or faulty drivers are the most typical source of device compatibility problems. Drivers are pieces of software that allow your operating system and apps to interface with your hardware devices.

2.4. Roaming services

Analyze the cost and quality of roaming services offered internationally. An essential feature of mobile operator products is roaming, which enables customers to maintain connectivity even when they are beyond the coverage region of their home network. This investigation explores the importance of roaming services, the difficulties posed by global connection, and the tactics mobile carriers take to improve the roaming experience for their customers. When going abroad, consumers may stay connected thanks to roaming services. This is crucial for enabling smooth international communication, especially when it comes to phone conversations, text messages, and mobile data use. It is crucial to guarantee that the home network and roaming networks are technically compatible. To ensure continuous service delivery, this entails resolving discrepancies in network technologies, frequencies, and standards. When traveling, customers may access the internet and use data-intensive apps thanks to data roaming services offered by mobile providers. Improving the data roaming experience mostly involves controlling data prices and guaranteeing effective data transmission. Mobile operators form alliances with foreign

carriers to enable international roaming. Through these collaborations, customers may easily connect to international networks, expanding the operator's home network's coverage and offerings. A good roaming experience requires clear pricing and billing procedures. To keep consumers from experiencing bill shock, mobile carriers need to be transparent about roaming fees, provide reasonably priced plans, and provide customers access to real-time use data. It is crucial to abide with international agreements and rules. To provide a seamless and legally compliant roaming service, mobile carriers must abide by regulatory regulations pertaining to roaming costs, data privacy, and quality of service. It is difficult to maintain a constant level of service while traveling since network infrastructure and capabilities vary. While roaming, mobile carriers work hard to guarantee that customers get dependable voice conversations, low latency, and acceptable internet rates. Beyond internet services, SMS and phone calls are included in roaming. In order to provide seamless voice and messaging services across several foreign networks, mobile carriers must optimize their networks.

A significant consideration is to negotiate advantageous roaming arrangements with overseas carriers. These agreements affect the scope of services offered to consumers, prices, and quality of roaming service. Travelers may combine phone, internet, and messaging services into worldwide roaming packages that are often offered by mobile providers. For those who go abroad regularly, these packages provide an affordable option. It is crucial to inform consumers about roaming service availability, related fees, and safe travel procedures. By offering customer service for questions about roaming, you may assist consumers in navigating the challenges associated with global connection. Wi-Fi roaming services may be integrated by carriers to supplement cellular roaming. This offers a different and maybe more affordable way for customers to remain connected by enabling them to easily connect to Wi-Fi hotspots. Encryption and authentication methods are only two examples of security measures that are essential to safeguarding user data while traveling. For cell carriers, protecting user privacy and cybersecurity comes first. Additional features like language support, location-based services, and travel-related applications may be combined with roaming services. Users' whole travel experience is improved by this.

The success of roaming services is critical for mobile carriers and customers alike in a future where connectivity is ubiquitous. Through the resolution of technical issues, maintenance of regulatory compliance, and user experience as the top priority, operators may provide dependable and effective roaming services that satisfy passengers' changing requirements. When you're not within the service area of your cellular carrier, roaming enables you to speak, text, and browse the internet. By using roaming, you may get the desired wireless access by using the network of another provider with your data. What does roaming entail? Using your phone while periodically traveling outside of the nation in which you currently reside or have reliable access, such as while you work or study, is known as roaming.

Therefore, you are seen to be roaming as long as you use your phone more at home than away or spend a greater amount of time at home than away. Using cellular data services on a mobile device while outside of the home network's coverage region is known as data roaming. Your mobile service provider may charge you extra for this; the amount will depend on the kind of data used and the destination. A roaming SIM is a SIM card for a mobile phone that may use many networks in its country of origin. Currently, roaming SIMs are mostly used for machine-to-machine and least-cost call routing for roaming mobile calls.

CHAPTER CONCLUSIONS

To sum up, the mobile operator industry's technology innovation is a continuous and dynamic process that significantly influences the telecoms environment. The sector has advanced because to the unwavering pursuit of innovation, which has resulted in the development of networks, services, and user experiences. Important things to remember about technology innovation in the mobile operator industry are as follows. The fast and ongoing development of network technologies, from the launch of 3G and 4G to the rollout of state-of-the-art 5G networks, is what defines technological innovation. This development creates new opportunities for mobile communication while improving data speeds and coverage.High Definition (HD) speech, sophisticated voice codecs, and low-

latency networks are examples of innovations that improve user experience by enabling clearer and more dependable voice communication. High-speed data connections have made a broad variety of applications possible, including immersive online gaming and video streaming. To solve network congestion, lower latency, and guarantee constant service quality, three crucial breakthroughs are being implemented: small cell deployment, network densification, and optimization methodologies. These efforts help to create a mobile network that is more responsive and dependable.An important milestone has been reached with the launch of 5G technology, which offers reduced latency, higher data rates, and the capacity to connect a large number of devices at once. Applications for augmented reality and the Internet of Things (IoT) are among the new use cases made possible by 5G. An inventive way to increase coverage and call quality is via Wi-Fi calling, particularly inside where cellular connections could be weaker. Voice conversations via Wi-Fi networks are now possible thanks to this technology, which adds another level of connectedness.In the mobile operator sector, technological innovation is driven by a customer-centric mindset. By offering services that correspond with shifting communication habits, tastes, and the growing dependence on mobile data, operators want to satisfy changing customer needs.

The capacity of mobile carriers to accept and use technology breakthroughs shapes the competitive environment. Operators must benchmark against rivals and industry norms in order to stay ahead of the curve and make the necessary investments in cutting-edge technology.As innovation develops, network security and user privacy become more and more important. In order to safeguard user data and guarantee the integrity and confidentiality of communications, mobile carriers need to implement strong security protocols. Advances in mobile technology facilitate worldwide networking by enabling users to maintain connections across national boundaries. The user experience is improved via roaming agreements and smooth network handoffs, which promote a connected world.Environmental factors are having a greater and bigger impact on technological innovation in the mobile operator sector. To reduce the negative environmental effects of network operations, the industry is investigating sustainable practices and energy-efficient technologies. In conclusion, the mobile operator sector's technical innovation is a dynamic

force that alters our connections and means of communication. The transition from 3G to 4G and, more recently, 5G shows a dedication to pushing the envelope and providing consumers with faster, more dependable, and more engaging mobile experiences. Meeting the constantly evolving demands and expectations of consumers while embracing sustainability and security in the digital era remain the industry's major priorities as it innovates.

CHAPTER 3
STRATEGIC PRIORITIES MOBILE OPERATOR "VODAFONE" ON THE TELECOMMUNICATIONS MARKET OF UKRAINE

3.1. The overview

The qualification work describes the structure of the Ukrainian telecom market and assesses its current situation. The primary emphasis of the company's strategy is underlined, and the writers have recognized the major aspects of the telecoms industry. The company's operations were subjected to a SWOT analysis, and suggestions for resolving issues and seizing opportunities were prepared. Based on the results of the SWOT analysis, it was determined that PrJSC Vodafone – Ukraine does not fully use the worldwide Vodafone brand's potential or its technological capabilities. Several deficiencies were found that have a substantial impact on the enterprise's overall performance: Due to the closure of tariffs for connecting private subscribers to prepayment conditions and price increases for current tariffs, there is an unclear demarcation between the two brands that exist in parallel, MTS and Vodafone, which results in a distorted level of customer loyalty. Additionally, customers have a low level of "immunity" and a high willingness to switch operators. All of this causes a steady decline in consumer confidence in the business, which causes it to lose its competitive edge in the Ukrainian telecom industry. In order to comprehend the state of customer preferences and the need for mobile operator services on the Ukrainian market, a marketing study measuring consumer satisfaction was carried out.

The operator's reputation, customer service, ease of fund withdrawal, service in sales offices, mobile application, personal account on the website, operator website, voice communication quality, support service quality, mobile internet quality, set of tariffs and additional services, and service cost were all examined. It is advised that the business keep funding research and development of both new and current goods and services in light of the findings acquired. Doing so would expand the company's market potential and

guarantee a growing customer base. Anticipatory commercial development is the primary goal of PJSC Vodafone – Ukraine 2019–2021 plan. Because it is expected to happen more quickly than the standard telecommunications market's growth pace, this kind of development is known as anticipatory growth. A corporation might accomplish anticipated development in the telecoms sector by establishing its own digital ecosystem and collaborating with customers that possess digital competences and are in high demand. Following the identification and assessment of the primary rivals, a competitive strategy was created, enabling the business to acquire an edge over its rivals by providing higher-value products and services to customers. The suggested "strategic set" is a system of different sorts of strategies for a given amount of time that reflects the particulars of the enterprise's growth and functioning as well as the extent to which it is claiming a position and a role in the external environment. It was determined that putting strategic goals into practice would boost the business's gross revenue, raise its degree of competitiveness, and fortify its market positions in the face of fierce competition.

3.2. SWOT analysis

The results of the SWOT analysis demonstrate that PrJSC "VF Ukraine" is not making the most of its technological capabilities or the global potential of the Vodafone brand. A number of issues have a substantial impact on the enterprise's overall performance: unclear demarcation that runs parallel to the two existing brands, Vodafone and MTS, distorting the level of customer loyalty; a decline in MTS loyalty as a result of the company closing its tariffs for private subscribers' prepaid connections and raising the prices of those tariffs; a low degree of customer "immunity" and a high propensity to switch operators.

All of this causes a steady decline in consumer confidence in the business, which causes it to lose its competitive edge in the Ukrainian telecom industry. The direction of consumer requirements research should be increased to guarantee a better grasp of the global scenario on the Ukrainian market in order to defend their positions against rivals and grow their market share. Better customer requirements fulfillment will result from

this. The company's market possibilities will grow as a result of further expenditures made in research and development of both new and current goods and services, which will also improve prospects for growing the clientele. Vodafone does well in many areas, but it also has some shortcomings that should be addressed and shielded from rivals. The following objectives of the strategy for marketing the Vodafone Ukraine brand on the Ukrainian market must be implemented by businesses in order to solve the issues that have been identified: leadership, digital, and the greatest retail chain of outlets. Anticipatory business development is the primary goal of PJSC VF Ukraine's 2019–2021 strategy. Because it is expected to occur at a quicker pace than the existing telecommunications sector, we refer to this expansion as anticipatory. A corporation may accomplish the anticipated growth in the telecoms sector by creating its own digital ecosystem and enlisting partners that possess the digital competences that clients desire. Within the context of such an approach, the main goals of PJSC "VF Ukraine"'s growth strategy are to transcend beyond telecom and outpace the market in the interests of the company's customers, partners, and society at large. The three primary concepts of the 2019–2021 plan are: digital, leadership, and an improved retail chain of outlets. PJSC "VF Ukraine" is focused on rapidly increasing revenue volumes as a result of the Vodafone Ukraine brand's strong position. Revenue growth is the total growth of the business's operations, which includes managing B2C or B2B sales channels, growing the company's retail network to include the top 3 shops in Ukraine, and fortifying its position as the industry leader. To sustain competition in the core product, the mobile customer base is growing, retail store chains are expanding, and mobile network investments are rising. It is intended to develop such services both independently and in collaboration with partners, with revenue growth rates that will outpace those of conventional telecom services. Similarly, growing the retail network of locations and implementing modifications to customer service at the cost of broadening the scope of services provided results in the accomplishment of the intended objective, which is the development of a robust multi-product retail network shops. The sale of smartphones, telecom services, financial technology and services, additional Vodafone TV and media offerings, and digital advertising have all been recognized as fresh areas for independent expansion. Though the products here will be based on aggregation services

and content of partners who will create new ones with the Company 113, they are intended to be independent of the development of these directions. ISSN 2522-9702 (online), ISSN 2074-5362 (print). Opportunities No. 2 (29) for Vodafone Ukraine consumers in the European Vector of Economic Development, 2020. Simultaneously, you want to keep an eye out for fresh opportunities that may arise for producing your own goods and services.

Table 3.2

CSI for 2017-2019 including

Revenues	2017	2018	2019
Voice telephony for consumers	n/a	n/a	8646
Traffic by services	n/a	n/a	5405
Voice telephony	16637	14664	n/a
SMS and MMS transmission	909	807	1366
Access to the Internet	10328	16036	23750
Other services	3605	3471	2701
Together	31479	34978	41868

3.3. Measure of CSI for Vodafone Ukraine

As an index, it offers a comprehensive measurement that encompasses every recognized factor that influences customer happiness. So, it usually entails the following straightforward calculation: [Total number of attributes / sum of all recognized attributes] = CSI Assume that a digital marketplace is a company's main product. Its four primary qualities, or dimensions, have the following attribute scores in its CSI:

Customer Support: 63 Usability of the Market – 72 56 is the product quality. Cost: 82. The CSI in this instance would be [63 + 72 + 56 + 82 /4] = 68%.

The results of the SWOT analysis demonstrate that PrJSC "VF Ukraine" is not making the most of its technological capabilities or the global potential of the Vodafone brand. The following flaws have a substantial impact on the enterprise's overall performance: low customer "immunity" and high inclination to switch operators; unclear demarcation in parallel with the two existing brands, MTS and Vodafone, which results in a distorted level of customer loyalty; decrease in loyalty to MTS due to the closure of tariffs for connection of private subscribers on prepaid conditions and price increases for such existing tariffs. All of this causes a steady decline in consumer confidence in the business, which causes it to lose its competitive edge in the Ukrainian telecom industry. The direction of consumer requirements research should be increased to guarantee a better grasp of the global scenario on the Ukrainian market in order to defend their positions against rivals and grow their market share. Better customer requirements fulfillment will result from this.

The company's market possibilities will grow as a result of further expenditures made in research and development of both new and current goods and services, which will also improve prospects for growing the clientele.
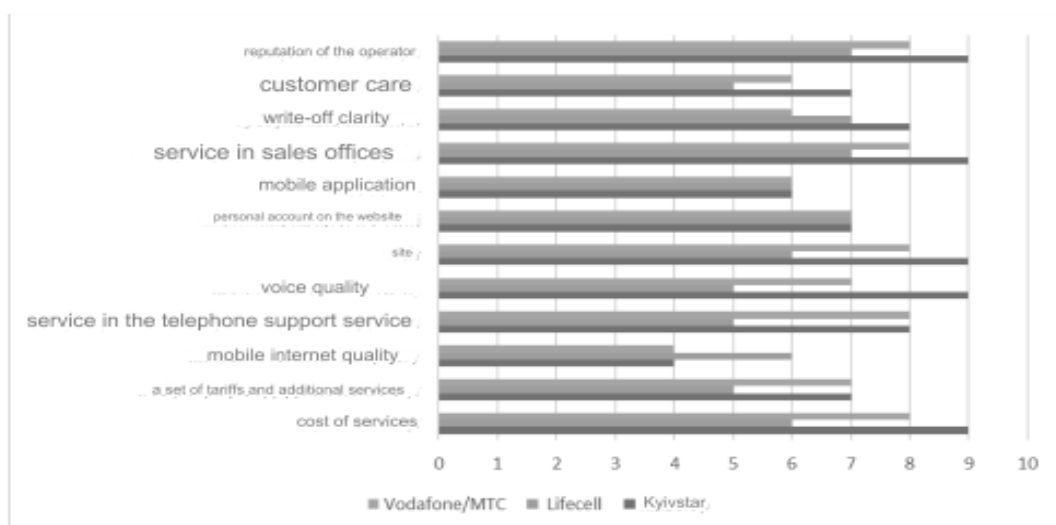

Fig.3.3. Assessment of customer satisfaction with Vodafone/MTS, Kyivstar, and Lifecell mobile providers' services

Vodafone does well in many areas, but it also has some shortcomings that should be addressed and shielded from rivals. Companies must put the following strategies into practice in order to address the issues raised and effectively promote the Vodafone Ukraine brand in the Ukrainian market: The greatest retail network of outlets; digital leadership.

As we can see, the primary initiatives pertaining to network quality are the development of an LTE network, brand strength – enhancing the image and modifying the media mix; database quality – tariffs and digital services that will enhance the company's standing on the Ukrainian telecom market.

3.4. Network quality

Assessed the coverage and dependability of the network. Evaluated the speed of mobile internet services, including 4G and 5G capabilities. Examined call drop rates, call clarity, and overall voice communication quality. I took into account both urban and rural locations, as well as indoor and outdoor connections. In the mobile operator sector, network quality is crucial as it has a direct impact on user experience and customer satisfaction. The phrase describes a mobile network's dependability, efficiency, and coverage, taking into account factors like service availability, data speeds, call quality, and signal strength. These are the main factors that affect network quality in the mobile operator sector. Having a vast and dependable network coverage is crucial. It is essential for mobile carriers to guarantee that their networks include both urban and rural regions, offering reliable access to users in a variety of geographical locations. One of the main factors affecting network quality is signal strength.

The goal of mobile providers should be to minimize dead zones—areas with poor reception—by maintaining strong and steady signals. An rising number of mobile apps, such as those that need streaming videos, online gaming, and other data-intensive activities, depend on high-speed connectivity. In order to satisfy consumers' changing needs, mobile carriers must provide fast and dependable data speeds. For real-time applications like online gaming and video chats, low latency is essential. In order to

guarantee a smooth and responsive user experience, mobile carriers should strive to reduce latency. Network dependability is crucial. To guarantee that consumers can continuously use voice, message, and data services without interruptions, mobile carriers must reduce downtime and service disruptions. In order to handle the expanding number of connected devices and the growing demand for data, proactive capacity planning is required. During periods of high demand, network performance may be maintained by anticipating and resolving capacity bottlenecks. Investing in network improvements on a regular basis will help you embrace new technologies and enhance overall performance. Transitioning to next-generation networks, such 5G, improves the network's overall performance, capacity, and data speeds. Cell towers' backhaul infrastructure, which links them to the main network, must be of a high caliber. To support user-generated data traffic, reliable and high-capacity backhaul is crucial. Use tools for quality of service monitoring to regularly evaluate network performance. Frequent reviews assist in identifying areas that may need to be optimized or improved in order to continue providing high-quality services. To effectively spread network traffic, use load balancing techniques. By preventing any one area of the network from being overwhelmed, this helps to improve user consistency. Optimize the network for better performance overall, better spectral efficiency, and interference management. Network optimization tactics should be customized to the unique needs and preferences of the operator's user base. Be open and honest with consumers on planned maintenance, network improvements, and service interruptions. Clearly communicating with customers and managing their expectations promotes trust. Verify adherence to industry norms and laws pertaining to network quality. Maintaining a high degree of service consistency and dependability is facilitated by adhering to defined standards. Regularly test the network's end-user experience. Gaining insight into consumers' real experiences enables cell carriers to provide focused enhancements. Sustaining network quality requires network security. Put strong security measures in place to protect the network from online attacks and guarantee the confidentiality and integrity of user data.

As cellular service providers continue to develop and launch new offerings, maintaining a high caliber of network connectivity is still essential. Through the

prioritization of infrastructure investments, adoption of technology improvements, and proactive monitoring and optimization of network performance, operators may provide their consumers with a dependable and smooth experience. A key component of mobile operator services is coverage, which is the reach and dependability of a mobile network's signal throughout a certain geographic area. The ability of a user to send messages, make calls, and access data services is directly impacted by the coverage's quality and scope. Here are some important factors to take into account when it comes to coverage in the mobile operator sector. Mobile operators need to provide wide coverage in a variety of geographic locations, including urban, suburban, and rural areas. Users may remain connected no matter where they are with a comprehensive network. Population density must be taken into account. Cities and other highly inhabited locations need the network to manage a large number of simultaneous connections. The goal in less populated locations is to maintain dependable service even with a reduced user density. Aim for a coverage ratio that balances urban and rural areas. While high-capacity networks may be necessary for metropolitan areas, it's equally critical to address indoor coverage issues and provide dependable service in rural and distant places in order to promote inclusion. Smooth connection is something that many people anticipate in buildings, including residences, workplaces, and public areas. To improve indoor coverage, operators may make use of technology like dispersed antenna systems and tiny cells. Ensure that the signal strength is strong and constant throughout the service region. The quality of service should be constant and users should have dependable connections with no signal variations. Dead zones, or areas with poor or nonexistent signal coverage, should be identified and minimized. To address locations with low signal reception, carry out studies and make investments in network infrastructure. Use network redundancy techniques to reduce interruptions in service. Redundant infrastructure helps keep connection intact in the case of unanticipated catastrophes. Examples include backup power systems and alternate routing. Pay attention to both edge coverage and urban installations as operators build out 5G networks.

A smooth transition from 4G to 5G networks is made possible by edge coverage, which guarantees reliable connection for users on the outskirts of metropolitan centers.

Network capacity should be planned to handle the rising number of connected devices and the rising demand for data. Planning for capacity is essential to preserving service quality when network demand is high. To expand coverage outside of the confines of your local network, arrange roaming arrangements with other operators. When a user travels beyond the main coverage area, roaming agreements improve service availability for them. In order to access underserved regions and new markets, strategically expand your network. Plans for expansion should take into account new user needs and corporate goals. To ensure that data is transported between cell towers and the core network efficiently, backhaul infrastructure should be strengthened. Sustaining the overall performance of the mobile network requires a strong backhaul network. Think about satellite communication in isolated locations where setting up conventional terrestrial networks would be difficult. Hard-to-reach places may benefit from connection and coverage gaps filled by satellite technology. Make sure emergency services and public safety are covered. Enable consistent network performance monitoring and optimize coverage using real-time data to ensure public safety and disaster response operations have access to dependable mobile communication during catastrophes. Frequent evaluations support the continuous development of service quality by pointing up opportunities for improvement.

Mobile carriers may fulfill the varied connection requirements of their user base by giving priority to extensive coverage. A robust and large-scale network boosts economic growth, improves consumer happiness, and makes mobile operator services more competitive overall in the telecom sector. Users' ability to upload and download data on their devices in a timely manner is dependent upon data speed, which is a crucial component of mobile operator services. The user experience is greatly impacted by the speed at which data is delivered over a mobile network, particularly while engaging in activities like online gaming, streaming video, and utilizing data-intensive apps. These are important things to keep in mind when it comes to data speed in the mobile operator sector. Data speed is directly impacted by the generation of the mobile network (e.g., 3G, 4G, 5G). Offer several data speed tiers to meet the varied demands of consumers. Newer generations generally offer greater speeds; 5G is the most recent standard intended to give noticeably better data rates than its predecessors. Mobile carriers, for instance, can provide

a range of plans with varying maximum upload and download speeds, letting customers choose a plan that best suits their needs. Share data speeds at both peak and average times. Acknowledge regional variations in data speeds. Average speeds provide consumers a more realistic idea of the network's daily performance, while peak speeds indicate the highest feasible rates. Data rates might change depending on a number of factors, including advanced infrastructure availability, signal quality, and network congestion. To effectively spread network traffic, use load balancing techniques. Users will receive more constant and dependable data speeds thanks to load balancing, which helps reduce congestion in some locations. Make sure the backhaul equipment supporting the mobile network has enough capacity. The backhaul capacity affects the data transmission speed between the core network and cell towers. In high-traffic locations, deploy tiny cells and densify the network. Optimize spectrum allocation to enable high data speeds. Small cells increase network capacity and coverage, which helps to accelerate data rates, particularly in urban and heavily populated regions. Achieving and sustaining high data speeds depends on the appropriate distribution of spectrum, particularly in frequency ranges that enable quicker data transfer. By combining many frequency bands, carrier aggregation may increase the total bandwidth available for data transmission, improving data rates. In LTE and 5G networks, carrier aggregation is a crucial technology. To increase data throughput, make use of Multiple Input Multiple Output (MIMO) technology. MIMO boosts wireless communication's capacity and effectiveness by using multiple antennas for data transmission and reception. Make that users' devices are compatible with the capabilities of the network. Users who own older devices may not be able to access the fastest possible data speeds due to the devices' inability to support the newest network technologies. Quality of Service (QoS) policies can be used to prioritize certain traffic types and make sure that critical applications have the bandwidth they require for smooth operation. Benchmark data speeds against rivals in the market. Regular monitoring enables mobile carriers to discover regions with substandard performance and take remedial action to increase data speed. Mobile operators may better position their services and make targeted enhancements to be competitive by having a thorough understanding of the competitive environment. Inform consumers about the variables that affect data speeds,

including device capabilities, network generation, and regional variances. Transparency in information management raises overall satisfaction and helps control user expectations. Providing a good user experience requires ensuring dependable and quick internet rates. In an increasingly data-driven world, mobile operators who make investments in cutting-edge network technology, streamline infrastructure, and give user education first priority will be in a better position to provide high-quality data services. The clarity and dependability of voice communication for customers is directly impacted by call quality, making it a crucial component of mobile operator services. Maintaining client happiness and offering a great user experience need excellent call quality. Here are some important things to think about when it comes to call quality for mobile operators. Choose and use cutting-edge voice codecs that provide excellent compression efficiency without sacrificing audio quality. Modern codecs that support High Definition (HD) voice technologies, such AMR-WB (Adaptive Multi-Rate Wideband), increase sound clarity. With a larger frequency range, HD voice improves call quality and produces conversations that sound crisper and more realistic. The clarity and dependability of voice communication for customers is directly impacted by call quality, making it a crucial component of mobile operator services. Maintaining client happiness and offering a great user experience need excellent call quality. Here are some important things to think about when it comes to call quality for mobile operators. Choose and use cutting-edge voice codecs that provide excellent compression efficiency without sacrificing audio quality. AMR-WB (Adaptive Multi-Rate Wideband) is one of the modern codecs that helps with better sound clarity. support speech technologies with High Definition (HD). Reduce network latency to guarantee real-time communication. HD voice improves call quality by offering a broader frequency range, leading to crisper and more natural-sounding conversations.

Low latency ensures seamless and natural discussions for consumers by cutting down on delays and promoting responsive voice communication. Put policies in place to reduce packet loss and jitter. Voice packet arrival times may fluctuate due to jitter, and audio disturbances might arise from packet loss. Keeping these problems under control is essential to preserving call quality. Put in place Quality of Service (QoS) guidelines to provide voice traffic network priority. Utilize echo cancellation methods to reduce or

eliminate echo during voice conversations. Quality of Service (QoS) guarantees that voice packets get preferred treatment, lowering the possibility of call quality deterioration during times of network congestion. The feedback loop between the user's speech and the audio coming from the network may be avoided with the help of echo cancellation. In densely populated locations, densify the network to ease congestion and enhance call quality. In order to guarantee that consumers have dependable voice communication, more cell sites should be deployed, particularly in metropolitan areas. Wi-Fi calling should also be supported as a backup when cellular coverage is inadequate. Wi-Fi calling enhances indoor call quality and adds an extra layer of coverage by enabling customers to place voice calls over a Wi-Fi network. To ensure call quality when users are not inside the home network's service region, establish strong roaming agreements. A consistent user experience is enhanced by smooth handovers across networks. Make sure consumers' devices are compatible with cutting-edge speech technologies and codecs. Attaining ideal call quality is contingent upon device compatibility. Keep an eye on call quality all across the network. Frequent monitoring guarantees a constantly high degree of service by enabling operators to quickly detect and resolve problems. Establish systems so that consumers may comment on the quality of the calls you make. In order to handle consumer problems and identify particular areas that may need improvement, customer input is invaluable. Optimize the network to control interference and increase overall performance.

Strategies for network optimization should be customized to handle particular issues affecting call quality. Compare the quality of the calls to those of rivals in the market. Make sure that voice calls to emergency services (e.g., 911 or equivalent) get the greatest priority and optimum call quality. Operators may better position their services and make targeted enhancements to stay competitive by having a thorough understanding of the competitive environment. Support for emergency services is essential to the overall dependability of the network. Mobile carriers may improve call quality and provide consumers dependable and clear audio communication by taking these factors into account. Positive user experiences, customer happiness, and the general competitiveness of mobile operator services in the market are all influenced by high-quality voice services.

CHAPTER CONCLUSIONS

The essence and purpose of Data Mining technologies can be described as follows: this technologies that are designed to search large amounts of non-obvious data, objective and useful in practice patterns. Scope of application Data Mining is not limited by anything - it is everywhere where there is any data. But first of all Data Mining methods today intrigued companies deploying projects based on modern information technologies. The experience of many such companies shows that the return on the use of Data Mining can reach 1000%. Data Mining technologies are needed first specialists who make important decisions - managers, analysts, experts, consultants. The company's income is largely determined by quality these decisions - the accuracy of forecasts, the optimality of the chosen strategies. And from the quality of these decisions depends on the development of the company. It should also be noted that for real business and production problems there are no clear solution algorithms. Ago managers and experts solve such problems only on a personal basis experience. Often, classic techniques are ineffective for many practical tasks, because it is impossible to accurately describe the reality of using a small number of model parameters, or the calculation of the model takes a lot of time and computing resources.

Analytical technologies allow create models that significantly increase the effectiveness of solutions. This system draws its conclusions from the data already accumulated bank in the process of working in the retail lending market. Thus in During the implementation process, the system is configured exactly for the data set for which targeted specific bank. In other words, the dm-Score system is ready work with the data that is available and does not require fixation on any a specific rigidly set questionnaire. In the process of analyzing data on borrowers and loans apply various mathematical methods that are found in them factors and their combinations that affect the creditworthiness of borrowers, and the strength of their influence. The identified dependencies form the basis for decision-making in the corresponding block. The analysis unit should be used periodically for analysis of new data of the bank (new borrowers come, current ones payments) to ensure the relevance of the system and the adequacy of the approved her decisions.

CHAPTER 4
OCCUPATIONAL SAFETY

4.1. The overview

Ensuring workplace safety involves analyzing customer satisfaction with mobile operator services. Although the traditional emphasis of occupational safety has been on physical health, it may also include an employee's psychological and emotional health, particularly if they work in customer service or analysis. These are some things to think about when it comes to workplace safety while assessing customer satisfaction with mobile operator services. Make sure analysts who spend a lot of time at their desks don't experience any physical strain or pain by having ergonomically constructed workstations.Provide movable workstations, comfortable seats, and enough illumination to lower the possibility of musculoskeletal problems.It may be emotionally taxing for analysts to cope with consumer feedback, particularly unfavorable remarks. Therefore, teach them coping mechanisms and stress management measures. Provide staff with frequent training opportunities to be informed about tools, technology, and trends in the business and to improve their abilities.

Workloads should be tracked and managed to avoid burnout. It might be demanding to analyze customer happiness, therefore workers need enough downtime to stay focused and healthy. Promoting breaks and contemplating the adoption of laws that restrict overtime are crucial for preserving a healthy work-life balance. Provide a network of support for staff members who could experience emotional strain from handling difficult client complaints or criticism.To address emotional well-being, make counseling services or support groups accessible.Stress the value of privacy and data security while working with customer information. Make sure staff members get training on best practices and data protection legislation. Put in place secure data analysis methods to safeguard employee and consumer information. Train analysts in communication skills to assist them handle difficult talks, handle stressful circumstances, and manage customer

relations.Encourage a culture of open communication among team members so that they may exchange experiences and coping mechanisms for challenging situations.To encourage a healthy lifestyle, provide frequent breaks and opportunities for physical activity. Think about creating areas where workers may unwind and rest during breaks.Provide employee feedback channels so they may voice their opinions on work procedures, workloads, and other issues. Respond to suggestions in order to maintain a positive atmosphere and keep working conditions improving.

Employees should be rewarded for their accomplishments and efforts in assessing customer satisfaction. Motivation and morale may both be raised by positive reinforcement. You may support the occupational safety and wellbeing of workers engaged in the evaluation of customer satisfaction with mobile operator services by implementing these factors into the workplace.

4.2. Occupational Health and Safety (OHS)

The application of safety procedures, education, and safeguards against mishaps, harm, and occupational diseases. This include carrying out frequent safety audits, keeping safe working environments, and providing personal protective equipment. ensuring that laborers have just remuneration for their efforts, which includes perks like health insurance, retirement plans, and other allowances, as well as salaries that either match or beyond legal requirements. establishing appropriate working hours and making sure that rest, overtime, and break requirements are followed. This encourages a healthy work-life balance and lessens the risk of employee burnout.encouraging a diverse and inclusive work environment where all workers, regardless of gender, race, ethnicity, religion, handicap, or other protected characteristics, get fair treatment and equal opportunity for progress. putting rules and processes into place to stop and deal with bullying and harassment at work. This entails setting up methods for reporting and dealing with improper conduct as well as fostering a supportive atmosphere.maintaining equitable employment contracts, guarding against wrongful termination, and making sure that employees have channels for resolving conflicts in order to provide job security.

acknowledging that employees have the freedom to form unions, participate in collective bargaining to improve pay and working conditions, and get other employment-related benefits.

The safety, health, and welfare of individuals at work (i.e., in a profession) are the focus of the interdisciplinary area of occupational safety and health (OSH) or occupational health and safety (OHS), commonly known as simply occupational health or occupational safety. These phrases were initially used to refer to occupational safety and health programs, departments, etc. since they also allude to the field's objectives. Occupational hygiene and occupational medicine are areas that are connected to OSH. Encouraging a safe and healthy work environment is the aim of an occupational safety and health program. All members of the public who could be impacted by the workplace environment are likewise protected under OSH. The WHO/ILO Joint Estimate of the Work-related Burden of Disease and Injury, the official UN estimate, states that exposure to occupational risk factors is responsible for over 2 million deaths annually. Over 2.78 million individuals worldwide pass away each year from illnesses or accidents connected to their jobs; that's one fatality every fifteen seconds. An additional 374 million injuries connected to work are not fatal each year. The annual economic cost of occupationally linked deaths and injuries is estimated to be close to 4% of the world's gross domestic product. This misfortune has a tremendous human cost. Employers in common-law countries are required by common law to take reasonable precautions for their workers' safety, often known as a duty of care.

The specifics of this differ from jurisdiction to jurisdiction, but statute law may also establish government entities empowered to regulate matters pertaining to occupational safety, impose additional general obligations, and introduce new duties. "Occupational health deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards," according to the World Health Organization (WHO).Health is described as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

The goal of the interdisciplinary discipline of occupational health care is to enable people to do their jobs in a manner that is least harmful to their health. It is consistent with

the goal of promoting health and safety at work, which is to stop injuries caused by occupational risks. Occupational health has been defined by the World Health Organization (WHO) and the International Labour Organization (ILO) jointly since 1950. The Joint ILO/WHO Committee on Occupational Health approved it at its first meeting in 1950 and updated it at its twelfth meeting in 1995.

4.3. Employee training and development

Putting money into initiatives for training and development to improve workers' abilities. In addition to helping specific employees, this raises workforce productivity as a whole. supplying social insurance plans and remuneration to employees who sustain diseases or injuries at work. These steps guarantee that workers are assisted in an emergency.sternly abiding by the laws and international norms that prohibit forced labor and child labor. This entails confirming the employees' ages, providing secure working environments for trainees, and doing away with any kind of coercion. Creating ergonomic workplaces and job duties lowers the risk of musculoskeletal diseases and other health problems associated with the physically demanding nature of the workforce.putting in place measures for wellness, access to healthcare, and assistance for mental health that promote the health and well-being of employees. ensuring scrupulous compliance with national, regional, and global labor laws and regulations. To be in conformity with changing legal requirements, policies must be reviewed and updated on a regular basis.putting in place emergency response plans and protocols to deal with emergencies or catastrophes, protecting employees' safety and wellbeing in unanticipated situations. encouraging open lines of communication between employers and employees to make sure that the latter are aware of their rights and duties as well as any changes that may have an impact on their job.In order to provide a work environment where workers feel safe, appreciated, and empowered, labor protection is a complex subject that calls for an all-encompassing strategy.

In addition to helping employees, effective labor laws also support the general prosperity and long-term viability of companies. Employee development and training are

essential for improving the workforce's competencies, which in turn promotes both individual and corporate success. Here are some important factors and things to think about when it comes to staff development and training.To determine the precise abilities and proficiencies that staff members need, carry out a comprehensive evaluation. Performance reviews, analyses of skills gaps, and conversations with managers and staff may all be part of this. Make sure that the organization's overarching strategic goals and objectives are in line with its training and development programs. Training initiatives must to be in line with the long-term goals, vision, and purpose of the business.Work together with staff members to design personal development plans that complement the demands of the company and their career goals. Customizing training to meet personal objectives increases engagement and motivation. To develop a workforce that is diverse and adaptable, provide a mix between soft skills training (communication, leadership, and collaboration) and technical skills training (job-specific skills).Put in place efficient onboarding procedures to aid in the transition of new hires to their positions and the corporate culture. This covers job-specific training, orientation, and introductions to important business rules. Create an environment where workers are encouraged to look for chances for continual growth. This may include producing educational materials, granting access to them, and encouraging self-directed learning.To accommodate various learning preferences, use a range of training delivery techniques. Training conducted by instructors, online courses, seminars, mentoring programs, and practical training are a few examples of this. Adopt technology to increase the efficacy of your training. E-learning platforms, virtual classrooms, and learning management systems (LMS) may all provide effective and scalable methods of delivering training materials.Invest in leadership development initiatives to cultivate the abilities and attributes required of staff members to assume leadership positions within the company. This involves identifying high-potential individuals and providing training for existing leaders. Gather input from managers and staff on a regular basis to evaluate the success of training initiatives. Utilize assessments to inform ongoing training initiative modifications and enhancements.Give staff certificates or recognition for completing training programs as a way to thank them for their hard

work and accomplishments. This may encourage staff members to take full advantage of growth opportunities.

Implement work rotation and cross-training programs to expose staff members to other company facets and expand their skill sets. This not only builds worker flexibility but also improves individual talents.To keep staff members up to date on the newest trends, technology, and industry best practices, provide industry-specific training. This is especially crucial for businesses that are changing quickly. Include diversity and inclusion training in order to encourage respect, awareness, and understanding among staff members and to create a friendly and inclusive work environment.To evaluate the return on investment (ROI) of training programs, establish metrics and key performance indicators (KPIs). This may include raising productivity, raising employee happiness, and improving employee performance. Efficient training and development programs for employees foster not just personal development but also organizational success by enabling the workforce to become competent, driven, and flexible. It is a continuous process that changes to meet the organization's and workers' evolving demands.

CHAPTER CONCLUSIONS

To sum up, labor protection is an all-encompassing and essential component of guaranteeing the welfare, rights, and security of employees in the workplace. The concepts of labor protection include a wide variety of elements intended to provide an equitable, safe, and healthy workplace. These are the main ideas that summarize the importance of worker protection. A human-centric perspective is prioritized in labor protection, recognizing the inherent worth of workers. It acknowledges that the success of a company is largely dependent on the happiness and well-being of its personnel.Emphasizing workplace health and safety is a fundamental component of labor protection. Organizations protect the physical and emotional health of their workers by putting safety measures in place, offering training, and fostering a hazard-free atmosphere. Fair employment practices, such as equal pay, benefits, and chances for professional

progression, are promoted by labor protection. It aims to end discrimination, promote diversity, and guarantee that each and every employee is treated with respect and decency.Labor protection aims to stop exploitation by creating explicit rules that prohibit actions like forced labor and child labor. It places a strong emphasis on moral work ethics, making sure that employees don't endure unjust treatment or excessive pressure. In order to safeguard workers, it is essential to encourage a positive work-life balance. This recognizes the value of giving workers time to unwind and maintain a healthy lifestyle, and it includes fair working hours, breaks, and rest intervals.By acknowledging their right to organize, create unions, and participate in collective bargaining, workers are empowered by labor protection. This promotes a feeling of empowerment and ownership by giving employees a say in choices that impact their working circumstances. Putting money into the education and training of employees is essential to labor protection. Organizations that provide chances for ongoing education not only help their employees become more skilled workers, but they also show that they value personal development.Protection of labor maintains moral and open business practices. This include open communication, impartial grievance procedures, and upholding moral principles in all dealings with staff members.

Organizations that prioritize worker protection are more flexible and resilient. Organizations that put employee well-being first are better able to handle difficulties, hold onto talent, and create a great work environment.A key component of worker protection is adherence to labor rules and regulations. In addition to avoiding legal ramifications, companies that follow the law show that they are committed to moral and responsible business conduct. Essentially, labor protection is a mindset that acknowledges the mutually reinforcing link between an organization's performance and the well-being of its workforce, rather than just a collection of regulations. Adopting labor protection principles contributes to a workplace where people may flourish and make a significant contribution to the goals of their business by fostering a culture of accountability, fairness, and sustainability.

CHAPTER 5
ENVIRONMENTAL PROTECTION

5.1. The overview

Environmental protection measures should be taken into consideration while analyzing customer satisfaction with mobile operator services. Although the study itself may get most of the attention, implementing eco-friendly methods advances sustainability and corporate social responsibility. Here are a few ideas on how to include environmental protection in the procedure.To reduce the amount of paper used, emphasize the usage of digital documents and communication.To decrease the need for actual paper documents, promote the use of electronic feedback forms, surveys, and data storage.Reduce the amount of energy used in offices and data centers where analysis is being done. Use energy-saving equipment to maximize server efficiency, among other energy-efficient technologies and techniques. To lessen the carbon impact of commuting, support telecommuting and remote work solutions.Reduce the need for travel by facilitating virtual meetings with the use of video conferencing and collaborative technologies.Introduce waste reduction strategies in the workplace, such as paper, plastic, and other recyclables recycling containers. To cut down on single-use plastics, promote the usage of reusable materials and stock up on reusable goods like coffee cups and water bottles.Make use of eco-friendly vendors and service providers. When choosing a technology or piece of equipment for analysis, take into account how it will affect the environment and try to choose eco-friendly alternatives.

Verify, if relevant, that sustainable practices are followed by the data centers housing the information for analysis.To reduce data storage's negative environmental effects, use data centers that are fueled by renewable energy sources.Encourage sustainable practices and educate staff members about how their activities affect the environment. Encourage an environmentally conscious culture inside the company.To improve sustainability and energy efficiency, think about implementing green construction

standards for data centers or offices, if that is possible.Regular reporting should take environmental effect into account to demonstrate the organization's dedication to sustainability and environmental preservation.

5.2. Waste management and recycline

Recycling and waste management are essential elements of sustainable environmental practices meant to reduce the harm that human activity does to the environment. In order to lessen pollution to the environment, save resources, and advance a circular economy, these activities include the collection, disposal, recycling, and recovery of waste materials. Here are some important factors and things to think about while recycling and garbage management. Effective waste management starts with proper waste segregation at the source. Processing and recycling are made simpler by classifying trash into groups including recyclables, organic waste, and non-recyclables.Processing and reintroducing collected materials back into the production cycle is made possible by the establishment and upkeep of a strong recycling infrastructure, which includes recycling facilities and centers. To promote appropriate waste disposal practices and a recycling culture, it is essential to educate and raise public awareness of the significance of trash management and recycling.

Adopting the concepts of the circular economy include limiting waste formation throughout the course of the product's lifespan, promoting material reuse, and designing goods with recycling in mind. Using waste-to-energy conversion systems may be a sustainable way to handle certain waste kinds. Organic waste may be converted into energy via procedures like anaerobic digestion and incineration.Composting organic waste, such as leftover food and yard debris, is a sustainable way to create compost that is rich in nutrients for improving soil quality. By keeping organic waste out of landfills, composting lowers methane emissions. Electronic garbage, or "e-waste," must be disposed of and recycled properly in order to avoid the environmental risks that come with disposing of electronic items improperly. Responsibility schemes force manufacturers to handle the end-of-life disposal of their goods. Enforcing legislation on waste management

at local, national, and international levels is a helpful step towards guaranteeing adherence to ecologically conscious methods. Waste reduction goals, recycling requirements, and fines for inappropriate disposal are a few examples of regulations.Municipalities and organizations may evaluate the kinds and amounts of garbage produced by conducting waste audits. The findings guide the development of recycling, waste reduction, and overall waste management plans. A holistic approach to waste management is fostered via collaboration between government agencies, business firms, and non-profit groups. Public-private partnerships have the potential to optimize garbage collection services, augment recycling programs, and improve infrastructure.

The efficiency and efficacy of recycling operations may be increased by investing in and implementing cutting-edge recycling technology, such as sophisticated sorting systems and chemical recycling techniques. The development of markets for these goods stimulates demand for recycled materials, which in turn promotes the expansion of recycling enterprises. Consequently, this maintains the recycling programs' financial sustainability.Participating in planning, recycling programs, and waste management choices with communities promotes a feeling of accountability and ownership. Increased involvement in recycling initiatives might result from community engagement. Programs stay successful and in line with sustainability objectives when waste management techniques are routinely assessed and modified in response to performance indicators and technology developments. A circular economy must include waste management and recycling as they promote resource conservation, pollution reduction, and the general sustainability of ecosystems and communities. An increasingly sustainable future depends on the adoption of efficient waste management techniques as environmental concerns gain worldwide attention.

5.3. Environmental education and awareness

Promoting awareness and education about the environment is essential for encouraging respect for the natural world and appropriate environmental management. Individuals, groups, and societies may support sustainable behaviors and the preservation

of natural ecosystems by cultivating a sense of environmental awareness. These are the main ideas and factors to be mindful of while teaching about the environment. The goal of environmental education is to provide people with the information, attitudes, and abilities necessary to actively contribute to environmental conservation. It often includes both official and informal educational experiences that incorporate environmental ideas into a range of topics and pursuits.Environmental education emphasizes the connections between people, animals, ecosystems, and the natural processes of the Earth in order to provide a comprehensive awareness of the interconnectivity of ecological systems. The promotion of sustainable practices is the main objective of environmental education. This covers actions like cutting down on waste, saving energy, consuming in moderation, and using environmentally friendly items.By offering concrete experiences that help people feel a connection to their environment, integrating experiential learning activities into environmental education—like field excursions, nature walks, and environmental projects—improves its efficacy. People who get environmental education are better equipped to live as environmentally conscious citizens.

By raising knowledge of environmental concerns and motivating action to solve problems at the local, national, and international levels, it promotes civic involvement.Environmental education uses an interdisciplinary approach to include ideas from a variety of subjects, such as science, geography, ethics, economics, and social studies. This method offers a thorough comprehension of environmental concerns. Environmental education is enhanced by acknowledging and embracing indigenous knowledge and viewpoints. Cultural diversity is encouraged, traditional ecological knowledge is acknowledged, and respect for various perspectives on and approaches to the environment is strengthened.It is crucial to use media channels, such as social media, digital communication, and conventional media, to spread environmental knowledge and increase awareness on a larger scale. Including local communities in environmental education programs guarantees their applicability and promotes teamwork. Participation from the community increases environmental programs' efficacy and promotes a feeling of shared responsibility.A global viewpoint is often included into environmental education,

covering global concerns including biodiversity loss, climate change, and environmental justice. It inspires people to act locally while thinking globally.

The inclusion of education for sustainable development concepts in curriculum highlights the significance of adopting sustainable practices that balance environmental, social, and economic factors, as well as long-term thinking and responsible decision-making.People who get environmental education may become more effective advocates for sustainable development and environmental conservation. Knowledgeable individuals are more suited to participate in policy debates and influence policymakers. Acknowledging the ongoing nature of environmental education promotes lifelong learning and flexibility in response to changing environmental issues. It highlights how important it is to continue learning throughout life.Supporting educators with tools and training is essential to the success of environmental education initiatives. Teachers who have received proper training may motivate pupils to become environmentally conscious citizens and successfully teach environmental issues. Programs for environmental education may be made more successful by assessing their effects. Changes in knowledge, attitudes, and behaviors as well as the effective adoption of ecologically friendly activities are examples of measurable results. To sum up, creating a sustainable and ecologically sensitive society requires a strong emphasis on environmental education and awareness. Environmental education helps to solve urgent environmental concerns and build a more sustainable future by encouraging responsible behaviors, strengthening personal connections to nature, and giving people the confidence to take action.

CHAPTER CONCLUSIONS

To sum up, environmental preservation is essential to the health of the earth and the continuation of life as we know it. A responsible and ethical global community must prioritize the many initiatives taken to protect the environment, preserve natural resources, and lessen the effects of human activity. These are some important ideas that summarize the need of environmental conservation.

Because ecosystems are interrelated, environmental conservation emphasizes that decisions made in one area of the globe may have a significant impact elsewhere. The global community must work together to solve environmental issues.Preserving the environment requires protecting biodiversity. The diversity of life on Earth provides vital services that support human cultures, maintains ecological balance, and increases ecosystem resilience. One of the most important parts of environmental preservation is mitigating climate change, which is characterized by increasing temperatures and catastrophic weather occurrences. It is essential to switch to renewable energy, cut greenhouse gas emissions, and implement sustainable practices.Responsible and sustainable management of natural resources is essential to environmental conservation. In order to limit waste, this involves promoting recycling, cutting down on overconsumption, and putting circular economy principles into effect. Environmental protection requires an understanding of and response to environmental justice concerns. One of the main objectives is to guarantee that every community, irrespective of socioeconomic standing or geographical location, has equitable access to a clean and healthy environment.Human health and well-being are directly impacted by environmental quality. The avoidance of environmental risks that may endanger human populations, as well as clean air and safe drinking water, are all made possible by environmental protection initiatives. Achieving sustainable development requires incorporating environmental factors into development procedures. Making ensuring that environmental conservation and economic development are balanced will guarantee that future generations inherit a world that can support their requirements.

Preserving the environment represents a duty to the next generation. Future generations' quality of life will be impacted by the decisions made now, or not at all. The dedication to protect the environment spans generations. Ecosystems are more resilient to human influence and natural disruptions when the environment is protected. Essential functions like pollination, water filtration, and climate management are provided by healthy ecosystems.It is essential to use innovation and technology to safeguard the environment. Resource efficiency is increased by developments in eco-friendly behaviors, renewable energy, and sustainable technology. Governments, corporations, communities,

and people must work together to safeguard the environment. Local, national, and worldwide partnerships improve our ability as a group to tackle global environmental issues.

Raising awareness and educating people about the environment are effective means of promoting a culture of accountability. People with higher knowledge are more likely to support legislation that puts environmental preservation first and make sustainable decisions. The implementation of strict environmental legislation offers a foundation for ethical behavior. Ensuring compliance with environmental legislation guarantees that both people and companies maintain standards that protect the environment.Environmental protection incorporates adaptive techniques to adjust to changing circumstances, especially those brought about by climate change, in recognition of the dynamic character of the environment. In the end, environmental preservation is morally required. It symbolizes our moral need to take care of the planet as stewards, preserving its delicate balance for future generations while promoting biodiversity and ecological health. Protecting the environment is essentially a common obligation that cuts beyond national boundaries, philosophies, and generations.

The preservation of the earth and the promotion of a sustainable and peaceful cohabitation with nature need a comprehensive and integrated strategy, in which every person and organization contributes to the group effort.

CONCLUSION

During the study process, the following primary issues were discovered: Due to the closure of tariffs for connecting private subscribers on the terms of the previous one and price increases for current tariffs, there is an unclear demarcation of the two parallel existing brands, MTS and Vodafone, which results in a distorted level of customer loyalty; low level of "immunity" of customers and high willingness to switch operators. All of these factors contribute to a slow decline in consumer trust in the business, which causes it to lose its competitive edge in the Ukrainian telecom industry. You should intensify your consumer wants research to guarantee ongoing comprehension of the worldwide environment on the Ukrainian market if you want to maintain your positions against rivals and grow your market share. Better customer requirements fulfillment will result from this. Investing more in research and development of both new and current goods and services would enable the firm to expand its market potential. In order to address the aforementioned issues for Vodafone Ukraine, the following steps are suggested: In order to overcome obstacles, it is important to promptly identify potential avenues for the company's growth while considering worldwide trends. To this purpose, we propose introducing the following focal points into the "Vodafone Ukraine" brand's marketing plan on the Ukrainian market:

The greatest retail network of outlets; digital leadership. In summary, Vodafone Ukraine is a significant participant in the telecom industry with a vast toolkit, skilled personnel, and a wealth of expertise. But, in order to implement strategic priorities in the face of intense competition, the company must continuously use marketing tools and engage in a variety of marketing activities. This will raise gross income, increase PJSC "VF Ukraine's" market share, boost its level of competitiveness, and strengthen the company's market positions. To find areas for development, improve the customer experience, and keep consumers, telecommunications businesses must analyze consumer satisfaction with mobile operator services. In summary, the examination of customer contentment with mobile operator offerings yields significant understanding of the

workings of the telecom sector and the customer journey. Upon doing a thorough analysis of several factors, including service quality, customer assistance, and price, a number of significant findings and conclusions are revealed. In the telecom industry, a customer-centric strategy is crucial. The results emphasize how crucial it is for mobile operators to put their customers' needs and expectations first in order to raise satisfaction levels all around.Service quality, which includes data speed, call quality, and network performance, is shown to be a significant factor affecting customer satisfaction. In order to guarantee a dependable and smooth customer experience, mobile carriers need to make constant investments in technology and infrastructure. Customer satisfaction is greatly increased by open and honest communication on policies, pricing, and service offers. To gain the confidence of their client base, mobile carriers should place a high priority on transparent and truthful communication.Getting what they think is value for their money is highly valued by consumers. In order to fulfill consumer expectations and stay competitive, mobile carriers must strike a balance between the quality of services offered and price structures. Customer satisfaction is significantly influenced by prompt, effective problem-solving and attentive customer service. To handle complaints quickly and efficiently, mobile carriers should make investments in reliable customer support systems.Remaining competitive necessitates integrating cutting-edge technology with ongoing service improvements, including 5G adoption. In order to satisfy changing consumer needs, mobile carriers need continue to be at the forefront of technical innovation. The report emphasizes how crucial customer privacy and data security issues are.

Mobile providers must put strong cybersecurity safeguards in place and ensure users that their personal data is secure.The competitive environment indicates that in order for mobile operators to stand out in the market, they need provide special services, benefits, and an enhanced client experience in addition to differentiating themselves via price. The telecommunications sector is dynamic, with customer tastes and technology changing quickly. It is important for mobile operators to show that they can adjust to changing market trends and client expectations.Customer feedback gathering and analysis have to be a continuous and essential component of mobile carriers' business plans. The aforementioned data is a useful resource for comprehending client attitudes, pinpointing

issues, and executing enhancements. Essentially, the investigation highlights the complex link that exists between several aspects of mobile operator services and consumer happiness. According to the research, in the fiercely competitive world of telecommunications, achieving and even surpassing consumer expectations requires a comprehensive and customer-focused approach that takes into account service quality, communication, price, and innovation. Mobile carriers may cultivate enduring consumer loyalty and sustain a robust market position by giving precedence to these components.

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