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ადამიანთა კაპიტალის შექმნისას

Impact of Quality and Security Management

on Human Capital Building

წარდგენილია ბიზნესის ადმინისტრირების დოქტორის აკადემიური

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Thesis Topic: Impact of Quality and Security Management on Human Capital Building

As the author of the submitted work, I hereby declare that this submission is my own work and to the best of my knowledge it contains no materials previously published, accepted for publication or written by another person, or substantial proportions of material that have been accepted for the award of any other degree or diploma, except where due acknowledgement is made in the dissertation.

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Impact of Quality and Security Management on Human Capital Building

Abstract

Quality and security management and human capital building have been acknowledged as 'new' methods that enticed a boundless deal of scholars and practitioners' interest. Both of the terms are considered to be an imperative management philosophy which underpins organizational efforts to acquire contented customers. The purpose of the dissertation is to look at of total quality management (TQM) and security as the correct integration into the human capital building practices effectiveness.

Relevance of the Topic

With the increasing competition and customer demands, organizations must focus on enhancing their quality and security standards to remain competitive and maintain customer loyalty. Moreover, organizations face a constant threat from security breaches and must take proactive measures to safeguard their operations. Human capital is the most valuable asset for any organization, and its development is critical for achieving organizational objectives. Therefore, the integration of TQM and security into human capital building practices can provide a holistic approach to organizational development and help organizations achieve their goals effectively. This thesis can contribute to the existing body of knowledge on TQM, security, and human capital management and provide practical insights for managers and practitioners to improve their organizational performance.

Goal and Objectives of the Thesis

The main goal of this thesis is to reveal TQM, security, and human capital building practices impact on human capital building (in their inter-relationships).

Thesis presents the investigation of how much influence do TQM and HSE practices have on human capital building, identifying the best practices for

integrating TQM and security management into human capital building. Also providing practical recommendations for managers and practitioners to improve organizational performance through the integration of TQM, security, and human capital building practices.

The main research questions:

- How do quality management practices influence human capital building in organizations?

- How do security management practices influence human capital building in organizations?

- What is the role of organizational culture in mediating the relationship between quality and security management and human capital building?

The main goal: to find the impact of TQM and HSSE on building human capital.

Dissertation objectives are the following:

- to analyze the concept of human capital;

- to reveal the ways of human capital building;

- to define quality and security aspects in managing organization;

- to specify the correlation of quality and security management practices with human capital building;

- to reveal the impact of Quality and Security Management on Human Capital Building.

Research Methodology and Results

The research methodology for this thesis is a mixed-method approach, which involves both quantitative and qualitative data collection and structure.

Quantitative aspect of the research involves a survey of employees in selected organizations in different sectors in Georgia, which is used to collect data on quality and security management practices and human capital building. The qualitative aspect of the research involves in-depth interviews with key informants in selected organizations in Georgia to collect data on organizational culture and its role in mediating the relationship between quality and security management and human capital building.

Below are shown the steps in research and methodology:

- **Literature review:** A comprehensive review of existing literature is conducted to identify the existing knowledge and research on quality and security management in transport companies, human capital building, and their relationship.

- **Data collection:** Data is collected from transport companies through surveys and interviews with management and employees to understand their perception of quality and security management and its impact on human capital building.

- **Data analysis:** Collected data is analyzed using statistical tools to identify trends, patterns, and correlations between the variables. The analysis will be done using tools such as regression analysis, correlation analysis, and descriptive statistics. For statistical analysis are used: U-test, STD test, frequency tables, pairwise comparisons, correlation calculations.

- **Comparative analysis:** The findings of the study are compared with existing literature and industry best practices to identify the effectiveness of quality and security management practices in building human capital in transport companies.

- **Recommendations:** Based on the findings, recommendations are provided

to transport companies to improve their quality and security management practices to enhance human capital building, employee satisfaction, motivation, and retention.

Based on the literature review, the following hypotheses are offered for the practical research:

Hypothesis 1: Quality and security management practices have a positive impact on human capital building in organizations. The implementation of effective quality and security management practices is expected to enhance employee productivity, motivation, and engagement, which will contribute to the development of human capital in the organization.

Hypothesis 2: Organizational culture plays a mediating role in the relationship between quality and security management and human capital building. A strong positive and supportive organizational culture is expected to enhance the positive impact of quality and security management practices on human capital building, while a negative and unsupportive culture is expected to weaken this relationship.

The study tests these hypotheses by analyzing the data collected through the survey and the in-depth interviews. The results of this study provides insights into the factors that influence human capital building in organizations and inform organizational decision-making.

The hypotheses presented in the study are focused on understanding the relationships between quality and security management practices, organizational culture, and human capital building in organizations. Hypothesis 1 will be tested by analyzing data collected through surveys and in-depth interviews to assess the extent to which effective quality and security management practices are associated with increased employee productivity, motivation, and engagement. Statistical analyses, such as regression analysis or correlation analysis, may be employed to determine the strength and direction of these relationships.

Hypothesis 2 suggests that organizational culture acts as a mediator in the relationship between quality and security management practices and human capital building. To test this, statistical methods like mediation analysis may be used. The study will examine whether a positive and supportive organizational culture enhances the impact of quality and security management practices on human capital building, while a negative and unsupportive culture weakens this impact.

The study will gather data through surveys from organizations and their employees. The collected data will be analyzed statistically to assess the relationships and potential mediating role of organizational culture. The results of these analyses will provide insights into how quality and security management practices and organizational culture impact human capital development within organizations. These insights can be valuable for informing organizational decision-making and improving practices related to human capital building.

Results Discussion

The research findings indicate several key insights regarding the implementation of Total Quality Management (TQM) and Health, Safety, Security, and Environment (HSSE) principles in Georgian companies.

Most employees believe that their companies do not use TQM and HSSE principles, raising concerns about the level of quality and safety in the workplace.

Companies implementing Quality Management Systems (QMS) tend to score higher in quality and security, career development, and organizational culture, emphasizing the importance of QMS for positive work environments and employee development. Organizational culture plays a crucial role in the success of quality and security management practices, underlining the need for companies to focus on building a supportive culture. Gender differences exist in employee perceptions of quality and security, career development, and organizational culture,

emphasizing the importance of considering gender diversity in management practices. Age-related differences in perception suggest that companies should tailor strategies to engage different age groups in quality and security management. Strong correlations between various factors highlight the interconnected nature of organizational management and emphasize the need for a holistic approach.

These findings underscore the significance of implementing TQM and HSSE principles, fostering a positive organizational culture, and addressing gender and age diversity in promoting workplace quality, safety, and overall success. Companies should use this information to identify areas for improvement and develop targeted strategies to enhance their organizational practices.

Study Significance

The findings of this study contribute to the understanding of the relationship between quality and security management and human capital building. The study provides insights into the factors that influence human capital building in organizations and inform organizational decision-making. The results of this study are of interest to organizational leaders, HR managers, and policy-makers, as they will provide practical guidance for improving organizational performance through human capital building.

Scientific Novelty

The scientific novelty of the thesis lies in the integration of total quality management (TQM) and security practices into human capital building practices. While there is extensive literature on TQM, security, and human capital management, there is a limited understanding of how these practices can be effectively integrated to enhance organizational performance. The thesis provides a theoretical framework for integrating TQM, security, and human capital building practices and evaluates their impact on organizational performance and customer satisfaction. This thesis contributes to the existing body of knowledge by

examining the role of human capital in implementing TQM and security practices.

It provides insights into how TQM and security practices can enhance employee productivity, motivation, and engagement, thereby contributing to the development of human capital in the organization. The thesis also identifies the best practices for integrating TQM and security into human capital building practices. It provides practical recommendations for managers and practitioners to improve organizational performance through the effective integration of TQM, security, and human capital building practices.

Structure of the Thesis

The thesis consists of Introduction, 2 chapters , Conclusion and Recommendations, as well as one Appendix. In total 148 pages. Bibliography includes 143 sources. Introduction provides an overview of the research problem, the significance of the study, research questions, and objectives of the study. Literature Review overviews the existing literature on TQM, security, and human capital management. It examines the theoretical frameworks of TQM, security, and human capital management, and their inter-relationships. This chapter also discusses the impact of TQM and security on organizational performance and customer satisfaction and the role of human capital in implementing TQM and security practices. Research Methodology: this chapter describes the research methodology used in the study. It outlines the data collection methods, sampling techniques, research design and data analysis procedures used in the study. Results and Findings: this chapter presents the results and findings of the study. It evaluates the impact of TQM and security practices on organizational performance and customer satisfaction. It also examines the role of human capital in implementing TQM and security practices and identifies the best practices for integrating TQM and security into human capital building practices. Discussion and Interpretation: In this chapter, we delve into the ramifications of our research outcomes on both theoretical frameworks and practical applications. We analyze the study's results and offer tangible

guidance for managers and practitioners seeking to enhance organizational performance by seamlessly incorporating TQM, security measures, and human capital development practices.

Conclusion summarizes the main findings of the study, draws conclusions, and discusses the limitations of the study. It also provides suggestions for future research, including recommendations for organizations.

ხარისხისა და უსაფრთხოების როლი კომპანიაში
ადამიანთა კაპიტალის შექმნისას

რეზიუმე

ხარისხისა და უსაფრთხოების მენეჯმენტი და ადამიანური კაპიტალის მშენებლობა აღიარებულია, როგორც „ახალი" მეთოდი, რამაც გამოიწვია მეცნიერებისა და პრაქტიკოსების უსაზღვრო ინტერესი. ორივე ტერმინი განიხილება, როგორც იმპერატიული მენეჯმენტის ფილოსოფია, რომელიც საფუძვლად უდევს ორგანიზაციულ ძალისხმევას კმაყოფილი მომხმარებლების მოსაპოვებლად. დისერტაციის მიზანია განიხილოს მთლიანი ხარისხის მენეჯმენტი (TQM) და უსაფრთხოება, როგორც სწორი ინტეგრაცია ადამიანური კაპიტალის მშენებლობის პრაქტიკაში.

თემის აქტუალობა

მზარდი კონკურენციისა და მომხმარებელთა მოთხოვნების გამო, ორგანიზაციებმა უნდა გაამახვილონ ყურადღება მათი ხარისხისა და უსაფრთხოების სტანდარტების გაუმჯობესებაზე, რათა დარჩეს კონკურენტუნარიანი და შეინარჩუნოს მომხმარებელთა ლოიალობა. უფრო მეტიც, ორგანიზაციები მუდმივ საფრთხეს აწყდებიან უსაფრთხოების დარღვევებისგან და უნდა მიიღონ პროაქტიული ზომები თავიანთი ოპერაციების დასაცავად. ადამიანური კაპიტალი არის ყველაზე ღირებული აქტივი ნებისმიერი ორგანიზაციისთვის და მისი განვითარება გადამწყვეტია ორგანიზაციული მიზნების მისაღწევად. აქედან გამომდინარე, TQM-ისა და უსაფრთხოების ინტეგრაციამ ადამიანური კაპიტალის მშენებლობის პრაქტიკაში შეიძლება უზრუნველყოს ორგანიზაციული განვითარების ჰოლისტიკური მიდგომა და დაეხმაროს ორგანიზაციებს მიზნების ეფექტურად მიღწევაში. ამ დისერტაციას შეუძლია წვლილი შეიტანოს TQM-ის, უსაფრთხოებისა და ადამიანური კაპიტალის მენეჯმენტის შესახებ არსებული ცოდნის ფორმირებაში და უზრუნველყოს პრაქტიკული შეხედულებები მენეჯერებისთვის და

პრაქტიკოსებისთვის მათი ორგანიზაციული მუშაობის გასაუმჯობესებლად.

ნაშრომის მიზანი და კვლევის ზოგადი ამოცანა

TQM-ის, უსაფრთხოებისა და ადამიანური კაპიტალის შექმნის პრაქტიკის თეორიული ჩარჩოების შესწავლის შემდეგ და მათი ურთიერთდამოკიდებულების შეფასების შემდეგ, TQM-ისა და უსაფრთხოების ზეგავლენა ორგანიზაციულ შესრულებაზე და ადამიანური კაპიტალის მშენებლობაზე, რაც საბოლოოდ გარდაიქმნება მომხმარებელთა კმაყოფილებად.

დისერტაცია გვიჩვენებს კვლევას, თუ რა გავლენას ახდენს TQM და HSE პრაქტიკა ადამიანური კაპიტალის მშენებლობაზე, საუკეთესო პრაქტიკის იდენტიფიცირება TQM და უსაფრთხოების მენეჯმენტის ადამიანური კაპიტალის მშენებლობაში. ასევე პრაქტიკული რეკომენდაციების მიწოდება მენეჯერებისთვის და პრაქტიკოსებისთვის ორგანიზაციული მუშაობის გასაუმჯობესებლად TQM, უსაფრთხოებისა და ადამიანური კაპიტალის მშენებლობის პრაქტიკის ინტეგრაციის გზით.

კვლევის მთავარი მიზანია გამოავლინს ხარისხის, შრომისა და უსაფრთხოების მენეჯმენტის გავლენა ადამიანური კაპიტალის შექმნაზე.

კვლევის მეთოდოლოგია და შედეგები

ამ დისერტაციის კვლევის მეთოდოლოგია არის შერეული მიდგომა, რომელიც მოიცავს როგორც რაოდენობრივ, ისე ხარისხობრივ მონაცემთა შეგროვებას და დამუშავებას. კვლევის რაოდენობრივი ასპექტი მოიცავს საქართველოს სხვადასხვა სექტორში შერჩეულ ორგანიზაციებში დასაქმებულთა გამოკითხვას, რომელიც გამოიყენება ხარისხისა და უსაფრთხოების მართვის პრაქტიკის და ადამიანური კაპიტალის მშენებლობის შესახებ მონაცემების შესაგროვებლად. კვლევის ხარისხობრივი ასპექტი მოიცავს სიღრმისეულ ინტერვიუებს

საქართველოში შერჩეულ ორგანიზაციებში, რათა გამოვიკვლიოთ ინფორმაცია ორგანიზაციული კულტურის შესახებ და მისი როლის ხარისხისა და უსაფრთხოების მენეჯმენტსა და ადამიანური კაპიტალის მშენებლობას შორის ურთიერთობის შუამავლობაში.

ქვემოთ მოცემულია კვლევისა და მეთოდოლოგიის საფეხურები:

- **ლიტერატურის მიმოხილვა:** ჩატარდება არსებული ლიტერატურის ყოვლისმომცველი მიმოხილვა კომპანიებში ხარისხისა და უსაფრთხოების მართვის შესახებ არსებული ცოდნისა და კვლევის იდენტიფიცირებისთვის, ადამიანური კაპიტალის მშენებლობასა და მათთან ურთიერთობაზე.

- **მონაცემთა შეგროვება:** მონაცემები შეგროვდება სატრანსპორტო კომპანიებისგან გამოკითხვებისა და ინტერვიუების მეშვეობით მენეჯმენტთან და თანამშრომლებთან, რათა გაიგოთ მათი აღქმა ხარისხისა და უსაფრთხოების მენეჯმენტის შესახებ და მისი გავლენა ადამიანური კაპიტალის მშენებლობაზე.

- **მონაცემთა ანალიზი:** შეგროვებული მონაცემები გაანალიზდება სტატისტიკური ინსტრუმენტების გამოყენებით ცვლადებს შორის ტენდენციების, შაბლონების და კორელაციების დასადგენად. ანალიზი განხორციელდება ისეთი ინსტრუმენტების გამოყენებით, როგორიცაა რეგრესული ანალიზი, კორელაციური ანალიზი და აღწერითი სტატისტიკა. სტატისტიკისთვის გამოიყენებს: U-ტესტი, STD ტესტი, სიხშირის ცხრილები, წყვილთა შედარება, კორელაციის გამოთვლები.

- **შედარებითი ანალიზი:** კვლევის შედეგები შედარებული იქნება არსებულ ლიტერატურასთან და ინდუსტრიის საუკეთესო პრაქტიკასთან, რათა დადგინდეს ხარისხისა და უსაფრთხოების მართვის პრაქტიკის ეფექტურობა სატრანსპორტო კომპანიებში

ადამიანური კაპიტალის მშენებლობაში.

- **რეკომენდაციები:** დასკვნებიდან გამომდინარე, რეკომენდაციები მიეწოდება სატრანსპორტო კომპანიებს ხარისხისა და უსაფრთხოების მართვის პრაქტიკის გასაუმჯობესებლად ადამიანური კაპიტალის მშენებლობის, თანამშრომლების კმაყოფილების და მოტივაციის გასაუმჯობესებლად.

შედეგების მიმოხილვა

კვლევის შედეგები მიუთითებს რამდენიმე საკვანძო მოსაზრებაზე ქართულ კომპანიებში მთლიანი ხარისხის მენეჯმენტის (TQM) და ჯანმრთელობის, უსაფრთხოების, უსაფრთხოებისა და გარემოს დაცვის (HSSE) პრინციპების დანერგვის შესახებ.

თანამშრომლების უმეტესობა თვლის, რომ მათი კომპანიები არ იყენებენ TQM და HSSE პრინციპებს, რაც იწვევს შეშფოთებას სამუშაო ადგილზე ხარისხისა და უსაფრთხოების დონის შესახებ.

კომპანიები, რომლებიც ახორციელებენ ხარისხის მენეჯმენტის სისტემებს (QMS) აქვთ მაღალი ხარისხი უსაფრთხოებაში, კარიერის განვითარებასა და ორგანიზაციულ კულტურაში, რაც ხაზს უსვამს QMS-ის მნიშვნელობას პოზიტიური სამუშაო გარემოსთვის და თანამშრომლების განვითარებისთვის. ორგანიზაციული კულტურა გადამწყვეტ როლს ასრულებს ხარისხისა და უსაფრთხოების მართვის პრაქტიკის წარმატებაში, რაც თავის მხრივ ხაზს უსვამს კომპანიების აუცილებლობაზე ფოკუსირება მოახდინონ დამხმარე კულტურის ჩამოყალიბებაზე. გენდერული განსხვავებები არსებობს თანამშრომელთა ხარისხისა და უსაფრთხოების აღქმაში, კარიერის განვითარებასა და ორგანიზაციულ კულტურაში, რაც ხაზს უსვამს მენეჯმენტის პრაქტიკაში გენდერული მრავალფეროვნების გათვალისწინების მნიშვნელობას. ასაკთან დაკავშირებული განსხვავებები გვაჩვენებს, რომ კომპანიებმა უნდა მოამზადონ სტრატეგიები, რათა

ჩართონ სხვადასხვა ასაკობრივი ჯგუფი ხარისხისა და უსაფრთხოების მენეჯმენტში. სხვადასხვა ფაქტორებს შორის ძლიერი კორელაცია ხაზს უსვამს ორგანიზაციული მენეჯმენტის ურთიერთდაკავშირებულ ბუნებას და ხაზს უსვამს ჰოლისტიკური მიდგომის აუცილებლობას.

ეს დასკვნები ხაზს უსვამს TQM და HSSE პრინციპების დანერგვის მნიშვნელობას, პოზიტიური ორგანიზაციული კულტურის ხელშეწყობას და გენდერულ და ასაკობრივ მრავალფეროვნებას სამუშაო ადგილის ხარისხის, უსაფრთხოებისა და საერთო წარმატების ხელშეწყობაში. კომპანიებმა უნდა გამოიყენონ ეს ინფორმაცია გაუმჯობესების სფეროების იდენტიფიცირებისთვის და მიზნობრივი სტრატეგიების შემუშავებისთვის მათი ორგანიზაციული პრაქტიკის გასაუმჯობესებლად.

კვლევის მნიშვნელობა

ამ კვლევის შედეგები ხელს უწყობს ხარისხისა და უსაფრთხოების მენეჯმენტსა და ადამიანური კაპიტალის მშენებლობას შორის ურთიერთობის გააზრებას. კვლევა გვიჩვენებს ფაქტორებს, რომლებიც გავლენას ახდენენ ადამიანური კაპიტალის შექმნაზე ორგანიზაციებში და აცნობენ ორგანიზაციულ გადაწყვეტილებებს. ამ კვლევის შედეგები საინტერესოა ორგანიზაციის ლიდერებისთვის, HR მენეჯერებისთვის და პოლიტიკის შემქმნელებისთვის, რადგან ისინი უზრუნველყოფენ პრაქტიკულ მითითებებს ორგანიზაციული მუშაობის გასაუმჯობესებლად ადამიანური კაპიტალის მშენებლობის გზით.

სამეცნიერო სიახლე

დისერტაციის სამეცნიერო სიახლე მდგომარეობს TQM და უსაფრთხოების პრაქტიკის ინტეგრაციაში ადამიანური კაპიტალის მშენებლობის პრაქტიკაში. მიუხედავად იმისა, რომ არსებობს ლიტერატურა TQM-ის, უსაფრთხოებისა და ადამიანური კაპიტალის მენეჯმენტის შესახებ, რთულია იმის გაგება, თუ როგორ შეიძლება ამ პრაქტიკის ეფექტურად ინტეგრირება ორგანიზაციული მუშაობის გასაზრდელად. დისერტაცია

უზრუნველყოფს თეორიულ ჩარჩოს TQM-ის, უსაფრთხოებისა და ადამიანური კაპიტალის მშენებლობის პრაქტიკის ინტეგრირებისთვის და აფასებს მათ გავლენას ორგანიზაციულ შესრულებაზე და მომხმარებელთა კმაყოფილებაზე.

უფრო მეტიც, დისერტაცია ხელს უწყობს არსებული ცოდნის განვითარებას ადამიანური კაპიტალის როლის შესწავლით TQM და უსაფრთხოების პრაქტიკის დანერგვაში. ის გვაწვდის ინფორმაციას იმის შესახებ, თუ როგორ შეუძლია TQM და უსაფრთხოების პრაქტიკამ გააძლიეროს თანამშრომლების პროდუქტიულობა, მოტივაცია და ჩართულობა, რითაც ხელს შეუწყობს ორგანიზაციაში ადამიანური კაპიტალის განვითარებას.

დისერტაცია ასევე განსაზღვრავს საუკეთესო პრაქტიკას TQM და უსაფრთხოების ინტეგრირებისთვის ადამიანური კაპიტალის მშენებლობის პრაქტიკაში. ის უზრუნველყოფს პრაქტიკულ რეკომენდაციებს მენეჯერებისთვის და პრაქტიკოსებისთვის, რათა გააუმჯობესონ ორგანიზაციული შესრულება TQM, უსაფრთხოებისა და ადამიანური კაპიტალის მშენებლობის პრაქტიკის ეფექტური ინტეგრაციის გზით.

ნაშრომის სტრუქტურა

დისერტაცია შედგება შესავალის, კვლევისა და მეთოდოლოგიისგან, დასკვნ და რეკომენდაციები, რომელიც თავის მხრივ იყოფა ქვეთავებად; ასევე ერთი დანართისგან. სულ 148 გვერდი. ბიბლიოგრაფია მოიცავს 141 წყაროს.

შესავალში მოცემულია კვლევის პრობლემის, კვლევის მნიშვნელობის, კვლევის კითხვები და კვლევის მიზნების მიმოხილვა. Literature Review მიმოიხილავს არსებულ ლიტერატურას TQM, უსაფრთხოებისა და ადამიანური კაპიტალის მართვის შესახებ. ის განიხილავს TQM-ის, უსაფრთხოებისა და ადამიანური კაპიტალის მართვის თეორიულ ჩარჩოებს და მათ ურთიერთდამოკიდებულებებს. ეს თავი ასევე განიხილავს TQM-ისა და უსაფრთხოების გავლენას ორგანიზაციულ შესრულებაზე და

მომხმარებელთა კმაყოფილებაზე და ადამიანური კაპიტალის როლზე TQM და უსაფრთხოების პრაქტიკის განხორციელებაში. კვლევის მეთოდოლოგია: ამ თავში აღწერილია კვლევაში გამოყენებული კვლევის მეთოდოლოგია. მასში ასახულია მონაცემთა შეგროვების მეთოდები, შერჩევის ტექნიკა, კვლევის დიზაინი და მონაცემთა ანალიზის პროცედურები, რომლებიც გამოიყენება კვლევაში. შედეგები და დასკვნები: ამ თავში წარმოდგენილია კვლევის შედეგები და დასკვნები. იგი აფასებს TQM და უსაფრთხოების პრაქტიკის გავლენას ორგანიზაციულ შესრულებაზე და მომხმარებელთა კმაყოფილებაზე. იგი ასევე იკვლევს ადამიანური კაპიტალის როლს TQM და უსაფრთხოების პრაქტიკის დანერგვაში და განსაზღვრავს საუკეთესო პრაქტიკას TQM-ისა და უსაფრთხოების ინტეგრირებისთვის ადამიანური კაპიტალის მშენებლობის პრაქტიკაში. დისკუსია და ინტერპრეტაცია: ამ თავში ჩვენ განვიხილავთ ჩვენი კვლევის შედეგების შედეგებს, როგორც თეორიულ ჭარჭოებზე, ასევე პრაქტიკულ გამოყენებაში. ჩვენ ვაანალიზებთ კვლევის შედეგებს და ვთავაზობთ ხელშესახებ მითითებებს მენეჯერებისთვის და პრაქტიკოსებისთვის, რომლებიც ცდილობენ გააუმჯობესონ ორგანიზაციული ეფექტურობა TQM, უსაფრთხოების ზომების და ადამიანური კაპიტალის განვითარების პრაქტიკის შეუფერხებლად ჩართვის გზით.

დასკვნა აჯამებს კვლევის ძირითად მიგნებებს, გამოაქვს დასკვნები და განიხილავს კვლევის შეზღუდვებს. იგი ასევე გთავაზობთ წინადადებებს მომავალი კვლევისთვის, მათ შორის რეკომენდაციებს ორგანიზაციებისთვის.

Introduction

The dissertation will conduct a thorough examination of the literature pertaining to the application of Human Resource Management (HRM) and Total Quality Management (TQM) practices across various domains. This review will primarily concentrate on the implementation of these practices, their influence on organizational performance, and the key indicators that motivate organizations to adopt them. Additionally, it will acknowledge the advantages organizations derive from incorporating TQM during their implementation, with the belief that this approach can help them attain their objectives.

Some organizations refrain from adopting HRM and TQM practices due to unspecified reasons and the perceived lack of significant improvements in the efficacy of such practices. Consequently, the dissertation will present the author's fundamental perspective on the interplay between human resource management and total quality management and its impact on an organization's sustainability. It will also strive to provide a comprehensive understanding of the execution of practices and procedures geared towards enhancing business performance.

The implementation of TQM appears to be an elusive goal, despite receiving substantial attention from diverse organizations. The primary objectives are achieving world-class product and service quality, and recipients of quality awards have demonstrated exceptional performance excellence strategies that consistently deliver increased value to customers and stakeholders, thereby contributing to the long-term viability of organizations.

Also, significant challenge lies in the relatively high failure rate encountered when organizations attempt to implement TQM. One of the principal concerns is the insufficient focus on human resource management. Total quality is a holistic concept, encompassing the motivation of all members within an organization to pursue customer satisfaction. HRM plays a crucial role in fostering interpersonal relationships, fostering group cohesion, enhancing employee competence, and driving cultural change. As such, it serves as a catalyst for effective TQM

implementation. Both HRM and TQM are strategically and tactically vital in gaining a competitive edge through diverse factors.

Sustained improvement in employee performance contributes to the continuous delivery of high-quality products and services to customers. Effective performance appraisal is among the key performance management processes that can offer substantial support, as it involves various measurements throughout the organization. The success of organizations hinges on their management practices, encompassing planning, organizing, leading, controlling, and adapting to effective approaches. While various research efforts have explored numerous practices within different organizations, their overarching objective is clear: refining management quality for enhanced organizational effectiveness.

The research would include the issues related to the correlation of quality and security management practices with human capital building in organizations.

Quality and security management are critical aspects of organizational performance that have been widely studied in the literature. Both areas have been found to have a significant impact on organizational success, as they enhance the efficiency and effectiveness of operations, reduce costs, and improve customer satisfaction. Additionally, the role of human capital in organizational success has been widely recognized. Employees are the key drivers of organizational success, and their knowledge, skills, and abilities are essential for achieving organizational goals. However, the relationship between quality and security management and human capital building has received relatively little attention in the literature.

The purpose of this thesis is to explore the impact of quality and security management on human capital building. Specifically, the thesis will investigate how quality and security management practices influence human capital building in organizations. The thesis will also examine the role of organizational culture in mediating the relationship between quality and security management and human capital building.

<u>Research questions:</u>

- How do quality management practices influence human capital building in organizations?

- How do security management practices influence human capital building in organizations?

- What is the role of organizational culture in mediating the relationship between quality and security management and human capital building?

Chapter 1 Theoretical Background

1.1. Human Capital

1.1.1 Human Capital Understanding

For all types of organizations, being of human capital is crucial. First of all, it is important to understand what does human capital mean. In general, human capital is described as the skills, training, and health acquired through on the job training and education (Edmondson, 2025). Human capital may also be defined as the endowment of abilities to produce that exists in each human being (Aditham, 2022).

The idea of human capital originates from earlier 18-th century and belongs to Adam Smith. An economist and Nobel Laureate from the University of Chicago Gary Becker introduced and popularized modern theories, Jacob Mincer, and Theodore Schultz. Paul Romer was awarded for his work using Human Capital as a key factor in 2018 with Nobel Prize for Economics who founded the modern innovation-driven approach to understanding economic growth (Peterson, Baker, & McGaw, 2010).

The term 'human capital' is a key element to improve the assets of the organization. It can be seen as sustainable competitive advantage and a factor of increased employee efficiency. Some theorists apply rules to prove the ability to create useful competitions between companies by developing individual human resources.

Recently, managers of organizations have found that human resources to have greatest importance in gaining sustainable competitive advantage and efficiency. In the world where education, along with knowledge and communication with customers have gained increasing importance, human capital, that is the bucket of knowledge, technical skills, creativity, and experience of the organization, gains

great importance, thus labor force is the most productive and also highly valued and not costly assets.

To form strong human capital, it is important to start investing in education and health. Investing in health is crucial as it increases efficiency of labor, decreases sickness and finally aids development of economics.

Though the act of researching, assessing and controlling human resources is more difficult than other operations of the organization, since the rarest and most complicated resources in knowledge-based economy are human resources. Mostly top management concentrates on their strategies on tangible and obvious factors of the organization such as technology and using physical and financial resources.

1.1.2 Human Capital Place in Organization

In today's global economy, characterized by advanced technologies that facilitate the production of various and innovative products, it has become evident that these technologies alone cannot confer a sustainable competitive advantage upon organizations. Consequently, organizations need to shift their focus towards other critical factors, with human intellectual capital emerging as a key component for gaining a competitive edge and ensuring their longevity. As a result, there is a growing need for organizations to effectively attract, nurture, and retain talent. This heightened emphasis on human capital underscores its significance, surpassing that of any other tangible resources within the organization.

This paper aims to elucidate the concept of human capital, its paramount importance, and the distinguishing features that characterize it. Human capital is essentially akin to physical capital, such as assets, equipment, and financial resources. However, over time, the share of physical capital in the Gross Domestic Product (GDP) of advanced economies has witnessed a notable decline, while the share of human capital has seen a corresponding increase. This elevation in the role of human capital in GDP has given rise to the concept of a knowledge economy.

Unlike other forms of capital, which are generally regarded as inputs in the production of goods and services, human capital assumes a more intricate role in this process. In a contemporary definition of human capital, it encompasses a spectrum of attributes, including life experiences, knowledge, creativity, innovation, and energy, all of which individuals invest in their work. Recognizing that employees constitute the most valuable assets within an organization is not a novel concept. Empowering the workforce and affording them opportunities to participate in decision-making not only heightens their motivation but also mitigates resistance to organizational changes.

Management of workforce knowledge is an effective field, that is created by various factors such as human resources, organizational development, changes in management and management system, information technology, management credit and estimating performance. Knowledge management is the process of having special kind of knowledge and using it in order to stimulate process of development and innovation. Human resources can help the company with having competitive advantage and operating comprehensive quality plans. Employees can create the predictions at different level of the organization, define the values, missions and goals, design strategic plans, and implement those plans according to values. Value added can be reinforced through motivating and training the employees.

1.1.3 Ways to Increase Human Capital

At every stage of the business development, company must strive on increasing human capital. Managers should have desire to develop and retain human capital or understand the need for management of talent at their company.

Ways to increase human capital can possibly be:

- Encourage lifelong learning: Encouraging people to continue learning throughout their lives can help increase their human capital. This could

involve offering training programs, providing access to educational resources, or creating a culture that values learning (OECD, Getting Skills Right: Future-Ready Adult Learning Systems, 2018).

- Invest in early childhood education: Investing in early childhood education can have a significant impact on a child's future success. Research has shown that high-quality early childhood education can lead to better academic and social outcomes later in life (Heckman J. J., 2006).

- Support employee development: Providing opportunities for employees to develop their skills and knowledge can help them become more productive and valuable to the organization. This could involve offering training programs, mentoring, or job rotations (Bersin, 2019).

- Emphasize digital literacy: In today's increasingly digital world, having strong digital literacy skills is essential for success. Employers can help employees develop these skills through training programs or by providing access to digital tools and resources (Literacy, 2020).

- Encourage healthy lifestyles: A healthy lifestyle can have a positive impact on an individual's cognitive abilities and overall productivity. Employers can encourage healthy behaviors by offering wellness programs or by promoting healthy habits in the workplace (Harvard, 2017).

- Foster a culture of innovation: Encouraging employees to think creatively and experiment with new ideas can help drive innovation and growth. Employers can create a culture of innovation by promoting collaboration, providing resources for experimentation, and recognizing and rewarding innovative ideas (Forbes, 2018).

Developing human capital is crucial for organizations and individuals to succeed in today's competitive and fast-paced environment. Here are reasons why

company should strive to develop human capital:

- Improved Performance: Developing the skills, knowledge, and abilities of employees can improve their performance and productivity, leading to better business outcomes for organizations (Harvard-Business-Review, Why Leadership Development Programs Fail, 2019).

- Innovation: The cultivation of human capital has the potential to nurture an environment conducive to innovation, where employees are motivated to engage in creative thinking and the generation of novel ideas. This, in turn, can enable organizations to maintain a competitive edge and propel their growth (EuropeanCommission, 2019).

- Employee Engagement: Developing human capital can increase employee engagement by providing opportunities for learning and growth, which can lead to higher job satisfaction and retention (Singh D. , 2019).

- Adaptability: Developing human capital can help individuals and organizations adapt to changes in the business environment, such as new technologies, customer demands, and industry trends (WorldEconomicForum, 2020).

- Career Development: Developing human capital can help individuals advance their careers and achieve their goals, which can lead to higher job satisfaction and better retention rates (HARWARDBUSINESSREVIEW, 2021).

- Social Benefits: Developing human capital can have broader social benefits, such as reducing poverty, improving health outcomes, and promoting social mobility (OECD, Getting Skills Right: Future-Ready Adult Learning Systems, 2018).

Companies strive to increase human capital because it leads to a more skilled,

productive, and motivated workforce, which in turn can lead to increased innovation, growth, and profitability (Mosso, 2014).

Here are some examples and references to support this:

- Increased productivity: A study by the National Bureau of Economic Research found that a 10% increase in education levels among a company's workforce led to a 8.6% increase in total factor productivity (TFP) and a 3.3% increase in revenue per employee (Heckman J. J., 2014).

- Improved innovation: A survey by the Boston Consulting Group found that companies that invested in employee training and development had higher rates of innovation and higher revenue growth than those that did not (Reshaping Future Of Work By Investing In Huan Capital, 2019).

- Better employee retention: A report by the Society for Human Resource Management found that companies with strong employee development programs had higher employee retention rates and lower turnover costs (SHRM, 2019).

- Increased customer satisfaction: A study by the Gallup Organization found that companies with highly engaged employees had higher customer satisfaction rates and higher sales growth than those with lower levels of employee engagement (Nolan, 2023)

Overall, investing in human capital can have a significant positive impact on a company's performance and success.

The general demand for top-notch employees and outstanding managers is to meet the corporation 's objectives and enhance its business performance. For this reason, many organizations focus on business strategy and means to achieve growth, few think about the characteristics of the human capital required to realize their strategy and growth objectives.

How to prioritize investment in human resources and to build a differential strategy based on the various employee groups found in the company? It can be answered as the following – the human capital strategy process, that not only defines the role and profile of the managers themselves but also explains and gives instructions how managers should handle employee development and prepare staff for their duties. It governs Human Resource Management over the entire employee life cycle – from specifying which employees need to be recruited, to subsequent training, career path management in the organization and, ultimately, retirement. This strategy significantly affects the organization as an employer, to other interested parties, such as future candidates, competitors and customers. The first real step in the process is defining what to focus on, the second step is defining what to focus on an employee level and the third and final step in the process is selection.

The several examples of the companies that are highly innovative due to their strong human capital, are the following: FedEx Corporation, Sainsbury's, Marks & Spencer, Rolls-Royce, Shell, Ford, LinkedIn, Twitter, Nissan, Google, etc. (Wool, 2022).

Five basic steps help company increase human capital:

1. Constant trainings;
2. Monitoring Performance;
3. Direct Communication;
4. Defined Job Responsibilities;
5. Motivation.

It is right way to say that the success and failure of any organization depends on its employees. Every employee in its very own way contributes the development of the organization. One of the major responsibilities of a HRM is to hire and distribute the right talent for the organization in short to recruit the right person for the right role. Job mismatch may lead to confusions and eventually decrease

the productivity of the company and output. Distributing all the new employees to their job places must not be neglected. Documents and employee handbooks are not sufficient to welcome new employee to its job place. HR managers should design a suitable introduction program that will not only acquaint a new individual with the system and policies but also makes feel comfortable within the system.

It is essential for every organization to upgrade the skills of its employees to cope well with the changing times. Employees must be trained from time to time, to be able to utilize their knowledge to the fullest when required and become one of the key resources for their organization. Training managers and HR managers must not design training programs just for the sake of it. They have to estimate how training program will benefit the employees. Management can also sponsor the education of their employees that will sharpen their skills and increase human capital. Necessary, sharply tailored and realistic training programs increase efficiency of an employee, who further increases the productivity of organization.

Monitoring performance can also increase human capital. To understand what your employees are up to, managers must take regular feedbacks from their subordinates. Introducing the concept of weekly report system (that can be oral, written or online). At the end of every week, employees reporting to their bosses will be evaluated according to their performances and given comments and feedbacks. This way managers can also keep a track on their employees' progress.

Employees should be able to walk up to their managers in case of any queries. The dictator approach is not effective and does not work nowadays. Problems have to be discussed and suggestions should be given along with feedbacks and ideas. Never should be ignored even the tiniest problem. Any problem left without attention may lead to a serious problem later on. This way employees feel attached towards the organization. Nobody ever knows when someone might come up with a wonderful idea.

All the job responsibilities and expectations of employees must be clearly defined to expect any misunderstanding. Key responsibilities should be designed by individual's past work experience, education and areas of interest.

Employees has to feel motivated from time to time according to feedbacks from work records. And when working harder should be motivation for others and draw inspiration from them. Good employee talents and job done must be recognized either by offering them moral incentives or giving them a decent salary hike.

Increasing human capital is an essential factor for organizational success. Human capital refers to the knowledge, skills, and abilities of employees that contribute to the productivity and innovation of an organization (Shuck, 2018). Here are some ways in which organizations can increase their human capital:

- Training and Development: Training and development programs can enhance employees' skills and knowledge and improve their job performance. By providing opportunities for employees to learn new skills and expand their knowledge, organizations can increase their human capital. Studies have shown that training and development programs have a positive impact on employee job satisfaction and organizational performance (Luo, 2018)

- Recruitment and Selection: Organizations can increase their human capital by attracting and selecting the right candidates for the job. A comprehensive and effective recruitment and selection process can ensure that the organization hires employees with the necessary knowledge, skills, and abilities to perform their jobs effectively (R.Kehoe, 2013).

- Employee Engagement: Employees who are actively involved in their work tend to exhibit greater productivity, innovation, and dedication to their roles, ultimately bolstering the success of the organization. To enhance their human capital, organizations can achieve this by fostering a favorable

work atmosphere, facilitating opportunities for employee engagement and feedback, and acknowledging and incentivizing employees for their valuable contributions (Saks, 2006).

But nothing will work out if the company do not invest in sustaining human capital. Human capital refers to the skills, knowledge, experience, and other attributes that individuals bring to the workforce. Here are some reasons why human capital is important:

- Competitive Advantage: A well-trained and skilled workforce can give an organization a competitive advantage in the marketplace. This can lead to increased productivity, innovation, and customer satisfaction (Harvard-Business-Review, The Workforce Is About to Change Dramatically, 2019)

- Economic Growth: Human capital is a key driver of economic growth, as it enables individuals and organizations to be more productive and innovative. This can lead to increased employment opportunities, higher wages, and improved living standards (WorldBank, 2021)

- Employee Retention: Investing in human capital can help organizations retain top talent and reduce turnover. This can save on recruitment and training costs, as well as maintain continuity and stability within the organization (Society-for-Human-Resource-Management, Employee Retention, 2019)

- Innovation: Human capital is essential for innovation, as it provides the knowledge and skills needed to develop new products and services. This can lead to increased competitiveness and growth for organizations, as well as improved quality of life for individuals (Mariz-Péreza, 2019)

- Social Capital: Investing in human capital can also have social benefits, such as increased social mobility, reduced poverty, and improved health and

wellbeing. This can lead to a more inclusive and equitable society (OECD, Better Policies Better Lives, 2020)

- Leadership Development: Developing human capital can help organizations develop the next generation of leaders, who can drive growth and innovation within the organization. This can also help with succession planning and ensure the long-term sustainability of the organization (Harvard-Business-Review, The Benefits of Having a Mentor., 2019)

So up mentioned points might be general reason for company somehow to maintain the priorities derived from human capital. They should seek effective ways how to sustain human capital. Below are some helpful ideas:

- Work-life balance: Encouraging a healthy work-life balance can assist employees in sidestepping burnout and preserving their productivity and enthusiasm. This entails offering flexible work options like telecommuting and adaptable schedules, alongside policies that actively promote employees taking time off to rejuvenate.

- Career Development: Offering opportunities for career development, such as promotions and training programs, can help employees feel valued and engaged in their work. This can also help employers retain top talent and avoid turnover (Society-for-Human-Resource-Management, Employee Retention., 2019).

- Health and Wellness Programs: Providing health and wellness programs can help employees maintain their physical and mental health, which can have a positive impact on their productivity and job performance. This can include access to gym facilities, nutrition programs, and mental health resources (Harvard-Business-Review, Why Leadership Development Programs Fail, 2019).

- Recognition and Rewards: Recognizing and rewarding employees for their hard work and achievements can help build morale and motivation. This can include bonuses, promotions, and public recognition (Forbes, 2018).

- Diversity and Inclusion: Continuing to prioritize diversity and inclusion initiatives can help sustain a culture of respect and belonging in the workplace. This can include programs to support underrepresented groups, training to promote diversity and inclusion, and fostering a culture of allyship (McKinsey&Company, 2020).

- Knowledge Management: Managing and sharing knowledge within an organization can help employees learn from each other and avoid reinventing the wheel. This can include creating knowledge management systems and encouraging knowledge-sharing through training and communication initiatives (Society-for-Human-Resource-Management, Knowledge Management., 2019).

Summing up, human capital is a crucial aspect of individual and organizational success. Investing in the development and sustaining of human capital can lead to improved performance, innovation, employee engagement, adaptability, career development, and social benefits.

Companies that prioritize human capital development and retention can reap numerous benefits, including improved productivity, talent retention, knowledge retention, succession planning, and social responsibility. As the global economy continues to evolve, the value of human capital will only continue to increase, and individuals and organizations that invest in developing and sustaining their human capital will be better equipped to succeed in the future.

1.2. Health, Safety, Security & Environment (HSSE) and Risks for Transport Companies

Transport sector workers are not a homogenous group, they represent many different occupations with specific sets of working conditions and risks, and very varying demands. How people view risks and apply value judgements should be and probably is the most challenging factor to take into account when developing risk regulation approach – last but not least because these views and value judgements are not fixed, they change according to different circumstances. Recent studies notice that as world and people has evolved to cope with the dangers and all other issues and uncertainty of life, we all have inbuilt mechanism to deal with risks – these mechanisms reflect our personal preferences and the values of the society we live in.

According to Georgian legislation (Matsne M. , 2023), employers and the self-employed must:

- Assess risks for anyone who may be affected by their work activity;

- Take preventive and protective measures to control these risks.

These requirements in general apply to all work activities, including transport.

Risk assessment is a thorough examination of what can harm people in your business. It helps you decide if you have done enough to not hurt anyone if you need to do more. By Georgian legislation (Matsne M. , 2023) , risk assessment must be well investigated, predictive and should help to be preventive. This means it should be protective to people from any harm that you can predict. Risk assessment should not be complicated, technical. Risks in real life are carries out by employee assessments during the normal course of their work. For example, when hiring a new driver, determining mass of information, instruction or training they will need without causing a work error or accident. Risks associated with hiring employee and deciding what precautions to take, risk can be assessed and

operations can be planned to mitigate it. Risk assessment has to be accurate as it is used when deciding what to do to control the risks. It will help to decide how serious the risks are and how much effort and expense are needed to control them.

HSSE (Health, Safety, Security, and Environment) risks are highly important in transport companies as they can have severe consequences on the well-being of employees, customers, the environment, and the overall reputation of the company. The transport industry is inherently high-risk due to its nature of moving people, goods, and materials over long distances and through various modes of transport, including air, sea, and land (UIPT, 2016).

HSSE risks can result in serious injuries, fatalities, and significant financial and reputational damage to the company. For example, a transport company that fails to manage its environmental impact can face significant fines and penalties, loss of customers, and a negative reputation in the industry. Similarly, transport companies that fail to manage security risks can result in theft, hijacking, or terrorist attacks, which can cause physical harm to employees, customers, and the public, as well as significant financial loss and reputational damage (Organization, 2018).

Effective management of HSSE risks is essential for transport companies to ensure the safety and well-being of employees, customers, and the environment, as well as to comply with regulations and protect the company's reputation. Companies that prioritize HSSE risk management can benefit from reduced risks, improved employee and customer satisfaction, enhanced reputation, and improved business continuity (Occupational Health in Transport, 2020).

HSSE risks are critical for transport companies, and effective management is essential to protect employees, customers, the environment, and the overall success of the company.

1.2.1 Perspectives on Risk Understanding

In everyday vocabulary, danger and risk are mutually exclusive. Nevertheless, it was useful for the HSE to conceptualize the difference between 'threat' and 'risk' by describing danger as the potential for harm arising from internal property or disposing of something that causes harm, and risk as the chance of harming someone or something. What is assessed is the risk of having a negative impact in a defined way. The HSE - when it comes to human health, safety and well-being - often uses the above conceptual differences in its leadership and seeks to identify threats, assess the risks they pose and implement appropriate control measures. This reflects the fact that in most cases it makes sense to consider the circumstances in which people and management systems interact with the threat. It is often possible to think of any threat as having more distant causes, which in itself is a 'real threat'. Conceptually, the HSE treats anything that constitutes a 'threat capability' as a 'threat. In order not to impose an undue burden on incumbents, the HSE does not expect them to take into account other hazards that are likely to cause harm, taking into account reasonably anticipated events and behavior.

Whether a reasonably predictable but unlikely event - such as an earthquake - should be considered depends on the health and safety consequences of such an event. We all recognize that we are surrounded by hazards, which are unwanted consequence. Whatever we do, we occupy our time, and even if we 'do nothing', still we are taking some kind of risk. Even at home, there are loads of risks – possibility of getting hurt, causing fire or when doing DIY jobs. Just as much tasks we do, range of risks is rising and we would be taking other kinds of risks. Some of the risks can be from naturally occurring hazards whilst others may be caused from our lifestyle. There are risks as well we take willingly to secure some wanted benefits, like taking a flight to go on a holiday (Harvard Health Publishing, 2023).

Risk understanding is an essential concept in many areas of study, including psychology, economics, finance, and decision-making. It refers to the ability to

comprehend and evaluate the likelihood and consequences of uncertain events or outcomes.

There are different perspectives on risk understanding, and some of the notable ones are:

- The psychological perspective: This perspective emphasizes the role of cognitive biases and heuristics in shaping people's understanding of risks. Research shows that people often overestimate the probability of rare events and underestimate the likelihood of common events, known as the availability heuristic (Tversky, 1973). Additionally, people tend to focus on the immediate consequences of a risk and overlook its long-term effects, known as the myopic bias (Slovic, 2007).

- The economic perspective: This perspective emphasizes the importance of rational decision-making and the use of statistical tools to evaluate risks. Economic models assume that people are rational and have access to complete information about risks, which they use to make optimal decisions. However, this perspective has been criticized for neglecting the role of emotions and social factors in shaping people's risk perceptions (Thaler, 2016).

- The social and cultural perspective: This perspective emphasizes the role of social norms, values, and beliefs in shaping people's understanding of risks. Research shows that cultural factors, such as individualism and collectivism, influence how people perceive and respond to risks (Hofstede, 2001). Additionally, social networks and media play a significant role in shaping people's risk perceptions and behaviors (Brossard, 2007).

Risk understanding is a multifaceted concept that can be viewed from different perspectives, including psychological, economic, and social-cultural. Each perspective offers unique insights into how people comprehend and evaluate risks.

Psychological factors, such as cognitive biases and heuristics, can influence risk perception, while economic models assume that people are rational decision-makers who use statistical tools to evaluate risks. Social and cultural factors, such as norms, values, and beliefs, can also shape people's understanding of risks. By considering these different perspectives, we can gain a more comprehensive understanding of how people perceive and respond to risks, which can inform risk management strategies in various domains, such as finance, public health, and environmental policy.

1.2.2 Workplace Safety and Security Monitoring, Assessment and Management: Worldwide Practices

Workplace safety and security monitoring, assessment, and management practices vary around the world depending on national and regional regulations and cultural and organizational norms. Here are some examples of worldwide practices in this area:

Europe: The European Agency for Safety and Health at Work (EU-OSHA) promotes workplace safety and health by providing research, information, and tools to employers, workers, and safety professionals. EU-OSHA emphasizes a preventative approach to safety and health, encouraging employers to identify and address risks before accidents or injuries occur.

Asia: In many Asian countries, workplace safety and health regulations are still developing, and cultural norms may make it challenging to enforce safety standards. However, organizations like the International Labor Organization (ILO) are working to promote safety and health in the region by providing technical assistance and promoting best practices.

North America: In the United States, OSHA sets and enforces safety and health standards, conducts workplace inspections, and provides training and education to employers and workers. OSHA's approach emphasizes hazard identification, risk assessment, and prevention through training, engineering controls, and personal

protective equipment.

Australia: The Australian Government's Work Health and Safety (WHS) Act and regulations provide a national framework for workplace safety and health. The WHS Act emphasizes the responsibility of employers to identify and manage risks, consult with workers, and provide training and resources to ensure a safe and healthy workplace.

Overall, while workplace safety and security practices may vary around the world, the goal is always to protect workers and prevent accidents and injuries. By identifying and addressing risks and promoting a culture of safety, employers and workers can work together to create safer and healthier workplaces.

To identify workplace hazards, OSHA gives us clear instructions (OSHA, 2023).

To identify and assess hazards, employers and workers:

- Collect and review information. This information can be present or likely be in future
- Conduct initial and periodic workplace inspections
- Investigate health damage cases determine causing hazards.
- Group similar incidents and identify trends in injuries.
- Consider nonregular hazards, that arise from emergency situations.
- Determine the severity and likelihood of incidents and prioritize corrective actions.

Companies start to inform employees on workplace hazards by both internal and external sources. Both employers and employees collect, organize, and review information what type of hazards may be present and potentially exposed. they regularly inspect the workplace for hazards that help prevent an incident to occur, from the information they get by regular inspections of all operations, equipment, work areas and facilities. Workers, who directly work at hazardous place are main sources of information.

Documenting cases is very important, later to inspect hazardous places make sure conditions are corrected. Photo/video evidence of problem should be taken for meetings how to control them, and for use as learning aids.

After identifying risks at the workplace risk assessments process occurs. In short, identifying what hazards currently exist or may appear in the workplace and are likely to cause harm to employees and visitors. Risks are/have to be considered at all employee occupied places. Workplace risk assessment process may include such hazards as: electrical and fire safety, manual handling, substances related, repetitive strain injury, stress, violence, diseases. When should risk assessment be done? Risk assessment should be ongoing process and it has to be done all the way down the working process.

Ranking hazards, in other words, determining priority to risks which to control first. Priority is given by examining employee vulnerability, potential for incident, damage or injury or illness. After raking risks action list is created.

There are several techniques to determine the level of risk. It is not easy and simple process. The organization determines most effective technique for them to work best for each situation. Ranking hazards requires good knowledge of all workplace activities including all operations with depth.

For the small and easy situations, an assessment can be a discussion or brainstorming session, based on past knowledge or similar situations. For the big companies, special team is working on hazard identification, documentation regulation and assessment. For them checklists or a probability matrix can be helpful.

After risk ranking, the organization can decide on ways to control each specific hazard. A hazard control program is ways to protect workers from exposure to a substance or system, the training and the procedures required to monitor worker exposure and their health to hazards such as chemicals, materials or substance.

General ways to control a hazard include Elimination (remove the hazard), Substitution (replace the hazard with a less hazardous one). Engineering Controls (includes plant redesigning, equipment, ventilation systems, and reduce exposure), Administrative Controls (controls how work is done), Personal Protective Equipment (equipment worn by individuals).

Some practitioners state the importance in a challenging way, as in one paper 'The biggest work for the occupational safety and security progress was done by the dead employee who dies at the workplace' (Pertaia, 2020).

For the effective and efficient work process risk management is crucial. At some point it guarantees likeness of success, as if anything goes out of rails, managers are likely to have plan of corrective acts. Risk management is an important process because it empowers a business with the necessary tools so that it can adequately identify and deal with potential risks. Risks can be divided based on the nature of their impact on your finances: income risk and expense risk. Any events or mishaps that reduce your productivity – or your ability to provide services to your clients – will result in a loss of income.

Another positive impact of risk management is on your assets. You can avoid costly expenses that can arise due to damage or destruction of assets if you have precautions taken. Loss of critical assets can have a huge impact, especially if your business is an SME.

Unfortunately, yet in Georgia labor safety and security is not still leveling up but, companies started work on improving this field. There is hope in future that regular inspections will help to prioritize workplace security and safety of the company's most valuable assets.

1.2.3 Health, Safety, Security & Environment (HSSE)

In addition, consciously or unconsciously, hazards are visible and we evaluate their risks to determine which ones we choose to notice, ignore or do something to

mitigate them. We may take the outcomes of some risks for granted and, for others, consider that consequences and our own chances of being harmed may arise, depending on degree of control we have for taking or mitigating the risks.

The way we choose to treat risks depends on our perception of how those risks can relate to us. Social scientists have examined those factors that affect people's perception of risk. Current work activities give opportunities to many hazards to arise which presents risks to workers and the public. The HSSE are responsible to regulate risks that might harm people. HSSE's decisions are following step of assessing and evaluating risks regarding the degree and form of how to control risks from hazards. They are supposed to open to the assessment, management and regulation of risk and who to underpin it. Factors that inform our decisions on risks have to be transparent and later go into regulations inside enterprise. Management must make sure themselves and public that risks raised from work activities are properly addressed, taken into account and considered the benefits of the activities giving rise to the risks.

Other enterprise departments responsible for decision making, whose responsibilities may overlap with those of HSSE, know the basis for the management of health and safety risks arising from work activities and thereby help to promote decision-making and building strong regulations. The core purpose is to open decision-making process rather than provide guidance to duty holders.

Studies have shown that hazards arise in two broad categories:

Individual concerns – people value personally the risks they see from a particular hazard affecting them. They engage in activities that might involve high risks, as a rule they are far less tolerant of risks they have little control, unless they consider the risks can be neglected. Moreover, though they may be willing to live with a risk that they find hazardous, if it secures them or society certain benefits, they

would want such risks to be kept low and clearly controlled.

Threats from hazards which impact on society. This type of concern is often associated with hazards that give rise to risks which, could provoke a social-political response.

Occupational health and safety management keeps employer safe form negative aspects of job performed and employees and other people involved from life threatening, health and physical threats. Helps to create safe and secure space for work that under legislation and other management demands.

Job done by employee can be mental or physical but it should not be life and health threatening. Liability and responsibility chain between employee and employer connect both very tight – employer should give secure and safe workplace to employee.

During 2011-2017 injuries and death at the workplace totaled 882 and 317 (GEOSTAT.GE, 2023). Georgian government started working on new legislation that would have protected employees form workplace deaths and injuries. Project was accepted by the government at March 7, 2018.

Under the Labor Legislation occupational safety is major at the workplace. Government is obliged to support entities and support competitiveness. Georgian legislation also protects migrated Georgian citizens.

All the inconveniences with the management inside the company of the occupational safety will be monitored and judges under the international HS manuals and ILO and OSHA manuals as well.

All the injuries and health or mental issues raised from workplace will be discussed by the labor code N997, that takes into account remuneration and compensation of injuries and health problems derived from workplace.

All the laws broken at the workplace will be disrespect of criminal procedure code

and sanctions or more serious decisions will be taken from criminal code.

Unfortunately, this law is processed but obliges only for high risk jobs and workplaces and not every company operating in Georgia e.g. construction, manufacturing mining transport etc.

The main reason why labor safety was taken into consideration was 2015-2017 research that showed that from 583 companies checked from different fields (such as agriculture, retail, mining, construction, logistics, warehousing, etc.) none of them had fully safe and secure offices for their employees. None of them had HSE (Health and Safety Executive), no against fire devices and no trainings what to do in different situations when health risks raise, most companies had poor sanitary and hygiene and there were no collective security systems. After preparing and presenting changes in labor code, 19 trainings were taken about different up mentioned occupational security and safety procedures (Liparteliani, 2023).

A number of OSH (Occupational Safety and Health) risks are relevant to transport workers. It is important to consider that many of these physical risks might and probably do come together, and in relationship with other work based organizational risks, like long working hours, shift and weekend work, regular overtime or night work, monotonous tasks (causing boredom and sleep), high standards along with high demands and low control, and little (or no) training and support. Transport worker investments in their own health is very low, as they often work in changing workplaces or/and in the field with limited access to appropriate infrastructures (ILO, 2022).

Increasing monitoring of drivers puts higher demands not only on their skills and but also on their organizational abilities. Technological developments should also be kept up with. Safety and health considerations may sometimes be conflicting with time pressure, demands from customers and the specific conditions. Issues such as violence, dealing with customers and adaptation to the constantly changing

conditions and safety requirements are to be addressed by training and skills development.

In addition, transport workforce is ageing. Studies have shown that workers who work in the field, migrant workers, part-timers and older workers often have less access to training. Apart from continuously changing technical and organizational prevention measures, continuous trainings, that takes into account the diverse workforce and changing conditions, is needed to provide workers with the necessary knowledge how to protect their own safety and health.

Freight Forwarders focused on the planning, organizing, managing, controlling and execution of freight transport operations in the supply chain. The plan consists of numerous various of short- to medium-term actions and one of the main issues identified for improvement is named training.

Working in the transport sector requires high levels of professional skill and competence. The workers must not only be capable correctly doing their only task, they are also supposed to be able to troubleshoot technical problems, have language skills, carry out basic administration (ledgers for truck and transportation), telecommunicate, and act as moderators between client and company's services. To have motivated and highly skilled transport workers, much more attention should be given to the working conditions of this sector.

Suffering harm risk is inescapable part of living. Despite this, there has been huge progress in improvement of various aspects in the quality of our lives. Nowadays population lives longer than at any time in history; production became safer for use in household and not only household and more reliable than ever before. Although accidents at work still happen, the trend is been facing downwards and is reducing further and further.

Although, it is important to consider that many of risks appear together and along with other organizational risks such as: prolonged working times, shift and

weekend work, regular night work, monotonous tasks, high demands and low control, and little training and support. The opportunity for transport workers to avoid exposures or invest in health promotion for themselves is also much reduced, as they often work in changing workplaces or in the field with limited access to appropriate infrastructures. In the transport sector, some of the factors that contribute to stress are: working alone, lack of involvement, irregular work hours, violence and aggression, and work pressure.

Fatigue and stress-related health problems may interact and lead to higher accident risk and worse health.

To reduce risks, to be able to protect people HSE's decision-making process rapid technological developments of recent years have introduced new hazards but also enhanced the scope for controlling existing hazards. those who are in charge of hazards should ensure that adequate measures are taken to protect people from the harmful outcomes arisen from such hazards;

Arrangements for protecting people from risks must be ensured to be adequate and up to date as including, reacting and analyzing current events, and that those arrangements should address, as necessary, the concerns the hazards give rise to.

Increasing trend in industry is to outsource work and hence risks, by changing patterns of employment and with the fragmentation of large companies into small/autonomous organizations working closely together. E.g. there is huge increase in self-employment and home-working (especially during lockdowns during Covid-19 pandemic case).

1.2.4 HSSE and Risks for Transport Companies in Georgia

Health, Safety, Security, and Environment (HSSE) risks are critical factors that affect transport companies in Georgia. Here are some examples of these risks and some references to support them:

- Road Safety Risks: Georgia has one of the highest rates of road fatalities in Europe, with an average of 20 deaths per 100,000 inhabitants per year (WORLDBANK, Georgia Road Safety Improvement Project, 2021). This means that transport companies in Georgia are exposed to a higher risk of accidents and injuries to their employees and other road users.

- Environmental Risks: Transport companies in Georgia also face environmental risks related to air and water pollution, as well as waste management. For instance, the lack of proper waste disposal and the absence of proper environmental regulations make it challenging for companies to manage hazardous waste generated from their operations (WORLDBANK, Environment Performance Review, 2021)

- Security Risks: Transport companies in Georgia must also consider security risks such as theft, hijacking, and terrorism. According to the Global Terrorism Database, Georgia experienced 102 terrorist incidents between 1970 and 2019, which highlights the need for transport companies to implement security measures (Start, 2021).

The Georgian government has implemented various measures to mitigate the risks faced by transport companies operating in the country. Some of these measures include:

- Road infrastructure improvements: The Georgian government has invested heavily in improving the country's road infrastructure, including the construction of new highways, bridges, and tunnels. These improvements have led to safer and more efficient transportation of goods and people (ADB, 2019).

- Law enforcement: The government has implemented strict regulations and enforcement measures to ensure compliance with road safety and environmental regulations. They have also established special units to

combat crime and ensure security for transport companies (IRU, IRU Country Profile Georgia , 2019).

- Support for HSSE initiatives: The government has established a supportive environment for companies to implement HSSE initiatives. They have provided guidance and assistance to companies to improve their HSSE policies and procedures and encouraged companies to participate in training programs to improve their HSSE knowledge and skills (UN Economic Commission for Europe, 2018).

- Collaboration with stakeholders: The government has established collaborations with stakeholders, such as industry associations, to promote best practices in HSSE and share information on emerging risks and trends. They have also established a network of emergency responders to provide a rapid response to incidents and emergencies (UN Economic Commission for Europe, 2018).

Overall, the Georgian Government recognizes the importance of HSSE in the transport sector and has taken various measures to mitigate the risks faced by transport companies. These measures have contributed to improving the safety, security, and sustainability of the transport sector in Georgia.

Quality and Security Management in Human Capital Building

1.3.1 Quality and Security Management in Organizations

It's essential to emphasize that the adoption of standardized quality management systems in logistics-oriented enterprises stands as a prudent choice. This choice is rooted in the fact that the primary objectives of logistics quality management are increasingly convergent. However, implementing standardized quality management systems is only the initial stride towards enhancing processes within the logistics framework. The subsequent phase, which leads to a comprehensive enhancement of fundamental organizational processes, involves embracing the

philosophy of Total Quality Management (TQM). The discourse surrounding the definition and development of TQM philosophy is well-established and frequently addressed. Yet, there exists a notable dearth of research investigating its impact on the enhancement of logistics processes within the supply chain.

There is no single, universally accepted theoretical framework or definitive set of associated practices. Many scholars concur on the considerable challenge inherent in attempting to define the principles, practices, and components essential for quality implementation.

TQM initially found its footing in the improvement of the quality of physical products, owing to the relatively straightforward measurement of quality performance in such products. Subsequently, TQM evolved beyond solely enhancing the quality performance of products to encompass organizational transformation, particularly in fostering cultural change, boosting employee morale, and creating an empowering work environment conducive to achieving exceptional human performance. Conversely, Fawcett contends that TQM is a process centered on individuals within an organization, empowering them to "get it right the first time." The result of successful TQM implementation is consistent performance aligned with customer expectations. It's important to differentiate quality management from standards such as ISO 9001, which focus on procedures. These standards primarily support TQM but have a notable limitation: while they can deliver consistent performance according to established procedures, this performance is not necessarily aligned with customer expectations. In essence, if the procedures yield mediocrity, adherence to standards will perpetuate consistent mediocrity.

The aforementioned theories represent a fraction of the definitions found in both domestic and foreign literature, demonstrating the inherent ambiguity in the concept of TQM, which encompasses various approaches to quality management.

In the context of logistics, which relies on a systemic approach and emphasizes flow and cross-functional orientation, TQM finds a natural and vital application. The fundamental elements of these programs, along with the tenets of TQM philosophy, include customer-centricity, employee involvement, process improvement, and the extension of quality practices throughout the entire supply chain. It's noteworthy that processes and service quality play pivotal roles in customer satisfaction, with product quality being influenced, for instance, by handling and transportation processes. Consequently, TQM concepts are gradually permeating the realm of logistics.

In the view of some experts, TQM represents a systemic approach that traverses both upstream and downstream along the supply chain. Central to TQM is the concept of continuous improvement and delivering "customer value" throughout the entire use process. This encompasses all the stages a customer goes through when using a product: discovery, acquisition, transportation, utilization, and disposal. Furthermore, the integration of TQM principles into the supply chain can positively influence the formation of alliances and the establishment of cooperative relationships based on sustainable partnerships.

Drawing upon available research in the literature, it becomes apparent that:

1. Companies adhering to total quality management principles maintain long-term relationships with their suppliers, fostering mutual learning processes.

2. Organizations implementing TQM requirements prioritize partnerships with various actors in the supply chain.

3. A close relationship exists between quality management, supply chain management, and the positive outcomes achieved through collaboration.

4. Companies should aim to harmonize the principles of TQM with their supply chain management strategy. This aligns with the viewpoint that

there are strong connections between TQM and logistics: both TQM and logistics processes within the supply chain share common objectives, and these two elements are interconnected and interdependent. TQM exerts influence on all factors critical to the seamless operation of logistics.

Zsidisin and Ritchie contend that despite heavy investments in programs like TQM over the past decade to enhance internal quality and capabilities, issues affecting outbound and inbound logistics processes are still a concern, potentially leading to fluctuations in effective capacity and quality (Zsidisin & Ritchie, 2021). Therefore, implementing the TQM philosophy to enhance logistics processes necessitates (Blaik, 2023):

- A philosophy requiring wholehearted commitment from both staff and management.

- A central focus on meeting customer needs, segmented by individual customer groups.

- The implementation of TQM philosophy guidelines following integration and cooperation within the supply chain.

- Recognition that individual supply chains, quality management, and logistics mutually reinforce and complement one another, with their development being interdependent.

- Acknowledgment that the foundation for supply chain management strategies lies in high-quality products and logistics processes, achievable through the application of TQM philosophy.

The company implements the guidelines of TQM philosophy after the integration and co-operation in the supply chain has been achieved. It is accepted by individual supply chain, Quality management and logistics are mutually reinforcing and complementary, and their development is dependent of each

other. High quality products and logistics processes for achievements possible through the implementation of TQM philosophy are the foundation 7 of supply chain management strategies (Zimon, 2016).

1.3.2 Quality and Security Aspects in Managing Organization

Management team has to be committed to providing world-class logistics solution to customers with compliance to regulations that fully satisfy their requirements, and make continuous improvements thereby delighting them.

By creating and challenging mind and active participation among management and staff team can excel in whatever they do.

Quality improvement is the job of every employee of the company. Quality management is audited and company is granted certificate of ISO 9001:2015 meaning company is continuously improving and grow with the help of the Quality Management System. Under Quality manual management is supposed to:

- Identify any risks and opportunities that could affect the effectiveness of the quality management system

- Satisfy all requirements applicable to logistic works including statutory of regulatory

- Continually improve the QMS

Both taken together TQM and HSE management can be a serious shield through long time operations for the company. To specify, this means that company is having a long-time management plan, has well-trained employees, has backup pool of employees, all operations are documented, checked and well kept. Also, all employees have saved workplace, safe environment and the probability of occupational risk or hazard is minimized or vanished in all.

1.3.3. Correlation of quality and security management practices with human capital building in organizations

Quality and security management practices are critical elements that contribute to an organization's success. These practices can be optimized through human capital building, which involves developing employees' skills, knowledge, and abilities to enhance their contribution to the organization. This essay will discuss the correlation between quality and security management practices and human capital building in organizations, with references to scholarly literature.

Quality management practices, such as Total Quality Management (TQM), Six Sigma, and Lean Manufacturing, have been shown to positively impact organizational performance (Mehralian, Investigating the impact of TQM practices on improving performance of Iranian manufacturing organizations, 2013). These practices aim to improve quality, reduce costs, and increase customer satisfaction by creating a culture of continuous improvement. Human capital building is essential in the implementation of quality management practices as it involves developing employees' skills, knowledge, and abilities to enhance their contribution to the organization. According to Liao and Chuang (Liao, 2007),human capital is a critical resource in the implementation of quality management practices, and organizations that invest in developing their human capital are more likely to succeed in their quality improvement efforts.

Security management practices, such as Information Security Management (ISM), are also critical in protecting an organization's assets and minimizing risks. Human capital building is essential in the implementation of security management practices as it involves developing employees' awareness of security risks and their ability to implement security measures effectively. According to Kallberg and Kolkowska (Kallberg, 2015), employees' security awareness and knowledge are essential in the implementation of security management practices, and organizations that invest in developing their human capital in this area are more

likely to achieve their security goals.

Human capital building can be achieved through various methods, including training, development, and knowledge management. These methods can help employees acquire new skills, knowledge, and abilities that are critical in implementing quality and security management practices effectively. According to Vaiman and Vance (Vaim, 2008), training and development are essential in human capital building, and organizations that invest in training and development programs are more likely to succeed in their quality and security improvement efforts.

Furthermore, knowledge management is another critical method for human capital building as it involves capturing and sharing organizational knowledge and experience. According to Choi and Lee (Choi, 2003)knowledge management is essential in the implementation of quality management practices, as it enables employees to learn from past experiences and apply this knowledge to future quality improvement efforts. Knowledge management is also essential in the implementation of security management practices as it enables employees to share information and best practices on security risks and mitigation measures.

In conclusion, quality and security management practices are critical elements in organizational success, and human capital building is essential in optimizing these practices. Human capital building can be achieved through various methods, including training, development, and knowledge management. Organizations that invest in human capital building are more likely to succeed in their quality and security improvement efforts, as employees' skills, knowledge, and abilities are critical resources in implementing these practices effectively.

1.3.4 Quality and Security Management in Building Human Capital in Transport Companies

Quality and security management practices are crucial in the transport industry

for building human capital by promoting employee satisfaction, motivation, and retention, which ultimately leads to better business performance. Effective quality and security management practices in transport companies can improve employee skills, knowledge, and confidence, which enhances their productivity, job satisfaction, and motivation. This can be achieved through employee training, risk management, and customer satisfaction initiatives (Mohammadi, 2016).

In addition, effective quality and security management practices can enhance employee motivation and retention by providing a safe and secure work environment. Employees who feel safe and secure at work are more likely to be motivated, engaged, and committed to their job. Quality and security management practices can also improve customer satisfaction, which can lead to repeat business and increased revenue (Chen Y. &., 2019).

Overall, the implementation of effective quality and security management practices in transport companies can significantly improve human capital building by promoting employee satisfaction, motivation, and retention, ultimately leading to better business performance.

Quality and security management are essential elements of building human capital in transport companies. Effective quality and security management practices help to promote employee satisfaction, motivation, and retention, which ultimately leads to better business performance. Transport companies need to ensure that they have effective quality and security management practices in place to protect their employees, their customers, and their operations (Delgado-Ballester, 2001).

One way that quality and security management practices can build human capital in transport companies is through employee training. Quality and security management practices typically involve employee training to ensure compliance with regulations, safety protocols, and service standards. This training can improve employee skills, knowledge, and confidence, which enhances their productivity,

job satisfaction, and motivation (Chen Y. &., 2019).

Risk management is another important aspect of quality and security management in transport companies. Effective risk management can help to identify potential hazards and reduce the likelihood of accidents or incidents that could cause harm to employees, customers, or assets. By minimizing risk, transport companies can create a safer and more secure working environment, which can lead to increased employee satisfaction, motivation, and retention (Chen Y. &., 2019).

In addition, customer satisfaction is an important factor in building human capital in transport companies. By providing high-quality, reliable services that meet customer needs and expectations, transport companies can enhance their reputation and attract new customers. Satisfied customers are more likely to return and recommend the company to others, which can lead to increased revenue and growth (Mohammadi, 2016).

To sum up, the implementation of effective quality and security management practices is crucial for building human capital in transport companies. By providing a safe and secure working environment, offering employee training, and promoting customer satisfaction, transport companies can improve employee satisfaction, motivation, and retention, leading to better business performance.

1.3.5. Mediating Role of Organizational Culture in the Relationship Between Quality and Security Management and Human Capital Building

Human capital building is a complex process that involves a range of elements. Here are some key elements of the human capital building process, with references to support each element:

- Recruitment and selection: The process of attracting and selecting the best talent for the organization. This includes identifying the skills and competencies needed for the job, sourcing candidates, and conducting interviews and assessments (Armstrong, Recruitment and selection, 2014).

- Training and development: The process of providing employees with the knowledge, skills, and competencies needed to perform their jobs effectively. This includes on-the-job training, coaching, mentoring, and formal training programs (Noe, 2017).

- Performance management: The process of setting performance goals, monitoring progress, providing feedback, and evaluating performance. This includes performance appraisals, performance feedback, and performance improvement plans (Armstrong, Performance management, 2014).

- Succession planning: The process of identifying and developing employees for key leadership positions within the organization. This includes identifying high-potential employees, providing them with development opportunities, and preparing them for future leadership roles (Rothwell, 2015).

- Compensation and benefits: The process of designing and implementing compensation and benefit plans that are competitive and aligned with the organization's goals and values. This includes base pay, bonuses, incentives, and benefits such as health insurance and retirement plans (Reference: Milkovich, 2022).

- Employee engagement: The process of creating a positive work environment that motivates employees to be productive and committed to the organization. This includes fostering a culture of trust, open communication, and recognition and rewards (Reference: Saks, 2015).

To sum up, the human capital building process involves a range of elements, including recruitment and selection, training and development, performance management, succession planning, compensation and benefits, and employee engagement. These elements work together to attract and retain top talent, develop their skills and competencies, align their performance with organizational goals,

prepare them for leadership roles, and create a positive work environment that fosters productivity and commitment.

There is a growing body of research suggesting that organizational culture plays a significant role in the relationship between quality and security management and human capital building. Specifically, the culture of an organization can mediate the relationship between these factors by influencing employee behaviors, attitudes, and perceptions.

For example, a study by (Kianfar, 2020) found that organizational culture significantly mediated the relationship between quality management practices and employee performance. The authors found that organizations that had a strong culture of quality were more likely to have employees who were committed to performing at a high level. Similarly, another study by (Rahman, 2019) found that organizational culture significantly mediated the relationship between information security management practices and employee job satisfaction. The authors found that organizations that had a culture of valuing security were more likely to have employees who were satisfied with their jobs and committed to the organization's goals.

In addition, a study by (Wang, 2020) found that organizational culture significantly mediated the relationship between human capital building and organizational performance. The authors found that organizations that invested in developing their employees' skills and abilities were more likely to have a strong culture of learning and innovation, which in turn was associated with higher levels of organizational performance.

Overall, these studies suggest that organizational culture plays an important mediating role in the relationship between quality and security management and human capital building. Organizations that foster a culture of quality, security, and learning are more likely to have employees who are committed to performing at a

high level and who are satisfied with their jobs. These factors, in turn, are associated with higher levels of organizational performance.

Organizational culture has been found to have a significant relationship with security management practices in organizations. Specifically, a strong organizational culture that values security can lead to better security management practices and outcomes.

For example, a study by (Xu, 2017) found that a positive security culture was associated with better security management practices in organizations. The authors found that organizations that had a strong security culture were more likely to have employees who were committed to following security protocols, and that these organizations had lower rates of security incidents and breaches.

Similarly, a study by (Singh N. M., 2020) found that organizational culture was a significant predictor of cybersecurity readiness in organizations. The authors found that organizations that had a strong culture of security were more likely to have effective cybersecurity practices and were better prepared to respond to security incidents.

Furthermore, a study by (Li, 2020) found that organizational culture was a significant predictor of information security management in organizations. The authors found that organizations that had a strong culture of security were more likely to have effective information security management practices, including risk assessment, security awareness training, and incident response planning.

Overall, these studies suggest that organizational culture plays an important role in the relationship with security management practices in organizations. A strong culture of security can lead to better security outcomes and a more secure environment for employees and the organization.

Organizational culture refers to the shared values, beliefs, behaviors, and practices

that characterize an organization. It plays a crucial role in shaping the behavior and attitudes of employees, and thus has a significant impact on human capital building. Here are some references that support the idea that organizational culture plays a mediating role in human capital building:

- Schein argues that organizational culture has a direct impact on the development of human capital. According to him, the culture of an organization influences the behavior and attitudes of employees, which in turn affects their knowledge, skills, and abilities (Schein, 2010).

- Denison's research supports the idea that organizational culture is a critical factor in developing human capital. He suggests that a strong and positive organizational culture can help attract and retain talented employees, and create a supportive environment that encourages learning and development (Denison, 1990).

- Chatman and O'Reilly's research on diversity in the workplace supports the idea that organizational culture plays a mediating role in human capital building. They argue that a strong organizational culture that values diversity and inclusion can help create a supportive environment for employees from diverse backgrounds, which can in turn enhance their skills and capabilities (Chatman, 2004).

Organizational culture plays a crucial mediating role in human capital building. A positive and supportive organizational culture can help attract and retain talented employees, encourage learning and development, and create a strong sense of identity and motivation among employees.

There is clear evidence to support the idea that a positive and supportive organizational culture can enhance the positive impact of quality and security management practices on human capital building, while a negative and unsupportive culture can weaken this relationship. Here are some references that

support this idea:

- Huang and colleagues found that a positive organizational culture is positively related to quality management practices and organizational performance in the hotel industry. They suggest that a supportive organizational culture can enhance the effectiveness of quality management practices in building human capital (Huang, 2015).

- Isoherranen and Kiviniemi argue that a positive organizational culture is critical to the success of quality management practices. They suggest that a supportive culture can enhance the effectiveness of quality management practices in building human capital by fostering a sense of shared values, commitment, and motivation among employees (Isoherranen, 2013).

- Khalid and colleagues found that a positive organizational culture mediates the relationship between Total Quality Management (TQM) practices and employee performance in the pharmaceutical industry in Pakistan. They suggest that a supportive culture can enhance the effectiveness of TQM practices in building human capital by creating a culture of continuous learning and improvement (Khalid, 2021).

- Chen and colleagues found that a positive organizational culture mediates the relationship between information security management practices and firm performance. They suggest that a supportive culture can enhance the effectiveness of security management practices in building human capital by fostering a sense of trust, responsibility, and commitment among employees (Chen C. C., 2017).

Summing up, a positive and supportive organizational culture can enhance the positive impact of quality and security management practices on human capital building.

A supportive culture can create a sense of shared values, commitment, and motivation among employees, which can enhance the effectiveness of management practices in building human capital. In contrast, a negative and unsupportive culture can weaken this relationship by undermining employees' motivation, commitment, and trust in management practices.

Organizational culture can play a mediating role in the relationship between quality and security management and human capital building.

Quality and security management practices can positively affect human capital building, but the influence of these practices on human capital building may be moderated by the organizational culture.

Here are some ways in which organizational culture can mediate the relationship between quality and security management and human capital building:

- Shared Values: Organizational culture is characterized by shared values and beliefs that shape employees' attitudes and behaviors. A culture that values quality and security can positively influence employees' perceptions of these practices, which can, in turn, enhance human capital building (Lai, 2015).

- Leadership Support: Leadership plays a key role in promoting quality and security management practices and fostering an organizational culture that supports these practices. Leaders who demonstrate a commitment to quality and security can help to create a culture that values these practices and supports human capital building (Chen H. G., 2018).

- Communication and Collaboration: Organizational culture can facilitate communication and collaboration between employees, which can enhance knowledge sharing and learning opportunities. When employees feel comfortable sharing their knowledge and experiences, it can contribute to

human capital building and improve the effectiveness of quality and security management practices (Kim, 2019).

1.3.6. Different needs by Age and Gender differences in the company towards TQM and HS

The positive impact of security and quality management practices is crucial for organizational success. However, the impact may vary depending on the age groups of employees in the organization. This essay aims to compare the positive impact of security and quality management practices on different age groups in the workplace, with references to scholarly literature.

Quality management practices, such as Total Quality Management (TQM), have been shown to positively impact organizational performance (Mehralian, 2013). TQM aims to improve quality, reduce costs, and increase customer satisfaction by creating a culture of continuous improvement. Security management practices, such as Information Security Management (ISM), are critical in protecting an organization's assets and minimizing risks. Both quality and security management practices are essential in creating a positive work environment and enhancing employee satisfaction and motivation.

Younger employees, such as those in the Millennial and Generation Z age groups, tend to place a higher value on workplace safety and security than older employees (Savolainen, 2016). This is because younger employees tend to be more tech-savvy and are more likely to use digital devices and online platforms in the workplace. As such, security management practices that protect against cyber threats and data breaches are critical for younger employees. A study by the Ponemon Institute (Institute, 2018) found that younger employees are more likely to comply with security policies and procedures when they perceive that they are relevant and effective.

In contrast, older employees, such as those in the Baby Boomer and Generation X age groups, tend to place a higher value on quality management practices. Quality management practices that enhance product or service quality, customer satisfaction, and employee productivity are critical for older employees (Yang, 2017). Older employees tend to have more experience and knowledge, and they may be more interested in improving organizational processes and procedures to achieve better outcomes.

However, it is essential to note that the impact of security and quality management practices on different age groups may vary depending on the organization's industry and culture. For example, in highly regulated industries such as healthcare or finance, security management practices may be more critical for all age groups due to legal requirements and compliance issues.

In conclusion, the positive impact of security and quality management practices may vary depending on the age groups of employees in the organization. Younger employees tend to place a higher value on security management practices, while older employees tend to place a higher value on quality management practices. However, the impact may vary depending on the organization's industry and culture. Organizations should consider the age groups of their employees when designing and implementing security and quality management practices to ensure that they are relevant, effective, and meet the needs of all employees.

The positive impact of security and quality management practices is critical for organizational success. However, the impact may vary depending on the gender of employees in the organization. This essay aims to compare the positive impact of security and quality management practices on different gender groups in the workplace, with references to scholarly literature.

Quality management practices, such as Total Quality Management (TQM), have been shown to positively impact organizational performance (Mehralian, 2013).

TQM aims to improve quality, reduce costs, and increase customer satisfaction by creating a culture of continuous improvement. Security management practices, such as Information Security Management (ISM), are critical in protecting an organization's assets and minimizing risks. Both quality and security management practices are essential in creating a positive work environment and enhancing employee satisfaction and motivation.

Research suggests that there may be some differences in the perception of security and quality management practices based on gender. A study by Gatrell and colleagues (Gatrell, 2013) found that women tend to have a more positive perception of workplace safety, while men tend to have a more positive perception of workplace security. The study suggests that women may prioritize the physical safety of the workplace, while men may prioritize the protection of the organization's assets and intellectual property.

Another study by Alnaser and Al-Rjoub (Alnaser, 2017)found that gender differences exist in the perception of TQM practices in the healthcare industry. The study found that female employees perceived TQM practices to have a more significant impact on job satisfaction and organizational commitment than male employees. However, male employees perceived TQM practices to have a more significant impact on organizational performance than female employees.

It is essential to note that the impact of security and quality management practices on gender groups may vary depending on the organization's industry and culture. For example, in industries with high levels of workplace violence, such as law enforcement or security, workplace safety may be a critical concern for both genders.

In conclusion, the positive impact of security and quality management practices may vary depending on the gender of employees in the organization. Women may prioritize workplace safety, while men may prioritize workplace security.

However, the impact may vary depending on the organization's industry and culture. Organizations should consider the gender of their employees when designing and implementing security and quality management practices to ensure that they are relevant, effective, and meet the needs of all employees.

Chapter 2 Research and Methodology

2.1. Overview of Industries and Companies in Georgia

Georgia has a diverse range of industries, including agriculture, mining, manufacturing, construction, tourism, and services. The following are some of the key industries and their policies in Georgia:

1. Agriculture: Agriculture is a significant sector in Georgia, and the government has implemented several policies to support farmers and improve productivity. In 2013, the government established the Agricultural Cooperatives Development Agency (ACDA), which provides training and resources to farmers to help them increase their income and improve the quality of their products. The government also offers subsidies for agricultural inputs and provides credit facilities to farmers through the Agricultural Cooperatives Credit Agency (ACCA) (GeorgiaToday, Manufacturing in Georgia. Retrieved from , 2020).

2. Mining: Georgia has significant mineral resources, including coal, copper, and gold, and the government has implemented policies to attract foreign investment into the sector. In 2011, the government introduced a new mining code, which provides tax incentives and simplified procedures for obtaining mining licenses. The government has also established the

Georgian National Agency of Mines to oversee the sector and ensure compliance with environmental and safety regulations (Bank, 2018).

3. Manufacturing: Manufacturing is a growing sector in Georgia, and the government has implemented several policies to encourage investment and promote the growth of the industry. In 2005, the government introduced a new law on investment, which provides tax incentives and other benefits for companies investing in the manufacturing sector. The government has also established industrial zones in various regions of the country to provide infrastructure and support services for manufacturing companies (Agency, 2020).

4. Construction: Construction is a significant sector in Georgia, and the government has implemented several policies to promote the growth of the industry. In 2013, the government introduced a new law on construction, which provides regulations for construction activities and establishes a system for licensing and inspection of construction projects. The government also offers tax incentives and other benefits to companies investing in the construction sector (GeorgiaToday, Georgia's Construction Sector: Opportunities and Challenges. Retrieved from , 2018).

5. Tourism: Tourism is a rapidly growing sector in Georgia, and the government has implemented several policies to attract tourists and promote the growth of the industry. In 2015, the government introduced a new law on tourism, which provides regulations for tourism activities and establishes a system for licensing and inspection of tourism businesses. The government also offers tax incentives and other benefits to companies investing in the tourism sector (Georgia-National-Tourism-Administration, 2020).

According to data from the National Statistics Office of Georgia, the transport and logistics sector accounted for approximately 7.5% of Georgia's Gross Domestic Product (GDP) in 2020. This indicates a significant role of the industry in the country's economy (GEOSTAT, 2021).

The market share of transport and logistics companies in Georgia is difficult to estimate accurately as there is no single authoritative source for this information. However, there are some prominent players in the market such as Georgian Railways, which operates the national railway network, and Georgian Airways, the country's flag carrier airline. Other significant companies in the sector include Tbilisi Airport, Poti Seaport, and Batumi International Airport (IRU, Georgia: Country Report. , 2021).

In Georgia, the cargo transportation industry is dominated by road transport, which accounts for over 90% of all cargo transportation in the country. According to the International Road Transport Union, there are approximately 25,000 registered road transport operators in Georgia, most of which are small and medium-sized businesses (IRU, IRU Country Profile Georgia , 2019).

There are several international cargo transportation companies that operate in Georgia, including sea lines. Some of the notable companies are:

- Maersk Line: This is one of the largest container shipping companies in the world, and it operates in Georgia through its subsidiary, MCC Transport. MCC Transport provides container shipping services to and from Georgia, including connections to major ports in Asia, Europe, and the Middle East (MaerskLine., 2023).

- MSC: Mediterranean Shipping Company (MSC) is another major container shipping company that operates in Georgia. MSC provides container shipping services to and from Georgia, including connections to major ports in Europe, the Middle East, and Asia (MSC-Georgia, 2023).

- CMA CGM: This is a French container shipping company that operates in Georgia through its subsidiary, APL. APL provides container shipping services to and from Georgia, including connections to major ports in Asia, Europe, and the Middle East (CGM, 2023).

- Hapag-Lloyd: This is a German container shipping company that operates in Georgia. Hapag-Lloyd provides container shipping services to and from Georgia, including connections to major ports in Asia, Europe, and the Middle East (Hapag-Lloyd, 2023).

- COSCO Shipping Lines: This is a Chinese state-owned container shipping company that operates in Georgia. COSCO provides container shipping services to and from Georgia, including connections to major ports in Asia, Europe, and the Middle East (COSCO, 2023).

- Turkon Line: This is a Turkish container shipping company that operates in Georgia. Turkon Line provides container shipping services to and from Georgia, including connections to major ports in Turkey and Europe (Turkon, 2023).

Some of the largest and most well-known cargo transportation companies operating in Georgia include:

- TransGroup: This is a Georgian-based logistics and transportation company that offers a range of services, including air and sea freight, road transportation, and customs brokerage (TransGroup, 2023).

- Waberer's Georgia: This is a subsidiary of Waberer's International, one of the largest road transportation companies in Europe. Waberer's Georgia provides international transportation services to and from Georgia (Waberer's, 2023).

- DHL Georgia: DHL is a global logistics company that provides a range of

services, including air and sea freight, road transportation, and warehousing (DHL-Georgia, 2023) .

- Gebrüder Weiss: This is an international logistics and transportation company that provides road transportation services to and from Georgia (Gebrüder-Weiss, 2023).

- R Group: This is a Georgian-based logistics and transportation company that offers a range of services, including air and sea freight, road transportation, and customs brokerage (R-Group, 2023).

The operating policies for international freight forwarding companies in Georgia are regulated by the Georgian government through various laws and regulations. The following are some of the key policies and regulations that apply to international freight forwarding companies in Georgia: Customs Code of Georgia, Law on Entrepreneurs, Law on Transport, Law on State Regulation of Foreign Trade, Law on Competition and Fair Competition (Matsne, 2023).

Apart from tax and revenue parts, companies are supposed to have employee and risk oriented policies. International companies operating in Georgia are expected to comply with the country's health, safety, and environmental (HSE) regulations and follow Total Quality Management (TQM) practices. The following are some of the key HSE and TQM conduct requirements that international companies should follow in Georgia:

- HSE Conduct: International companies operating in Georgia should comply with the country's HSE regulations, including the Occupational Health and Safety (OHS) laws, Environmental Protection laws, and Waste Management laws. Companies should implement appropriate measures to prevent accidents, injuries, and environmental pollution, and ensure the safety and well-being of their employees and the community (GEO, 2023).

- TQM Conduct: International companies operating in Georgia should follow TQM practices, which involve a systematic approach to quality management and continuous improvement. Companies should establish quality control systems to ensure that their products and services meet customer expectations, and implement measures to identify and eliminate quality issues (Management, 2023).

- Training and Education: International companies operating in Georgia should provide their employees with appropriate training and education on HSE and TQM practices. This can include training on safe work practices, environmental protection, waste management, and quality control procedures (Matsne M. , 2023).

- Monitoring and Reporting: International companies operating in Georgia should monitor their HSE and TQM performance and report any issues to the relevant authorities. Companies should maintain accurate records of their activities and report their HSE and TQM performance to their stakeholders (Management, 2023).

- Georgian freight forwarder companies also are expected to follow Total Quality Management (TQM) and Health, Safety, and Environmental (HSE) policies and practices to ensure that they provide high-quality services while maintaining a safe and healthy working environment for their employees.

For the January 1, 2023 total registered entities in Georgia according to National Statistic Center was 139748, where from 70400 were individual entities engaged in freight forwarding (Geostat, 2023).

Individual freight forwarders are professionals who provide freight forwarding services independently. They usually operate as sole proprietors or small businesses, rather than large corporations. Freight forwarding is the process of

organizing and arranging the transportation of goods from one place to another, including handling documentation, customs clearance, and insurance (Shipafreight, 2023).

Individual freight forwarders may specialize in specific modes of transportation, such as air, sea, or land, or they may offer services that cover multiple modes of transportation. They may also specialize in specific industries, such as pharmaceuticals or perishable goods (IFA, 2023).

Individual freight forwarders may have a small team or work alone. They are responsible for managing all aspects of the freight forwarding process, including arranging transportation, handling customs clearance, and managing documentation (Menon, 2023).

Freight forwarders in Georgia are regulated by the Georgian Law on Transportation and the Law on Customs. The Law on Transportation establishes the general rules and requirements for the transportation of goods by land, sea, and air in Georgia, while the Law on Customs sets out the procedures for customs clearance and the import and export of goods.

In addition, freight forwarders in Georgia are also subject to the regulations of the International Federation of Freight Forwarders Associations (FIATA), of which Georgia is a member. FIATA has established a Code of Conduct for its members, which sets out ethical and professional standards for freight forwarding operations.

To ensure compliance with these laws and regulations, Georgia has various regulatory bodies, including the Georgian Ministry of Economy and Sustainable Development and the Georgian Revenue Service, which is responsible for customs administration.

However, as to whether individual freight forwarders in Georgia are complying with these laws and regulations, it is unclear whether any systematic monitoring

or enforcement mechanism exists. If you have specific concerns about the compliance of a particular freight forwarder in Georgia, you may wish to contact the relevant regulatory authority or seek legal advice.

Individual freight forwarders may offer competitive rates and personalized services to their clients. However, clients should be aware that individual freight forwarders may not have the same level of resources and support as larger freight forwarding companies, which can result in longer lead times and potential delays (Manaadiar, 2023).

During 2011-2017 injuries and death at the workplace totaled 882 and 317. Georgian government started working on new legislation that would have protected employees form workplace deaths and injuries. Project was accepted by the government at march 7 2018.

From 2019 to 2022 (September) workplace injuries documented totaled 695 and deaths at workplace totaled 117 (GFLP, 2022). Unfortunately, this law is processed but obliges only for high risk jobs and workplaces and not every company operating in Georgia e.g. construction, manufacturing mining transport etc.

The main reason why labor safety was taken into consideration was 2015-2017 research that showed that from 583 companies checked from different fields (such as agriculture, retail, mining, construction, logistics, warehousing, etc.) none of them had fully safe and secure offices for their employees. None of them had HSE (Health and Safety Executive), no against fire devices and no trainings what to do in different situations when health risks raise, most companies had poor sanitary and hygiene and there were no collective security systems (GFLP, 2022).

When a government fails to check and enforce health, safety, and environmental (HSE) standards in companies, it can have several negative consequences, including:

Increased workplace accidents and injuries: Without proper HSE standards and enforcement, companies may prioritize profits over employee safety, which can result in more workplace accidents and injuries. This can have a significant impact on workers and their families, leading to lost wages, medical bills, and emotional trauma.

Negative impact on the environment: Companies that do not follow HSE standards may also harm the environment through pollution, hazardous waste disposal, or other environmentally harmful practices. This can have far-reaching consequences on local ecosystems, natural resources, and public health.

Loss of public trust: Failure to enforce HSE standards can erode public trust in government institutions and undermine the credibility of regulatory bodies. This can create a perception that the government is prioritizing the interests of companies over those of the public.

Legal and financial repercussions: If companies are not held accountable for their failure to comply with HSE standards, they may face legal and financial repercussions. This can include fines, lawsuits, and damage to their reputation and brand.

Overall, failure to enforce HSE standards in companies can have significant negative consequences for both workers and the wider community, as well as for the government's credibility and ability to regulate industry.

According to the International Labor Organization (ILO), approximately 2.3 million people die each year due to work-related accidents and diseases worldwide. This translates to around 6,300 deaths per day or 4 deaths every minute. In addition to these fatalities, there are also approximately 340 million non-fatal work-related injuries and illnesses worldwide every year (ILO, 2020).

These numbers are from the most recent report published by the ILO in 2020,

which provides a global overview of occupational safety and health. The report highlights that the COVID-19 pandemic has further exacerbated existing occupational safety and health challenges, with workers in several sectors facing increased risks to their health and safety.

It's important to note that these statistics represent a significant human cost and underline the need for employers, workers, governments, and other stakeholders to prioritize and enforce health and safety standards in the workplace.

There are several approaches that can be taken to mitigate workplace injuries and deaths in 2022 and beyond. Here are a few key strategies that employers can implement:

- Promote a strong safety culture: Employers should develop and promote a culture of safety in the workplace, where all employees are encouraged to prioritize their own safety and the safety of their colleagues. This can include regular safety training, ongoing communication about safety risks and procedures, and a zero-tolerance policy for unsafe behavior (Koch, 2022).

- Conduct regular risk assessments: Employers should conduct regular risk assessments to identify potential hazards in the workplace and take steps to mitigate these risks. This can include implementing engineering controls, such as machine guarding or ventilation systems, as well as administrative controls, such as job rotation or training (Dakin, 2022).

- Provide adequate personal protective equipment (PPE): Employers should provide employees with appropriate PPE to protect against potential hazards, such as eye protection, gloves, and respiratory protection. Employers should also ensure that employees are properly trained in the use of PPE and that the equipment is regularly inspected and maintained (ESHSTODAY, 2022).

- Encourage reporting and investigation of incidents: Employers should encourage employees to report all incidents and near-misses in the workplace, and should investigate each incident thoroughly to identify the root cause and prevent future occurrences (Zeutzius, 2012).

- Embrace technology: Employers can embrace technological solutions to mitigate risks in the workplace. For example, they can use sensors to detect unsafe conditions, use virtual reality training to simulate hazardous situations, or implement robotics to perform high-risk tasks (EHSToay, 2020).

These are just a few strategies that can help mitigate workplace injuries and deaths. It's important for employers to prioritize the safety and wellbeing of their employees and to continually evaluate and improve their safety programs.

2.2. Research Methodology and Design

Below are shown the steps in research and methodology:

Literature review: A comprehensive review of existing literature will be conducted to identify the existing knowledge and research on quality and security management in transport companies, human capital building, and their relationship.

Data collection: Data will be collected from transport companies through surveys and interviews with management and employees to understand their perception of quality and security management and its impact on human capital building.

Data analysis: Collected data will be analyzed using statistical tools to identify trends, patterns, and correlations between the variables. The analysis will be done using tools such as regression analysis, correlation analysis, and descriptive

statistics. For statistical were used: U-test, STD test, frequency tables, pairwise comparisons, correlation calculations.

Mean Score and its interpretations by score - obtained by simply dividing the sum of all values in a data set by the number of values (for the example see Exhibit 1).

Exhibit 1: Mean Score and Its interpretation example

Mean Score	Interpretation
1.00 - 1.80	Very Low
1.81 - 2.60	Low
2.61 - 3.20	Medium
3.21 - 4.20	High
4.21 - 5.00	Very High

Source: (Moidunny, 2009)

Standard Deviation

Exhibit 2: Standard Deviation Example

Sample

$$S = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n - 1}}$$

Population

$$\sigma = \sqrt{\frac{\sum (x_i - \mu)^2}{N}}$$

= sample standard deviation

= the number of observations

= the observed values of a sample item

= the mean value of the observations

Kruskal Wallis Test – as the data collected from a sample that does not follow a specific distribution nonparametric approach to the one-way ANOVA. The procedure is used to compare three or more groups on a dependent variable that is measured on at least an ordinal level. It is a key tool for comparing three or more

groups based on a dependent variable by measuring at a categorical level. Kruskal Wallis Test refers to a method of matching the medians of more than two groups for ascertaining whether the samples have the same group source as an origin or not. It is a key tool for comparing three or more groups based on a dependent variable by measuring at a categorical level.

- **K** = number of groups used for comparison
- **N** = total size of the sample
- **ni** = i-th group's sample size
- **Ri** = total of the ranks related to i-th group

$$H = \frac{12}{N(N+1)} \sum_{i=1}^{k} \frac{R_i^2}{n_i} - 3(N+1)$$

Mann Whitney U test - The Mann-Whitney U test is a nonparametric test that allows two groups or conditions or treatments to be compared without assuming that values are normally distributed. So, for example, one might compare the speed at which two different groups of people can run 100 meters, where one group has trained for six weeks and the other has not.

Requirements
- Two random, independent samples
- The data is continuous - in other words, it must, in principle, be possible to distinguish between values at the nth decimal place
- Scale of measurement should be ordinal, interval or ratio
- For maximum accuracy, there should be no ties, though this test - like others - has a way to handle ties

A Spearman correlation - coefficient is also referred to as Spearman rank correlation or Spearman's rho. It is typically denoted either with the Greek letter rho (ρ), or rs. Like all correlation coefficients, Spearman's rho measures the

strength of association between two variables.

Formula

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

Adjusted Significance Level - The adjusted P value is the smallest familywise

a_i = difference between the two ranks of each observation

significance level at which a particular comparison will be declared statistically

significant as part of the multiple comparison testing.

Wilcoxon W

$$z = \frac{W - \frac{n(n+1)}{4}}{\sqrt{\frac{n(n+1)(2n+1)}{24}}}$$

In which: z = de z-value of the standard normal distribution
W = de calculated W-value
n = het number of elements in the analysis

Comparative analysis: The findings of the study will be compared with existing literature and industry best practices to identify the effectiveness of quality and security management practices in building human capital in transport companies.

Recommendations: Based on the findings, recommendations will be provided to transport companies to improve their quality and security management practices to enhance human capital building, employee satisfaction, motivation, and retention.

The methodology outlined above will enable a comprehensive understanding of the relationship between quality and security management and human capital building in transport companies. The study's findings will provide insights for the transport industry to develop effective strategies to enhance employee satisfaction,

motivation, and retention and improve business performance.

The target organizations of the research were medium size organization with average employee number of 80 people. The interviewed staff were mix-type employees as well as managers to gain a more comprehensive understanding of the impact of quality and security management practices on human capital building in organizations. When researching the impact of quality and security management practices on human capital building in organizations, it may be beneficial to interview both managers and lower-level employees. Managers can provide valuable insights into how these practices are implemented at the organizational level and how they impact the overall culture and performance of the organization.

They may also be able to speak to the specific goals and strategies that have been put in place to support human capital development. On the other hand, lower-level employees can provide a different perspective on how these practices impact their day-to-day work experience and how they perceive the organization's commitment to employee development. They may also be able to provide feedback on the effectiveness of specific training and development programs.

75 target companies with 93 managers were interviewed. Age sex and current position were placed in the research questionnaire, just to observe if there was any other correlation between different variables around research questions. From the beginning we can see simple statistics of the interviewed people-gender and age distribution. Most of the interviewees did not want to specify the exact position. Other variables were counted by the points and correlations between them was also calculated.

Below are the tables giving statistical information about research output.

2.3. Research: Descriptive Statistics, Findings and Analysis
The following hypotheses are offered for the practical research:

Hypothesis 1: Quality and security management practices have a positive impact on human capital building in organizations. The implementation of effective quality and security management practices is expected to enhance employee productivity, motivation, and engagement, which will contribute to the development of human capital in the organization.

Hypothesis 2: Organizational culture plays a mediating role in the relationship between quality and security management and human capital building. A strong positive and supportive organizational culture is expected to enhance the positive impact of quality and security management practices on human capital building, while a negative and unsupportive culture is expected to weaken this relationship.

The research data and answers were gathered via the Questionnaire from sample to make statistical research for the above-mentioned hypotheses (see Appendix 1).

2.3.1. Descriptive Statistics

Gender

According to frequency analysis out of 93 respondents 67 (72%) were female and 26 (28%) were male (see Table 1).

Table 1: Gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	67	72.0	72.0	72.0
	Male	26	28.0	28.0	100.0
	Total	93	100.0	100.0	

Age

Of the 93 respondents, 40 (43.0%) fell into the 18-25 age group, while another 40 (43.0%) fell into the 26-35 age group. The remaining 13 respondents (14.0%) were between 36 and 45 years old (see Table 2).

Table 2: Age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	40	43.0	43.0	43.0
	26 - 35	40	43.0	43.0	86.0
	36 - 45	13	14.0	14.0	100.0
	Total	93	100.0	100.0	

Number of Employees

Companies by the number of employees were categorized into five groups: 0 to 10 employees, 11 to 25 employees, 26 to 50 employees, 51 to 150 employees, and 151 employees or more.

Of the 93 respondents, only 3 (3.2%) are working in the company where 0 to 10 people are employed, while 18 people (19.4%) are working in the company with 11 to 25 employees. The majority of research participants (32.3%) work in organization with 26 to 50 employees, 24 (25,8%) were from the company where 51 to 150 people work and 18 (19,4%) respondents are working in the company where 151 or more people work (see Table 3).

Table 3: Number of Employees

N of Employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 to 10 employees	3	3.2	3.2	3.2
	11 to 25 employees	18	19.4	19.4	22.6
	26 to 50 employees	30	32.3	32.3	54.8
	51 to 150 employees	24	25.8	25.8	80.6
	151 and more	18	19.4	19.4	100.0

					Cumulative
	Total		93	100.0	100.0

Quality Management System

Out of 93 respondents, 67 (72%) mentioned that their organization use quality management system and 26 (28%) selected "No" on the given question (see Table 4).

Table 4: Quality Management System

Does your organization use quality management system?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	67	72.0	72.0	72.0
	No	26	28.0	28.0	100.0
	Total	93	100.0	100.0	

TQM Principles

17 respondents (18,3%) mentioned that their organization implemented TQM principles and 76 (81,7%) said that their organization has not implemented TQM principles (see Table 5).

Table 5: TQM Principles

Has your organization implemented TQM principles?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	17	18.3	18.3	18.3
	No	76	81.7	81.7	100.0
	Total	93	100.0	100.0	

HSSE management system

Out of 93, 18 (19,4%) mentioned that their organization use HSSE management system and 75 (80,6%) are employees whose organization does not use HSSE management system (see Table 6).

Does your organization use HSSE management system?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	18	19.4	19.4	19.4
	No	75	80.6	80.6	100.0
	Total	93	100.0	100.0	

HSSE management principles

Of the 93, only 20 (21.5%) responded positively, indicating that their organization have implemented HSSE management principles. The remaining 73 respondents (78.5%) responded negatively, indicating that their organization have not implemented HSSE management principles (see Table 7).

Based on the given information, out of the 93 respondents, only 20 (21.5%) indicated that their organization has implemented HSSE management principles, while the remaining 73 (78.5%) responded negatively, indicating that their organization has not implemented HSSE management principles.

This suggests that there may be a lack of awareness or emphasis on HSSE management principles in the organizations represented by the respondents. It may be beneficial for organizations to prioritize the implementation of HSSE management principles to ensure the safety and well-being of employees and the environment. Further analysis would be needed to determine the reasons behind the low percentage of positive responses and identify ways to encourage more organizations to implement HSSE management principles.

Table 7: HSSE Principles Implementation

Has your organization implemented HSSE management principles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	21.5	21.5	21.5

No	73	78.5	78.5	100.0
Total	93	100.0	100.0	

Effect of TQM and HSSE principles on organizational performance

Of 93 respondents, 60 answered on the given question and according to frequency analysis the mean score equals to (M = 2.82; SD = 1,836) (see Table 8).

93 respondents, only 60 answered the question regarding the effect of TQM and HSSE principles on organizational performance.

The mean score of the responses was 2.82 with a standard deviation of 1.836. It is unclear what the range of the responses was or what the scale used for measuring the effect of TQM and HSSE principles was.

Without more information, it is difficult to draw any firm conclusions. However, the results suggest that there may be a mixed response to the effect of TQM and HSSE principles on organizational performance. It would be beneficial to conduct further analysis to determine the reasons behind the mixed response and identify ways to improve the effectiveness of TQM and HSSE principles in enhancing organizational performance.

Table 8: Organizational Performance Effect of TQM and HSSE Principles

Statistics

How has the implementation of TQM and HSSE management principles effected your organization's performance?

N	Valid	60
	Missing	33
Mean		2.82
Std. Deviation		1.836

Effect of TQM and HSSE principles on organizational culture

62 respondents evaluated the effect of TQM and HSSE principles on organizational culture by the mean of 2.67 (M = 2,67; SD = 0,877) (see Table 9).

62 respondents evaluated the effect of TQM and HSSE principles on organizational culture. The mean score of the responses was 2.67 with a standard deviation of 0.877.

The results suggest that the respondents have a slightly positive perception of the effect of TQM and HSSE principles on organizational culture. However, without more information about the specific questions or statements used to evaluate the effect of TQM and HSSE principles, it is difficult to draw any firm conclusions.

It would be beneficial to conduct further analysis to determine the specific aspects of organizational culture that are affected by TQM and HSSE principles and identify ways to further enhance the positive impact of TQM and HSSE principles on organizational culture.

Table 9: Organizational Culture Effect of TQM and HSSE Principles

Statistics

How has the implementation of TQM and HSSE management principles affected your organization's culture

N	Valid	62
	Missing	31
Mean		2.67
Std. Deviation		.877

Variables about Quality and Security

Due to the fact that the specific items in the questionnaire measured specific organizational issues, several variables were analyzed together 1) effective quality and security management practices in place. 2) having training and development

opportunities related to quality and security management. 3) quality and security issues addressed in a timely and effective manner. As it is shown table below, the highest mean value between given three variables has third variable - "security issues addressed in a timely and effective manner" (M = 3,44; SD = 0,994) and the lowest mean score has second factor which was training and development opportunities (M = 2,55; SD = 0,841). The higher the mean value in each variable indicates that the respondents agreed more with the given statement (see Table 10).

According to the table provided, the variable with the highest mean value is "security issues addressed in a timely and effective manner" with a mean of 3.44 and a standard deviation of 0.994. This suggests that the respondents generally agree that their organization addresses security issues in a timely and effective manner.

On the other hand, the variable with the lowest mean value is "having training and development opportunities related to quality and security management" with a mean of 2.55 and a standard deviation of 0.841. This suggests that the respondents do not strongly agree that their organization provides sufficient training and development opportunities related to quality and security management.

Results suggest that the respondents place a higher value on the timely and effective addressing of security issues compared to training and development opportunities related to quality and security management. It may be beneficial for organizations to prioritize the training and development of employees in these areas to improve the effectiveness of their quality and security management practices.

Table 10: Quality and Security

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation

To what extent do you agree that your organization has effective quality and security management practices in place	90	1	5	3.08	1.008
You have training and development opportunities related to quality and security management	93	1	4	2.55	.841
How often are quality and security issues addressed in a timely and effective manner	93	1	5	3.44	.994
Valid N (listwise)	90				

Variables about Career Development

Three variables which were united under the given factor were measuring specific aspects of employee's opportunity of career development: 1) organization invests in the development of its employees. 2) the level of career development opportunities. 3) employees receive performance feedback and evaluations.

According to statistical analysis it is visible that respondents mostly receive performance feedback and evaluations (M = 3,76; SD = 1,117) but their rate about career development (M = 2,84; SD = 1,096) and about investment from their organization of its employees (M = 2,96; SD = 1,093) were relatively low. The higher the mean value in each variable indicates that the respondents agreed more with the given statement (see Table 11).

According to the table provided, the variable with the highest mean value is "employees receive performance feedback and evaluations" with a mean of 3.76

and a standard deviation of 1.117. This suggests that the respondents generally agree that they receive performance feedback and evaluations from their organization.

Variables related to career development received relatively low mean values. "The level of career development opportunities" had a mean of 2.84 and a standard deviation of 1.096, while "organization invests in the development of its employees" had a mean of 2.96 and a standard deviation of 1.093 suggests that the respondents do not strongly agree that their organization provides sufficient career development opportunities or invests in the development of its employees.

Results suggest that while employees receive performance feedback and evaluations, there may be room for improvement in terms of providing career development opportunities and investing in employee development. Organizations may want to focus on providing clear career paths and investing in employee training and development to improve employee satisfaction and retention.

Table 11: Career Development

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Do you agree that your organization invests in the development of its employees?	93	1	5	2.96	1.093
How would you describe the level of career development opportunities within your organization?	93	1	5	2.84	1.096
How often do employees receive performance feedback and evaluations?	93	2	5	3.76	1.117
Valid N (listwise)	93				

Variables About Human Capital

Variables under Human Capital Factor were measuring aspects of connection between human capital and quality and security: 1) relationship between quality and security management practices and human capital building in organization. 2) organizational culture plays a role in this relationship. 3) how important it is to have a comprehensive approach to managing quality and security, including the development of human capital

As it is shown in the frequency table, each variable has a mean value higher than 3.5, for example mean score of first variable equals to 3,51 (M = 3,51; SD = 0,630), the second variable has an even higher mean score (M = 4,02; SD = 0,944) and third variable has (M = 3,87; SD = 0,772). The higher the mean value in each variable indicates that the respondents agreed more with the given statement (see Table 12).

Respondents generally agreed that there is a strong relationship between quality and security management practices and human capital building in the organization, and that organizational culture plays a crucial role in this relationship. They also recognized the importance of a comprehensive approach to managing quality and security, which includes the development of human capital. These findings suggest that the respondents understand the significance of human capital in achieving effective quality and security management practices in the organization.

Table 12: Human Capital

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
There are factors mediate the relationship between quality and security management practices and human capital building in organization	93	3	5	3.51	.630

How much do you agree with the statement that organizational culture plays a role in this relationship?	93	2	5	4.02	.944
How important do you believe it is to have a comprehensive approach to managing quality and security, including the development of human capital?	93	3	5	3.87	.772
Valid N (listwise)	93				

Variables About Organizational Culture

In the factor of organizational culture, thee variables were united. 1) organization's culture is positive and supportive, 2) the level of openness and communication within organization, 3) recognized and rewarded for their contributions.

According to frequency analysis all three variables have relatively same mean scores, for example first variable which was measuring how positive and supportive organization is mean score equals to 3,44 (M = 3,44; SD = 1,026). Second variable which was about openness and communication (M = 3,27; SD = 0,922). And third variable about employee's rewarding mean score was also 3,30 (M = 3,30; SD = 1,451). The higher the mean value in each variable indicates that the respondents agreed more with the given statement (see Table 13).

Respondents generally agreed that their organization has a positive and supportive culture, although there may be room for improvement in terms of openness and communication within the organization. The mean scores for the three variables were relatively close to each other, indicating that they are perceived as equally important aspects of organizational culture.

However, the standard deviations for the variables varied, suggesting that there may be some level of variability in the responses within each variable. Overall, it seems that the respondents viewed organizational culture as an important factor in their workplace.

Table 13: Organizational Culture

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
How much do you agree that your organization's culture is positive and supportive?	93	2	5	3.44	1.026
How would you describe the level of openness and communication within your organization?	93	2	5	3.27	.922
How often are employees recognized and rewarded for their contributions?	93	1	5	3.30	1.451
Valid N (listwise)	93				

Variables About Connection between organizational culture and quality and security

Three variables were measuring respondent's attitudes about connection between organizational culture and quality & security. 1) positive and supportive organizational culture enhances the impact of quality and security management, 2) impact of quality and security management practices on human capital building in organizations with positive versus negative cultures, 3) organizational culture is in determining the success of quality and security management practices in building human capital?

It should be noted that given variables have got quite high mean scores, for example first variable (M = 4,22; SD = 0,640), the second variable (3,87; SD = 0,797) and third variable (M = 4,17; SD = 0,816). The higher the mean value in each variable indicates that the respondents agreed more with the given statement (see Table 14).

It seems that the respondents generally agree that there is a strong connection between organizational culture and the effectiveness of quality and security management practices, as well as the building of human capital. This suggests that organizations should focus on creating a positive and supportive culture that values quality and security, and invests in the development of its employees in order to achieve better outcomes in these areas.

Table 14: Organizational Culture and Quality and Security

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
How much do you agree that a positive and supportive organizational culture enhances the impact of quality and security management on human capital building?	93	3	5	4.22	.640
Do you agree there is the impact of quality and security management practices on human capital building in organizations with positive versus negative cultures?	93	3	5	3.87	.797

	N	Minimum	Maximum	Mean	Std. Deviation
Do you agree organizational culture is in determining the success of quality and security management practices in building human capital?	93	3	5	4.17	.816
Valid N (listwise)	93				

Quality and Security Factor

The mean scores in the given factor represents the sum of the three variables of quality and safety. For the reason that each variable was measured from 1 to 5 points, the range of minimum and maximum scores in quality and security factor is from 3 to 15. According to frequency analysis the mean score of quality and security factor equals to 9,13 (M = 9,13; SD = 2,50).

Minimum score is 4 and maximum equals to 13. Given mean score indicates that respondent's attitude towards to quality and security issues is more or less important. Also it is important to note that standard deviation value is quite high which also means that employees have significantly different attitudes towards quality and safety issues (see Table 15).

It's important to note that the standard deviation value of 2.50 is not necessarily considered high. It's a moderate level of variability in responses, meaning that some respondents have stronger attitudes towards quality and security while others have weaker attitudes. A high standard deviation would be one that is much larger than the mean and indicates a greater degree of variability in responses.

Table 15: Quality and Security Factors

Statistics

Q7. Quality and Security

N	Valid	90

Missing	3
Mean	9.1333
Std. Deviation	2.50483
Minimum	4.00
Maximum	13.00

Q7. Quality and Security
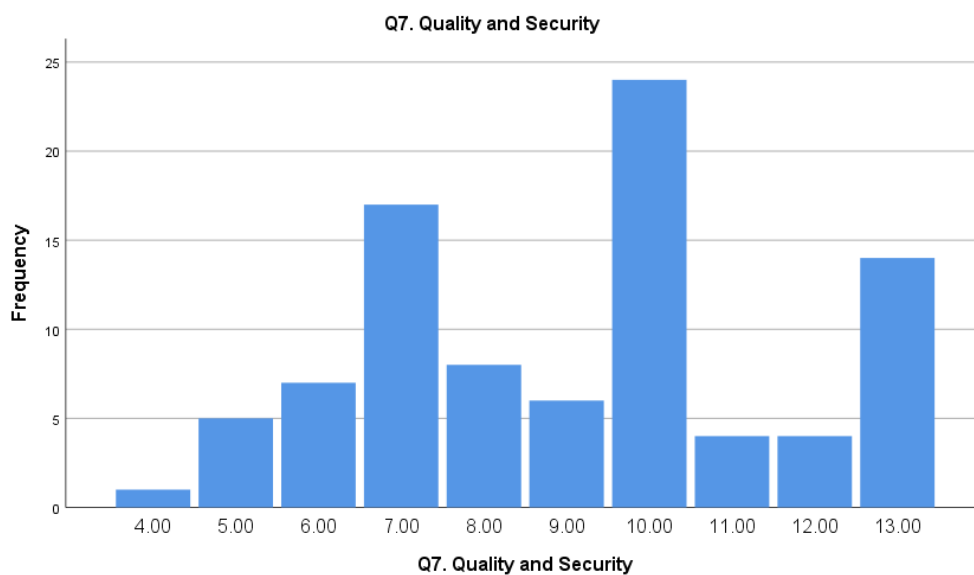
Career Development Factor

The mean scores in the factor represents the sum of the three variables of career development. range of minimum and maximum scores in quality and security factor is from 3 to 15.

The mean score of career development factor equals to 9,5 (M = 9,55; SD = 2,97). Minimum score is 5 and maximum equals to 14. Considering the range of given factor, this mean score indicates a more or less high evaluation. High standard deviation (2,97) also should be noted (see Table 16).

This value represents the average score of the three variables related to career development, which were measuring the following aspects: 1) opportunities for personal growth and advancement within the organization, 2) the organization

invests in employees' professional development, and 3) employees receive constructive feedback on their work performance.

The range of scores for this factor is from 1 to 5, with a higher mean score indicating a more positive attitude towards career development. The high standard deviation (0.697) suggests that there is a significant variation in respondents' attitudes towards this factor.

Table 16: Career Development Factor

Statistics

Q8 Career Development opportunity

N	Valid	93
	Missing	0
Mean		9.5591
Std. Deviation		2.97987
Minimum		5.00
Maximum		14.00
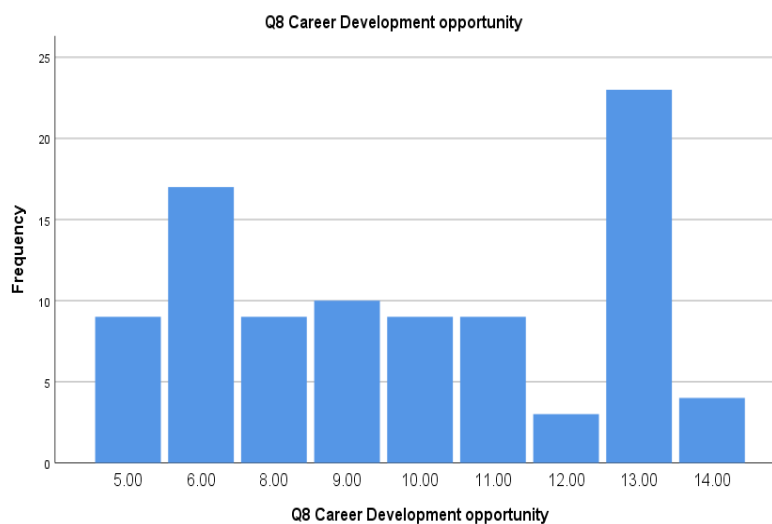
Human capital and quality and security factor

Variables under Human Capital Factor were measuring aspects of connection between human capital and quality and security: 1) relationship between quality

and security management practices and human capital building in organization. 2) organizational culture plays a role in this relationship. 3) how important it is to have a comprehensive approach to managing quality and security, including the development of human capital. As it is shown in the frequency table, each variable has a mean value higher than 3.5, for example mean score of first variable equals to 3,51 (M = 3,51; SD = 0,630), the second variable has an even higher mean score (M = 4,02; SD = 0,944) and third variable has (M = 3,87; SD = 0,772). The higher the mean value in each variable indicates that the respondents agreed more with the given statement. The high mean scores in each variable indicate that the respondents generally agreed with the statements regarding the connection between human capital and quality and security. It suggests that they recognize the importance of human capital development in improving quality and security management practices, as well as the role of organizational culture in this relationship. The relatively low standard deviations suggest that there was less variability in the responses to these variables compared to some of the other factors.

Table 17: Human Capital and Quality and Security

Statistics

Q10 Connection between human capital and quality & security

N	Valid	93
	Missing	0
Mean		11.0000
Std. Deviation		1.60840
Minimum		8.00
Maximum		14.00

Q10 Connection between human capital and quality & security
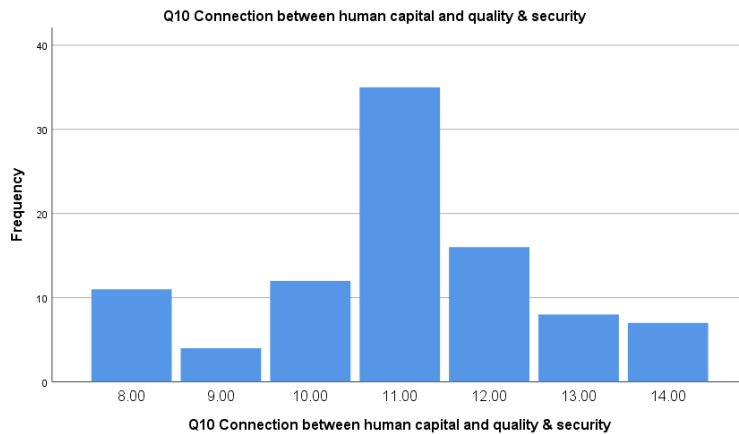
Organizational culture factor

According to statistical analysis the sum of three organizational culture variables equals to 10,01 (M = 10,01; SD = 3,10). Scores in this factor varies from 5 to 14 which makes respondent's evaluations quite different and that explains SD value (see Table 18). Organizational culture factor also has the high mean value which indicates respondent's attitudes towards to their organization's positive supportive and rewarding culture. The high mean value for the organizational culture factor suggests that the respondents generally have positive attitudes towards the organizational culture in their workplace. However, the high standard deviation value indicates that there may be significant variation in the respondents' perceptions of their organization's culture. It may be worthy to investigate further to identify any potential areas for improvement in the organizational culture, particularly in relation to quality and security management.

Table 18L Organizational Culture Factor

Statistics

Q11 positive. supportive and
rewarding organizational culture

N	Valid	93
	Missing	0
Mean		10.0108
Std. Deviation		3.10152
Minimum		5.00

Maximum   14.00

Q11 positive. supportive and rewarding organizational culture
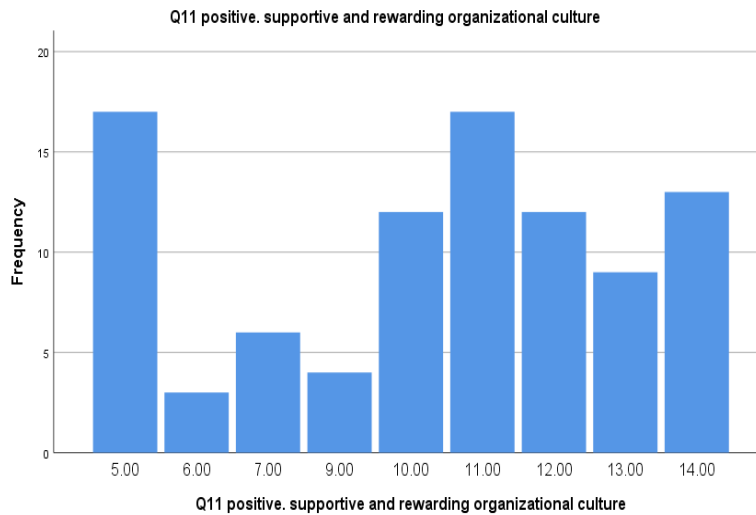
Connection between organizational culture and quality & security factor

Among the five factors, the current factor has the highest mean value (M = 12,25; SD = 1,74). Scores in given factor varies from 9 to 15. This result means that most of the respondents agree the sentence that organizational culture is connected to quality and security (see Table 19).

The high mean value for the Connection between Organizational Culture and Quality & Security factor indicates that the respondents agree strongly that there is a connection between the two. Additionally, the low standard deviation value suggests that there is little variation in the responses and that most respondents feel similarly about this connection.

Table 19: Connection of Organizational Culture and Quality and Security Factor

Statistics

Q14 organizational culture is in
determining the success of quality and
security management practices

N	Valid	93
	Missing	0
Mean		12.2581

Std. Deviation	1.74395
Minimum	9.00
Maximum	15.00

Q14 organizational culture is in determining the success of quality and security management practices
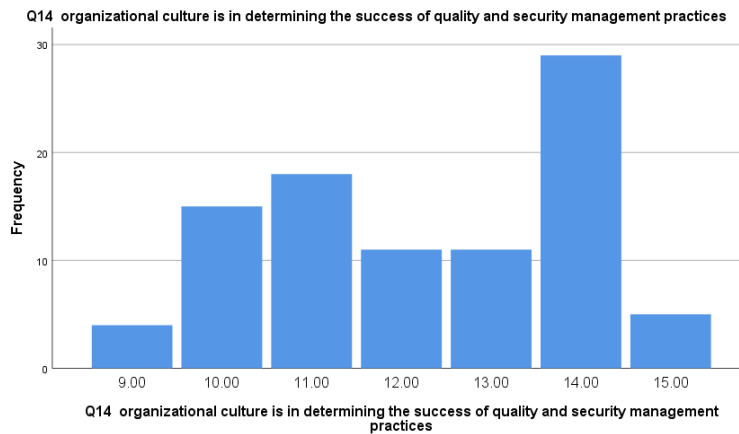
2.3.2. Difference Between Groups

Difference between male and female respondents

For the reason that respondents were not normally distributed in gender variable non parametric method – Mann Whitney U test was chosen to compare male and female respondents. As mentioned in the theories, the research proves that

4 out of 5 factors were found to have a statistically significant difference between female and male respondents (see Table 20).

Table 20: Male and Female Respondents Difference

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Q7. Quality and Security is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.003	Reject the null hypothesis.
2	The distribution of Q8 Career Development opportunity is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.

3	The distribution of Q10 Connection between human capital and quality & security is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.808	Retain the null hypothesis.
4	The distribution of Q11 positive. supportive and rewarding organizational culture is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.031	Reject the null hypothesis.
5	The distribution of Q14 organizational culture is in determining the success of quality and security management practices is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

Q7. Quality and Security across Gender

There was statistically significant difference between male and female respondents according to quality and security factor. (P < .05). More specifically males had significantly higher mean value (59,41) in the factor of quality and security than females (40,72) (see Table 21).

Table 21: Quality and Security Across Gender

Independent-Samples Mann-Whitney U Test Summary

Total N	90
Mann-Whitney U	1090.500
Wilcoxon W	1366.500
Test Statistic	1090.500
Standard Error	106.404
Standardized Test Statistic	3.007
Asymptotic Sig.(2-sided test)	.003

Independent-Samples Mann-Whitney U Test
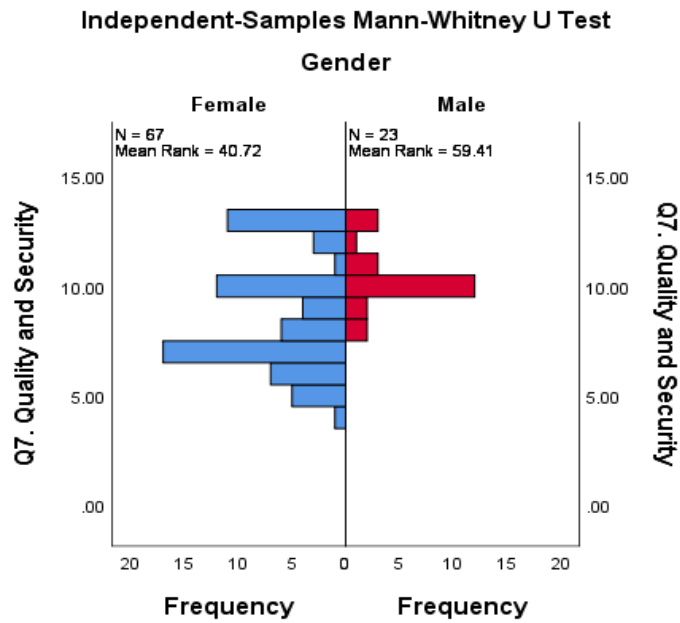
Gender

Q8. Career Development Opportunity across Gender

Also male respondents have significantly higher mean rank (66,63) than females (39,38) in the factor of career development (P < .05) (see Table 22).

Table 22: Career Development Opportunity Across Gender

Independent-Samples Mann-Whitney U Test Summary

Total N	93
Mann-Whitney U	1381.500
Wilcoxon W	1732.500
Test Statistic	1381.500
Standard Error	115.280
Standardized Test Statistic	4.428
Asymptotic Sig.(2-sided test)	.000

Independent-Samples Mann-Whitney U Test
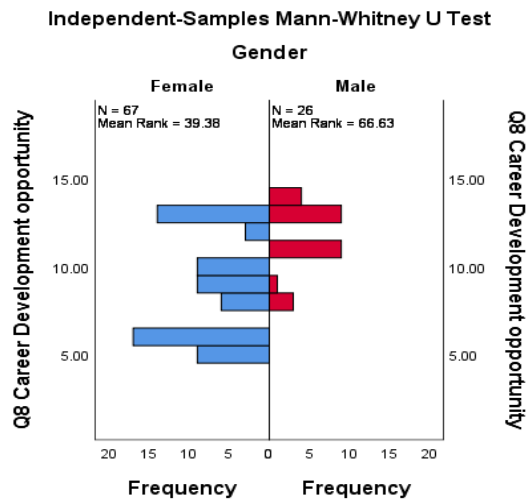
Q10. Connection between human capital and quality & security across Gender

There is no statistically significant difference between male and female respondents according to human capital and quality and security factor (P > .05) (see Table 23).

Table 23: Human Capital and Quality and Security Connection Across Gender

Independent-Samples Mann-Whitney U Test Summary

Total N	93
Mann-Whitney U	898.500
Wilcoxon W	1249.500
Test Statistic	898.500
Standard Error	113.061
Standardized Test Statistic	.243
Asymptotic Sig.(2-sided test)	.808

Q11. Positive, supportive and rewarding organizational culture across Gender

Male and female employees have significantly different mean ranks across organizational culture factor (P < .05), more specifically males mean rank equals to 56,58 compared to females (43,28) (see Table 24).

Table 24: Organizational Culture Across Gender

Independent-Samples Mann-Whitney U Test
Summary

Total N	93
Mann-Whitney U	1120.000
Wilcoxon W	1471.000
Test Statistic	1120.000
Standard Error	115.616
Standardized Test Statistic	2.154
Asymptotic Sig.(2-sided test)	.031
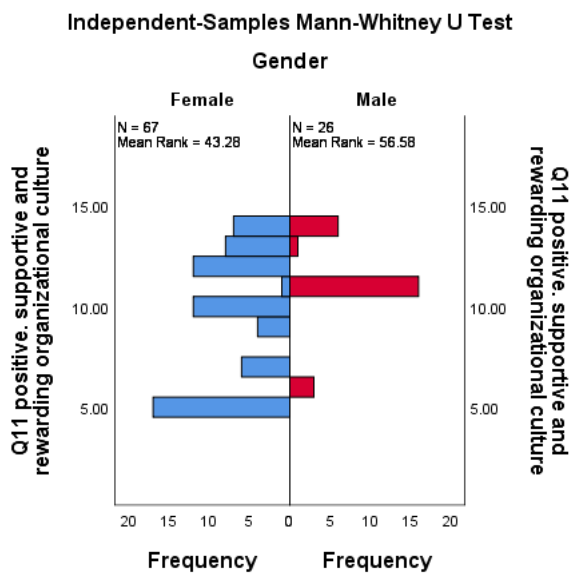
Q14. Organizational culture is in determining the success of quality and security management practices across Gender

For the factor of organization culture and quality & security male (64,04) respondents also have got statistically significant different and higher mean ranks compared to female employees (40,39) (see Table 25).

Table 25L Organizational Culture Determining the Success of Quality and Security Management Practices Across Gender

Independent-Samples Mann-Whitney U Test Summary

Total N	93
Mann-Whitney U	1314.000
Wilcoxon W	1665.000
Test Statistic	1314.000
Standard Error	114.144
Standardized Test Statistic	3.881
Asymptotic Sig.(2-sided test)	.000
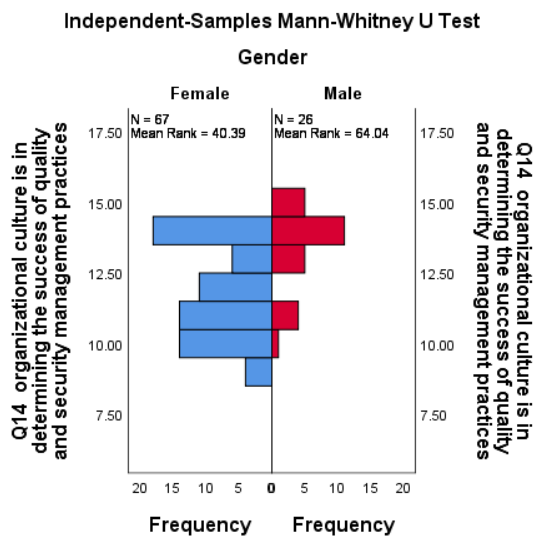
Difference between age categories

Due to the fact that there are more than 2 groups in the age variable, to determine the difference between the groups a non-parametric testing method Kruskal-Wallis Test was used (see Table 26). As mentioned in theorical part, younger employees had slightly higher mean scores in these factors, which suggests that companies need to develop strategies to engage different age groups in quality and security management practices.

Table 26: Age Categories Differences

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Q7. Quality and Security is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of Q8 Career Development opportunity is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of Q10 Connection between human capital and quality & security is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.084	Retain the null hypothesis.
4	The distribution of Q11 positive. supportive and rewarding organizational culture is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

5	The distribution of Q14 organizational culture is in determining the success of quality and security management practices is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.479	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

According to Kruskal-Wallis Test there are statistically significant difference between age groups across three factors: (Quality and security, Career Development, Organizational culture). In all three variables, it should be noted that the respondents in the first (18 – 25) and second (26 – 35) age groups have significantly higher mean ranks than the third age group (36 – 45).

Difference between organizational culture groups

During the statistical analysis, factor named 'organizational culture" was divided into three groups, where respondents who had 3 to 7 points were united in first group named "low", respondents who had 8 to 11 points were united in second group named "middle" and employees from 12 to 15 points were grouped in third group named "high".

In order to compare organizational culture groups across the other factors Kruskal-Wallis Test was conducted. As it shown on the table below there is statistically significant difference between groups of organizational culture (P < .05) employees who were grouped in the group 'low' have significantly lower mean ranks than people who were united in the groups 'middle' and 'high' (see Table 27).

Table 27: Organizational Culture Groups Differences

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Q7. Quality and Security is the same across categories of Organizational Culture Groups.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of Q8 Career Development opportunity is the same across categories of Organizational Culture Groups.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of Q10 Connection between human capital and quality & security is the same across categories of Organizational Culture Groups.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

Q7. Quality and Security across Organizational Culture Groups

Table 28: Quality and Security Across Organizational Culture Groups

Pairwise Comparisons of Organizational Culture Groups

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
Low-High	-29.559	6.939	-4.260	.000	.000
Low-Middle	-38.591	6.985	-5.525	.000	.000
High-Middle	9.032	6.509	1.388	.165	.496

Given result in Kruskal Wallis test indicates that people who evaluates organizational culture with a higher mean score also have got statistically significant higher mean values in the Quality and Security factor. The result explains second hypothesis.

Q8 Career Development opportunity across Organizational Culture Groups

Table 29: Career Development Opportunity Across Organizational Culture Groups

Pairwise Comparisons of Organizational Culture Groups

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
Middle-Low	10.815	6.850	1.579	.114	.343
Middle-High	-35.619	6.384	-5.580	.000	.000
Low-High	-24.804	6.806	-3.645	.000	.001

Respondents who were united in the "low" group in the factor of organizational culture also have significantly lower mean scores in the factor of career development.

Q10. Connection between human capital and quality & security across Organizational Culture Groups

Table 30: Human Capital and Quality and Security Connection Across Organizational Culture Groups

Pairwise Comparisons of Organizational Culture Groups

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]

High-Low	28.592	6.871	4.161	.000	.000
High-Middle	30.356	6.445	4.710	.000	.000
Low-Middle	-1.764	6.916	-.255	.799	1.000

People who evaluated organizational culture with a higher mean ranks, also have a higher mean scores in the factor "Connection between human capital and quality & security". Given result can be used to explain the second hypothesis.

2.3.3. Correlation Analysis

Hypothesis 1: Quality and security management practices have a positive impact on human capital building in organizations. The implementation of effective quality and security management practices is expected to enhance employee productivity, motivation, and engagement, which will contribute to the development of human capital in the organization.

Hypothesis 2: Organizational culture plays a mediating role in the relationship between quality and security management and human capital building. A strong positive and supportive organizational culture is expected to enhance the positive impact of quality and security management practices on human capital building, while a negative and unsupportive culture is expected to weaken this relationship. For the reason that non-parametric statistical analysis was chosen Spearman's correlation have been used to determine the linear relationship between factors.

There is statistically significant correlation between almost all the factors for example, quality and security factor is positively correlates with career development factor ($r = .696$; $P < .05$) also positively correlates with human capital factor ($r = .278$; $P < .05$) and there is also positive correlation between quality and security factor and organizational culture factor ($r = .462$; $P < .05$)

Career development factor is also positively correlating with organizational culture

(r = .546; P < .05). organizational culture as a factor also is correlates with human capital (r = .433; P < .05) and correlates with the last factor (r = .332; P < .05) (see Table 31).

Table 31: Correlations

Correlations

			Q7. Quality and Security	Q8 Career Development	Q10 human capital and quality & security	Q11 organizational culture	Q14 organizational culture an quality and security
Spearman's rho	Q7. Quality and Security	Correlation Coefficient	1.000	.696**	.278**	.462**	.081
		Sig. (2-tailed)	.	.000	.008	.000	.248
		N	90	90	90	90	90
	Q8 Career Development	Correlation Coefficient	.696**	1.000	.211*	.546**	.231*
		Sig. (2-tailed)	.000	.	.043	.000	.026
		N	90	93	93	93	93
	Q10 human capital and quality & security	Correlation Coefficient	.278**	.211*	1.000	.433**	.128
		Sig. (2-tailed)	.008	.043	.	.000	.222
		N	90	93	93	93	93
	Q11organizational culture	Correlation Coefficient	.462**	.546**	.433**	1.000	.332**
		Sig. (2-tailed)	.000	.000	.000	.	.001
		N	90	93	93	93	93
	Q14 organizational culture and quality and security	Correlation Coefficient	.081	.231*	.128	.332**	1.000
		Sig. (2-tailed)	.248	.026	.222	.001	.
		N	90	93	93	93	93

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

2.3.4. Results Analysis and Discussion

According to frequency analysis most of the employees emphasize the fact that their company does not use TQM and HSSE principles. Respondents who mentioned that their company uses quality management system have relatively higher means in the variables about quality and security, career development, organizational culture. Out of the five factors, the majority of respondents mostly agree with the following 'organizational culture is in determining the success of quality and security management practices' (H2). Employees agree with the fact that Quality and security management practices have a positive impact on human capital building in organizations (H1). Male and female employees are statistically significant across the four factors, such as: Quality and Security, Career Development, organizational culture, organizational culture is in determining the success of quality and security management practices. Specifically, male respondents evaluated each factor with the higher values than females.

There is also statistically significant difference between age groups across given factors. Younger age groups had slightly higher mean ranks in the factors of quality and security, organizational culture and career development. Employees who have higher mean value in the organizational culture factor, are expected to have relatively higher mean values in the following factors: quality and security, human capital or career development. Quality and security factor positively correlates to almost all the factors, such as organizational culture, career development and human capital factors.

Also, should be noted that correlation coefficient between selected variables indicates strong correlation to each other (H1). Results of the study suggest that there is a need for organizations to prioritize quality and security practices, employee career development, organizational culture, and human capital development. The findings also highlight the importance of using TQM and HSSE principles in organizations to improve quality and security practices.

Respondents who mentioned that their company uses quality management system have relatively higher means in the variables about quality and security, career development, and organizational culture. This suggests that organizations that use quality management systems are more likely to prioritize employee development and a positive organizational culture, which can lead to better quality and security practices.

The fact that the majority of respondents agree that organizational culture is critical to the success of quality and security management practices highlights the importance of a supportive and positive culture. Organizations need to foster a culture that values quality and security practices, and supports employee development.

The statistically significant differences between male and female respondents across the four factors suggest that there may be gender differences in perceptions of quality and security practices, employee career development, and organizational culture. This finding highlights the need for organizations to address gender diversity and ensure that all employees have equal opportunities for career development and that the organizational culture supports all employees.

The significant difference between age groups across the given factors suggests that younger employees may place greater emphasis on quality and security practices, organizational culture, and employee career development. This finding highlights the importance of adapting organizational practices to meet the needs and expectations of different age groups.

Finally, the positive correlation between the quality and security factor and almost all the other factors suggests that organizations that prioritize quality and security practices are also likely to invest in employee development, foster a positive organizational culture, and prioritize human capital development. This finding

emphasizes the need for organizations to take a holistic approach to organizational management, which addresses all of these interrelated factors.

The research findings present in this study shed light on the implementation of Total Quality Management (TQM) and Health, Safety, Security, and Environment (HSSE) principles in Georgian companies. The results show that most employees believe that their company does not use TQM and HSSE principles, which raises concerns about the level of quality and safety in the workplace.

But, respondents who reported that their company uses quality management systems (QMS) had higher mean scores in the variables related to quality and security, career development, and organizational culture. This finding suggests that companies that implement QMS are more likely to have a positive work environment and are more likely to prioritize employee development.

Moreover, the majority of respondents agreed with the idea that organizational culture is a key determinant of the success of quality and security management practices. This indicates that companies need to focus on building a strong organizational culture that supports quality and safety initiatives to ensure their success.

Another significant finding is that both male and female employees had statistically significant differences in their perception of quality and security, career development, and organizational culture. Specifically, male employees evaluated each factor with higher values than females. This difference in perception indicates that companies need to consider gender diversity when implementing quality and security management practices.

Additionally, there were significant differences between age groups in their perception of quality and security, organizational culture, and career development. Younger employees had slightly higher mean scores in these factors, which suggests that companies need to develop strategies to engage different age groups

in quality and security management practices.

Finally, the study found that employees who have a higher mean value in the organizational culture factor are more likely to have higher mean scores in the variables related to quality and security, human capital, and career development. This indicates that companies need to focus on building a strong organizational culture that supports employee development and prioritizes quality and safety.

In conclusion, the research findings provide important insights into the implementation of TQM and HSSE principles in Georgian companies. The study highlights the importance of QMS implementation, strong organizational culture, and gender and age diversity in promoting quality and safety in the workplace. Companies should take note of these findings and develop strategies to address the identified gaps in their quality and security management practices to ensure a positive work environment and sustainable success.

Conclusion

In conclusion, the findings of this research shed valuable light on the current state of Total Quality Management (TQM) and Health, Safety, Security, and Environment (HSSE) principles implementation in Georgian companies. The results reveal a concerning perception among most employees that their organizations do not prioritize these critical principles, raising significant questions about workplace quality and safety.

However, a glimmer of hope emerges as respondents from companies that reported using Quality Management Systems (QMS) demonstrated higher mean scores in quality and security, career development, and organizational culture. This underscores the importance of implementing QMS, as it appears to foster a more positive work environment and a greater emphasis on employee development.

The consensus among the majority of respondents that organizational culture plays a pivotal role in the success of quality and security management practices is a pivotal insight. It underscores the necessity for companies to invest in cultivating a robust organizational culture that actively supports quality and safety initiatives to ensure their effectiveness.

Gender disparities in employee perceptions regarding quality and security, career development, and organizational culture also surface as a noteworthy finding, with male employees consistently rating these factors higher than their female counterparts. This discrepancy necessitates a closer examination of gender diversity within the context of quality and security management practices to ensure equitable opportunities and experiences for all employees.

Furthermore, the variation in perceptions across different age groups, with younger employees showing a slightly stronger inclination toward quality and security, organizational culture, and career development, implies the need for tailored strategies to engage diverse age cohorts in quality and security

management practices effectively.

Lastly, the positive correlation observed between the quality and security factor and nearly all other factors underscores the importance of a holistic approach to organizational management. This interplay between various facets of an organization emphasizes the necessity for companies to address these interconnected factors in tandem to achieve sustainable success.

In summary, this research offers crucial insights for Georgian companies looking to enhance their commitment to TQM and HSSE principles. The findings underscore the significance of implementing QMS, fostering a strong organizational culture, and addressing gender and age diversity as integral components of a successful quality and safety strategy. Companies are encouraged to use these insights as a roadmap for bridging existing gaps in their quality and security management practices, ultimately fostering a more positive work environment and ensuring long-term success.

Recommendations

Based on the conclusions drawn from the analysis, the following recommendations can be made for future studies:

Companies should consider implementing Total Quality Management (TQM) and Health, Safety, Security, and Environment (HSSE) principles to improve their performance in terms of quality and security, career development, and organizational culture. To fulfill the recommendation of implementing TQM and HSSE principles in Georgian companies, a new vision could be developed as follows:

- Develop a comprehensive TQM and HSSE implementation plan: A detailed plan should be developed to outline the steps needed to implement TQM and HSSE principles in the company. This plan should include timelines, roles and responsibilities, and specific actions needed to achieve the desired

results.

- Establish a culture of continuous improvement: Companies should encourage and support a culture of continuous improvement. This can be achieved by implementing regular performance reviews, training programs, and employee engagement activities.

- Invest in employee development: Companies should invest in employee development to improve their skills and knowledge in TQM and HSSE principles. This can be achieved by providing training and development programs, mentoring, and coaching.

- Foster a positive work environment: Companies should foster a positive work environment that values employee well-being, work-life balance, and open communication. This can be achieved by promoting a positive culture and providing opportunities for employees to voice their opinions and concerns.

- Implement effective communication channels: Effective communication channels should be established to ensure that TQM and HSSE principles are effectively communicated to all employees. This can be achieved by developing a communication strategy that includes regular meetings, training sessions, and other communication tools.

Implementing TQM and HSSE principles in Georgian companies can lead to improved performance in terms of quality and security, career development, and organizational culture. By developing a comprehensive implementation plan, fostering a culture of continuous improvement, investing in employee development, fostering a positive work environment, and implementing effective communication channels, companies in Georgia can achieve these desired outcomes.

- Further research can be conducted to investigate the reasons why some companies do not implement TQM and HSSE principles despite the

perceived benefits.

To fulfill the recommendation of conducting further research to investigate why some companies in Georgia do not implement TQM and HSSE principles despite the perceived benefits, a new vision could be developed as follows:

- Conduct a comprehensive analysis of current practices: A comprehensive analysis should be conducted to understand the current practices and attitudes towards TQM and HSSE principles in Georgian companies. This analysis can involve a survey, interviews, and focus group discussions.

- Identify barriers and challenges: Through the analysis, identify the barriers and challenges that prevent companies from implementing TQM and HSSE principles. These barriers can include factors such as lack of resources, lack of knowledge, resistance to change, and other organizational or cultural factors.

- Develop tailored solutions: Based on the identified barriers and challenges, develop tailored solutions to help companies overcome these obstacles. These solutions can include providing training and support, addressing cultural issues, and creating incentives to encourage adoption of TQM and HSSE principles.

- Foster collaboration: Collaboration among companies, government agencies, and other stakeholders can be fostered to promote the adoption of TQM and HSSE principles. This can include creating partnerships, sharing best practices, and providing resources to support implementation.

- Measure and monitor progress: Companies should measure and monitor their progress in implementing TQM and HSSE principles. This can involve regular reviews, assessments, and audits to ensure that the desired outcomes are being achieved.

Conducting further research to understand the reasons why some companies in Georgia do not implement TQM and HSSE principles can help to identify the barriers and challenges that prevent adoption. By developing tailored solutions,

fostering collaboration, and measuring and monitoring progress, companies can overcome these obstacles and realize the benefits of TQM and HSSE principles.

- Future studies can explore the impact of quality and security management practices on the human capital building in organizations in greater depth.

To fulfill the recommendation of conducting future studies to explore the impact of quality and security management practices on human capital building in organizations in Georgia, a new vision could be developed as follows:

- Conduct a comprehensive literature review: A comprehensive literature review should be conducted to identify the existing research on the impact of quality and security management practices on human capital building in organizations. This can involve reviewing academic journals, industry reports, and other relevant sources.
- Identify research gaps: Based on the literature review, identify any gaps in the existing research on this topic. These gaps can include areas where further investigation is needed, as well as areas where contradictory findings exist.
- Develop research questions: Develop research questions to guide future studies on the impact of quality and security management practices on human capital building in organizations. These questions should be based on the identified gaps in the existing research and should aim to fill these gaps.
- Choose appropriate research methods: Choose appropriate research methods to answer the research questions. These methods can include surveys, interviews, case studies, and other research methods.
- Analyze and report findings: Analyze the data collected from the research and report the findings. These findings should be presented in a clear and

concise manner and should provide insights into the impact of quality and security management practices on human capital building in organizations.

Future studies on the impact of quality and security management practices on human capital building in organizations can provide valuable insights into how these practices can be used to improve employee performance, job satisfaction, and overall organizational performance. By conducting a comprehensive literature review, identifying research gaps, developing research questions, choosing appropriate research methods, and analyzing and reporting findings, researchers can provide valuable insights that can help companies in Georgia improve their human capital building practices.

- Future studies can investigate the gender differences in perception of quality and security, career development, and organizational culture to identify the underlying reasons for the observed statistical differences.

To fulfill the recommendation of conducting future studies to investigate gender differences in perception of quality and security, career development, and organizational culture in Georgian companies, a new vision could be developed as follows:

- Conduct a comprehensive literature review: A comprehensive literature review should be conducted to identify the existing research on gender differences in perception of quality and security, career development, and organizational culture in the workplace. This can involve reviewing academic journals, industry reports, and other relevant sources.
- Develop research questions: Based on the literature review, develop research questions to guide future studies on gender differences in perception of quality and security, career development, and organizational culture in Georgian companies. These questions should aim to identify the underlying reasons for the observed statistical differences.

- Choose appropriate research methods: Choose appropriate research methods to answer the research questions. These methods can include surveys, interviews, focus groups, and other research methods.

- Analyze and report findings: Analyze the data collected from the research and report the findings. These findings should be presented in a clear and concise manner and should provide insights into the underlying reasons for the observed statistical differences in perception of quality and security, career development, and organizational culture.

- Develop tailored solutions: Based on the findings, develop tailored solutions to address any identified barriers or challenges that prevent gender equality in perception of quality and security, career development, and organizational culture. These solutions can include training and support programs, creating awareness, and addressing cultural and organizational issues.

Future studies on gender differences in perception of quality and security, career development, and organizational culture can help to identify the underlying reasons for the observed statistical differences. By conducting a comprehensive literature review, developing research questions, choosing appropriate research methods, analyzing and reporting findings, and developing tailored solutions, companies in Georgia can take steps towards promoting gender equality in the workplace.

- It would be valuable to conduct more research on the age differences in perception of quality and security, organizational culture, and career development to identify strategies to improve the involvement of different age groups in quality and security management practices.

To fulfill the recommendation of conducting more research on age differences in perception of quality and security, organizational culture, and career

development in Georgian companies, a new vision could be developed as follows:

- Conduct a literature review: A literature review should be conducted to identify the existing research on age differences in perception of quality and security, organizational culture, and career development in the workplace. This can involve reviewing academic journals, industry reports, and other relevant sources.

- Develop research questions: Based on the literature review, develop research questions to guide future studies on age differences in perception of quality and security, organizational culture, and career development in Georgian companies. These questions should aim to identify the strategies to improve the involvement of different age groups in quality and security management practices.

- Choose appropriate research methods: Choose appropriate research methods to answer the research questions. These methods can include surveys, interviews, focus groups, and other research methods.

- Analyze and report findings: Analyze the data collected from the research and report the findings. These findings should be presented in a clear and concise manner and should provide insights into the strategies to improve the involvement of different age groups in quality and security management practices.

- Develop tailored solutions: Based on the findings, develop tailored solutions to address any identified barriers or challenges that prevent different age groups from being involved in quality and security management practices. These solutions can include training and support programs, creating awareness, and addressing cultural and organizational issues.

Future studies on age differences in perception of quality and security, organizational culture, and career development can help to identify strategies to improve the involvement of different age groups in quality and security

management practices. By conducting a literature review, developing research questions, choosing appropriate research methods, analyzing and reporting findings, and developing tailored solutions, companies in Georgia can take steps towards promoting a diverse and inclusive workplace culture. By implementing these recommendations, organizations can improve their quality and security management practices, promote employee development, and create a positive work environment, which will ultimately lead to sustainable success.

Limitations of the study

Certainly, here are some potential limitations of the study based on the provided conclusion:

Self-Reporting Bias- The study relies on self-reporting by employees regarding their organizations' implementation of TQM and HSSE principles. This introduces the possibility of bias, as respondents may provide socially desirable responses or have varying interpretations of these principles, **Potential Confounding Variables**- The study identifies correlations between variables but does not explore potential confounding variables that could explain these relationships. For example, other organizational policies or external factors may influence the observed outcomes, **Sampling Bias**: The study does not provide information about the sampling method used, which may introduce bias if not adequately representative of the entire employee population in Georgian companies, **Limited Causality Inference**-While the study identifies correlations, it does not establish causation. For instance, while QMS implementation is associated with higher mean scores, it does not prove that QMS directly causes improved organizational culture or career development, **Potential Response Rate Bias**- If the response rate among employees was low or if specific types of employees were more likely to respond, it could introduce response rate bias, impacting the generalizability of the findings.

While the study sheds valuable light on the state of TQM and HSSE principles in Georgian companies, it is crucial to recognize these limitations when interpreting its results and considering their implications for organizational practice. Future

research could address these limitations to provide a more comprehensive understanding of these critical topics.

Scientific Novelty

The scientific novelty of the thesis, "Impact of Quality and Security Management on Human Capital Building for Georgian Companies," lies in its exploration of the intricate relationship between quality and security management practices within organizations and the development of human capital. The thesis contributes to the existing body of knowledge in several ways. As for the contextual relevance, the focus on Georgian companies adds a contextual dimension to the study. By examining the impact of quality and security management on human capital within the specific socio-economic and cultural context of Georgia, the thesis addresses a gap in the literature and provides insights relevant to the local business environment. The thesis goes beyond the conventional silos of quality management and security management. By examining their integrated impact on human capital, it offers a holistic perspective. This integration is crucial in today's dynamic business landscape where these aspects are interconnected and mutually influence organizational effectiveness. The strong emphasis is places on human capital building, recognizing employees as valuable assets. This focus aligns with contemporary organizational paradigms that view human capital as a critical driver of sustainable competitive advantage. The thesis delves into how the implementation of quality and security practices contributes to the development and enhancement of the workforce.

Several practical recommendations provided in the thesis offer actionable insights for Georgian companies. By suggesting strategies for implementing quality and security management practices, fostering a positive work environment, and investing in employee development, the thesis provides a roadmap for organizations seeking to enhance their human capital.

The most important part of the thesis is identification of research gaps:

The thesis acknowledges the need for further research, indicating a commitment

to ongoing scholarly inquiry. By identifying gaps in existing literature, it sets the stage for future studies to delve deeper into specific aspects, ensuring a continuous evolution of knowledge in the field of quality, security management, and human capital.

While rooted in the Georgian context, the thesis may offer insights that can be generalized to other similar socio-economic settings. The principles and practices identified may have broader applicability, contributing to the global discourse on the relationship between organizational management practices and human capital development.

And, to sum up the scientific novelty of the thesis lies in its unique exploration of the impact of quality and security management on human capital building, particularly within the context of Georgian companies. By combining practical implications with a commitment to ongoing research, the thesis makes a valuable contribution to the understanding of organizational dynamics and the cultivation of human capital in the contemporary business landscape.

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Questionnaire

<u>Demographic Data:</u>

- Age

- Sex

- Occupation

1. <u>Does your organization use quality management system?</u>

   a. Yes   b. No

2. <u>Has your organization implemented TQM principles?</u>

   a. Yes   b. No

3. <u>Does your organization use HSSE management system?</u>

   a. Yes   b. No

4. <u>Has your organization implemented HSSE management principles?</u>

   a. Yes   b. No

5. *How has the implementation of TQM and HSSE management principles affected your organization's performance?*<u>on 1-5 scale where 1 means no change and 5 means significant improvement</u>

   No change   Improved significantly
   1   2   3   4   5

6. *How has the implementation of TQM and HSSE management principles affected your organization's culture?*<u>on 1-5 scale where 1 means no change and 5 means significant improvement</u>

   No change   Improved significantly
   1   2   3   4   5

7. <u>Quality and security management:</u>
- *To what extent do you agree that your organization has effective quality and security management practices in place?*<u>on 1-5 scale where 1 means do not agree and 5 means strongly agree</u>

   Do not agree   Strongly Agree

1   2   3   4   5

- *You have training and development opportunities related to quality and security management.* on 1-5 scale where 1 means do not agree and 5 means strongly agree

Do not agree   Strongly Agree
1   2   3   4   5

- *How often are quality and security issues addressed in a timely and effective manner?* on 1-5 scale where 1 means seldom and 5 always

Seldom   Always

1   2   3   4   5

8. Human capital building:

- *Do you agree that your organization invests in the development of its employees?* on 1-5 scale where 1 means do not agree and 5 means strongly agree

Do not agree   Strongly Agree
1   2   3   4   5

- *How would you describe the level of career development opportunities within your organization?* on 1-5 scale where 1 means low and 5 means very high

 Low   Very High
1   2   3   4   5

- *How often do employees receive performance feedback and evaluations?* on 1-5 scale where 1 means seldom and 5 always

Seldom   Always

1   2   3   4   5

9. Impact of quality and security management on human capital building:

- *Is there a change in employee motivation and engagement in organizations with effective quality and security management practices compared to those without?* on 1-5 scale where 1 means no change and 5 means significant improvement

No change   Improved significantly
1   2   3   4   5

- *How important do you believe effective quality and security management practices are in building human capital in your organization?* on 1-5 scale where 1 means not important and 5 means significant very important

Not Important   Very Important
1   2   3   4   5

10. Mediating factors:

- *There are factors mediate the relationship between quality and security management practices and human capital building in organization* on 1-5 scale where 1 means do not agree and 5 means strongly agree

Do not agree   Strongly Agree

1   2   3   4   5

- *How much do you agree with the statement that organizational culture plays a role in this relationship?* on 1-5 scale where 1 means do not agree and 5 means strongly agree

Do not agree   Strongly Agree

1   2   3   4   5

- *How important do you believe it is to have a comprehensive approach to managing quality and security, including the development of human capital?* on 1-5 scale where 1 means not important and 5 means significant very important

Not Important   Very Important

1   2   3   4   5

11. Organizational culture:
- *How much do you agree that your organization's culture is positive and supportive?* on 1-5 scale where 1 means do not agree and 5 means strongly agree

Do not agree   Strongly Agree

1   2   3   4   5

- *How often are employees recognized and rewarded for their contributions?* on 1-5 scale where 1 means seldom and 5 always

Seldom   Always

    1   2   3   4   5

12. Quality and security management:
- *How much do you agree that your organization has effective quality and security management practices in place?* on 1-5 scale where 1 means do not agree and 5 means strongly agree

Do not agree   Strongly Agree

1   2   3   4   5

- *How would you describe the level of training and development opportunities related to quality and security management?* on 1-5 scale where 1 means low and 5 means very high

Low   Very High

1   2   3   4   5

13. Mediating role of organizational culture:
- *How much do you agree that a positive and supportive organizational culture enhances the impact of quality and security management on human capital building?* on 1-5 scale where 1 means do not agree and 5 means strongly agree

Do not agree   Strongly Agree

1   2   3   4   5

- *Do you agree there is the impact of quality and security management practices on human capital building in organizations with positive versus negative cultures?* **on 1-5 scale where 1 means do not agree and 5 means strongly agree**

Do not agree   Strongly Agree

1   2   3   4   5

- *Do you agree organizational culture is in determining the success of quality and security management practices in building human capital?* **on 1-5 scale where 1 means do not agree and 5 means strongly agree** Do not agree

Strongly Agree

1   2   3   4   5