DIPARTIMENTO DI INGEGNERIA INDUSTRIALE
E SCIENZE MATEMATICHE

CORSO DI LAUREA MAGISTRALE IN INGEGNERIA GESTIONALE

"Resistance to Change in Logistics Program Implementation: A Case Study of Tre Elle Using the Technology Acceptance Model (TAM)."

"Resistenza al cambiamento nell'implementazione di un programma logistico: studio di caso su Tre Elle utilizzando il Technology Acceptance Model (TAM)."

RESEARCH THESIS

Studente:
PAMELA VERA BENITEZ

Relatore Chiar.ma:
PROF. MICHELA SIMONCINI

Correlatore Aziendale:
STEFANO LUZI

ANNO ACCADEMICO 2023-2024

A Iacopo e la sua famosa frase:
“Il meglio deve ancora venire”

SUMMARY

LISTS OF FIGURES

LIST OF TABLES

SUNTO DELLA TESI

La resistenza al cambiamento rappresenta una sfida rilevante per le aziende che desiderano implementare nuove tecnologie o modifiche organizzative. Secondo Edwards (2019), circa il 70% dei progetti tecnologici fallisce a causa della mancata accettazione da parte dei dipendenti, con effetti negativi su risorse, produttività e redditività aziendale. Questa problematica è emersa anche presso Tre Elle, dove l'introduzione del software gestionale "TSE" ha incontrato numerose difficoltà. In particolare, molti dipendenti preferiscono continuare a utilizzare il sistema precedente, inserendo i dati in modo approssimativo nonostante il nuovo programma sia stato sviluppato per migliorare la tracciabilità dei materiali e semplificare i flussi operativi.

Per analizzare e affrontare questa situazione, lo studio si basa sul Technology Acceptance Model (TAM), un modello ampiamente utilizzato per comprendere l'adozione delle tecnologie. Il TAM identifica due fattori principali che influenzano l'accettazione: la percezione dell'utilità (Perceived Usefulness - PU) e la percezione della facilità d'uso (Perceived Ease of Use - PEOU).

Tuttavia, per adattare il modello al contesto di Tre Elle, sono stati introdotti due fattori esterni non originariamente previsti dal TAM: il supporto manageriale (Support from Management - SFM), la formazione (Training - TRA) e le Generazioni. Questi elementi sono stati aggiunti per considerare l'importanza del supporto organizzativo e delle attività formative nel promuovere l'adozione del nuovo software.

I risultati dello studio evidenziano che la percezione dell'utilità (PU) esercita un impatto significativo sia sull'intenzione comportamentale di utilizzo (Behavioral Intention to Use - BIU) sia sull'uso effettivo (Actual Use - AU) del sistema. Al contrario, la percezione della facilità d'uso (PEOU), il supporto manageriale (SFM) e la formazione (TRA) hanno avuto un ruolo secondario. Questi dati suggeriscono che l'azienda dovrebbe concentrarsi sul miglioramento della percezione dell'utilità del software, mostrando concretamente come esso possa semplificare le attività lavorative e migliorare i risultati operativi.

Per affrontare le resistenze incontrate, sono state proposte alcune iniziative mirate. La prima consiste in sessioni di formazione interattive, mirate a dimostrare i benefici pratici del software e a fornire agli utenti competenze

specifiche per il loro utilizzo. La seconda proposta prevede una campagna di sensibilizzazione interna, con comunicazioni regolari e sessioni informative per enfatizzare il valore strategico del sistema. Infine, si raccomanda l'istituzione di un meccanismo di feedback continuo, come sondaggi trimestrali e un canale dedicato, per raccogliere input utili al miglioramento del software e all'identificazione di ulteriori necessità formative.

L'approccio metodologico adottato segue il ciclo PDCA (Plan-Do-Check-Act), una struttura che consente di monitorare e migliorare continuamente le iniziative. In fase di pianificazione, sono stati identificati i problemi principali e definiti i fattori chiave da analizzare: PU, PEOU, SFM, TRA. Durante la fase di implementazione, il software è stato installato e sono stati raccolti dati attraverso questionari per analizzare l'impatto di questi fattori sull'adozione. I risultati dell'analisi hanno confermato l'importanza della PU, suggerendo di prioritizzare attività che ne migliorino la percezione.

In conclusione, l'adozione del sistema gestionale "TSE" dipende in modo cruciale dalla capacità dell'azienda di migliorare la percezione dell'utilità del software, integrando al contempo il TAM con fattori esterni come il supporto manageriale (SFM) e la formazione (TRA). Le iniziative proposte, se

implementate seguendo un approccio strutturato e iterativo come il PDCA, consentiranno a Tre Elle di superare la resistenza al cambiamento, migliorare il coinvolgimento dei dipendenti e garantire una crescita sostenibile. Questo approccio integrato promuove non solo l'adozione del software, ma anche una cultura aziendale orientata all'innovazione e al miglioramento continuo.

INTRODUCTION AND PROBLEM STATEMENT

It is known that resistance to change can represent a threat to every company that is looking to implement changes in the organization. In general, the dangers of adverse employee reactions that can inhibit changes in an organization, it is necessary to discuss how to overcome resistance to change. (Damawan, A. and Azizah, S, 2020)

According to research conducted by Monique Edwards (2019), “approximately 70% of technology projects fail, which negatively impacts resources, productivity, and organizational profitability due to employees' lack of acceptance of technological change."

Whether it involves reengineering, total quality management, restructuring, or any other organizational overhaul program, the objective is typically to initiate or facilitate the necessary change processes within the company (Pfeifer, Smith & Voigt, 2005).

Tre Elle leaders have mentioned that encountering resistance was a widespread issue when they tried to modify processes or other systems. As per one leader, this resistance manifested through frequent pushback and statements such as, "That's not how I do this" while they were asked to implement the new system in their everyday activities.

It has been decided to implement the program step by step:

1. Acceptance of purchased materials (sheet metal, tubes, drawn products, commercial hardware, etc.)
2. Transfer of purchased material to production (we are still working on this)
3. Transfer of production material to the warehouse ready for shipment
4. Sending for job processing
5. Acceptance of the job processing
6. Sale

Since the functionalities of the "Programma Gestionale TSE" are already supported by the current management system, there is a tendency to use the old one instead of trying the new one. The new logistics program foresees that when

something is taken over (an article "p" of the material), it must be allocated precisely. This business decision was made to have greater traceability of the material, but it makes the work more burdensome. For this reason, employees, now that they are in a period where the use of both management systems is allowed, tend to be approximate and not to mark exactly the location of all codes or materials. At the same time, the system should lighten the workload by allowing documents to be recorded and scanning a barcode rather than searching for the code on the computer.

The resistance to technological change poses a significant challenge for Tre Elle as it strives to enhance operational processes through the introduction of "Programma Gestionale TSE." Despite the potential advantages of the system, the reluctance of employees to fully adopt this new technology underscores the necessity of a strategic change management approach. This resistance reflects wider industry trends, where the lack of user acceptance often leads to the failure of technology projects, a crucial issue that cannot be ignored.

This study aims to comprehensively examine the impact of perceived usefulness, ease of use, training, and managerial support in addressing these challenges and facilitating successful adoption. In the subsequent chapter, we

will delve deeper into Tre Elle's organizational context and problem statement, laying the groundwork for a detailed exploration of the proposed solutions.

Chapter 1

TRE ELLE

Tre Elle, stands as a leader Marche's company in the mechanical sector, specializing in the sheet metal blanking. With over seven decades of expertise, Tre Elle consolidates its position as a top-tier company within its regional industry.

Figure 1 Official Logo

1.1 Company History

Tre Elle Srl, a company that has its roots in the artisan company that Fernando Luzi, opened in 1951. Even today, when there are more than ninety workers, Stefano Luzi, his son who is also the current CEO, declares that it is an «artisan company with an industrial attitude».

Operating in the mechanical field, the company has opened a sector: Daca furnishings, to build designer display cases and supply them to the fashion and museum sectors.

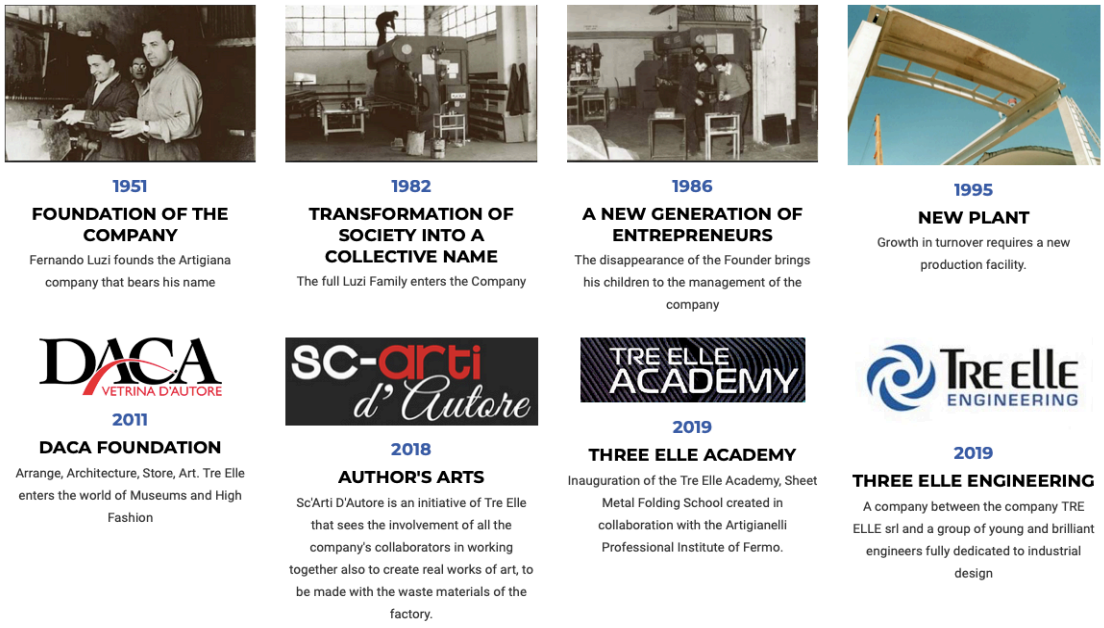

Figure 2 Tre Elle's timeline

1.2 Tre Elle's Identity

Tre Elle operates at production facilities in Fermo, Italy, where all products are manufactured internally. Additionally, they exclusively engage with suppliers who meet stringent quality criteria. Their continual investment in research and development underscores their dedication to offering customers innovative solutions rooted in technology and excellence. This commitment drives ongoing collaboration with design engineers, Sheet Metal Folding and Artisanal Professional Schools, to create innovative product offerings.

1.3 Company Values

The business future is based on a concrete vision shared and validated by the team of partners and workers who influence it and become, at the same time, its true ambassadors.

- Product quality
- Customer Satisfaction
- Professional Team

1.4 Products and Services

Tre Elle can design and manufacture any metal object or structure requested by the customer. The technical office, supported by extensive experience and CAD/CAM software, offers excellent service in terms of quality. The company is constantly growing, especially due to its cutting-edge technological innovation and continuously updated and strengthened technical expertise. Today, the company operates within its 3,200 square meters with 40 employees.

The laser cutting department features only state-of-the-art equipment, fully automated and controlled by dedicated software. In particular, the presence of a machine equipped with fiber optic laser cutting allows Tre Elle not only excellent performance in terms of execution speed and energy savings, but also

perfect modulation of cutting power based on the materials processed, including materials such as copper, brass, and titanium. This gives the customer greater efficiency in terms of time and high-quality finishing of the processed pieces. With a wealth of experience, the technical staff can support the customer in the design and realize the right processes that optimize the costs of the product. The presence of a technical management composed of a staff that studies, in partnership with the customer, the most innovative and economically advantageous solutions add value to the final product.

1.5 Process Approach

Tre Elle believes that process management effectively and efficiently achieves the expected results.

Process management ensures:

- Understanding and consistently meeting requirements.
- Considering processes in terms of added value.
- Achieving effective process performance.
- Process improvement based on data and information evaluation.

The process approach is applied using the PLAN-DO-CHECK-ACT methodology, with particular attention to Risk-Based Thinking as a preventive measure.

The following figure graphically illustrates the process management mechanism.

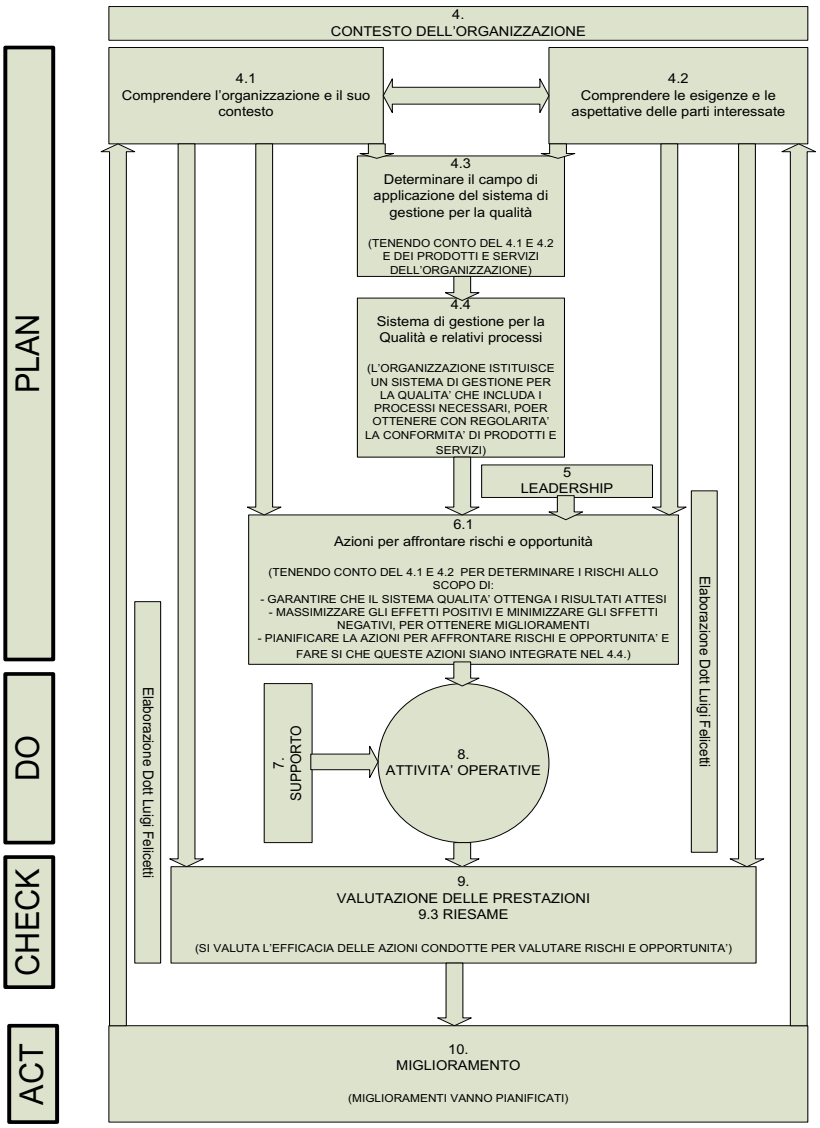

Figure 3 Tre Elle's PDCA

1.6 Risk-Based Thinking

The effect of uncertainty on a specific outcome and the concept of risk-based thinking are considered within the Quality Management System of the company Tre Elle.

Tre Elle considers this concept implicit and incorporates it into the requirements to establish, implement, maintain, and continually improve the Quality Management System. Tre Elle adopts a particular methodology for the adoption of the risk-based thinking approach, based also on ISO 31000, which provides guidelines for it. The company has established for each process the levels of risk in terms of the organization's ability to achieve set objectives and the consequences on processes, products, services, and system non-conformities.

For Tre Elle, "Risk-based thinking" means considering risk qualitatively and dependent on the qualitative context of the company. The rigor and degree of formality required to plan and control the Quality Management System, as well as its processes and activities, are defined.

1.7 Compatibility and Integration with Other Business Management Systems

Tre Elle has adopted other management systems, in particular the Management System according to ISO 14001 (Environmental Management System) and ISO 45001 (Safety) and complies with many requirements provided by regulations in the field of occupational safety and GDPR data management Regulation 679/2016.

For this reason, the Management has established to integrate the mandatory activities into the processes controlled by this Quality Management System considering the following requirements:

- Business context
- Leadership, policy, and responsibility
- Processes for planning and considering risks and opportunities
- Processes related to customers, products, and services
- Performance evaluation processes
- Processes for improvement

1.8 Reference Standards

Tre Elle has developed the Quality Management System in accordance with the standards:

- ISO 9000:2015
- ISO 9001:2015
- ISO 9004:2015

The following regulations are considered relevant for the proper implementation of the system:

- GDPR 679/2016 Personal data protection
- Legislative Decree 81/2008 Consolidated text on occupational safety

1.9 Business context and scope

Tre Elle Company has determined and constantly verifies and reviews internal and external issues, and how these may have an effect on its actual ability to consistently provide products and/or services that meet customer requirements and/or legal and regulatory requirements, or on the expected outcomes of the Quality Management System.

The company has two main characteristics: the customization of products requested by customers and total service on requested products.

To achieve all this over the years, the Company has aimed at constantly renewing the technology available from the machine tool market and, also at completing the range of processes to be able to be autonomous from a production point of view except for external treatments such as painting, galvanizing, and others. Currently, they are 80% independent in the turning sector of products serving our finished product.

Numerous external factors, some non-recurring, have marked the 12 months since certification, although some originated previously:

1. the ongoing pandemic
2. macroeconomic effects stemming from the pandemic
3. the conflict in Eastern Europe
4. some primary supply chains in difficulty
5. inflation

1.10 Service Characteristics

The company specializes in the construction of metal structures for industry and metal furnishings. Tre Elle Srl is distinguished by its capacity to offer a fully customized and comprehensive service for the design and manufacturing of metal products. The company's in-house production, supported by state-of-the-art laser cutting technology, ensures precise and efficient processes. Their

approach combines technological innovation, expert technical support, and process management, aligning with ISO standards for quality, safety, and environmental responsibility.

1.11 Locations

The physical locations are described in the slide below. The company TRE ELLE Srl is located at C.da Ete No.17, in the municipality of Fermo, in the province of Fermo (FM), 63900.

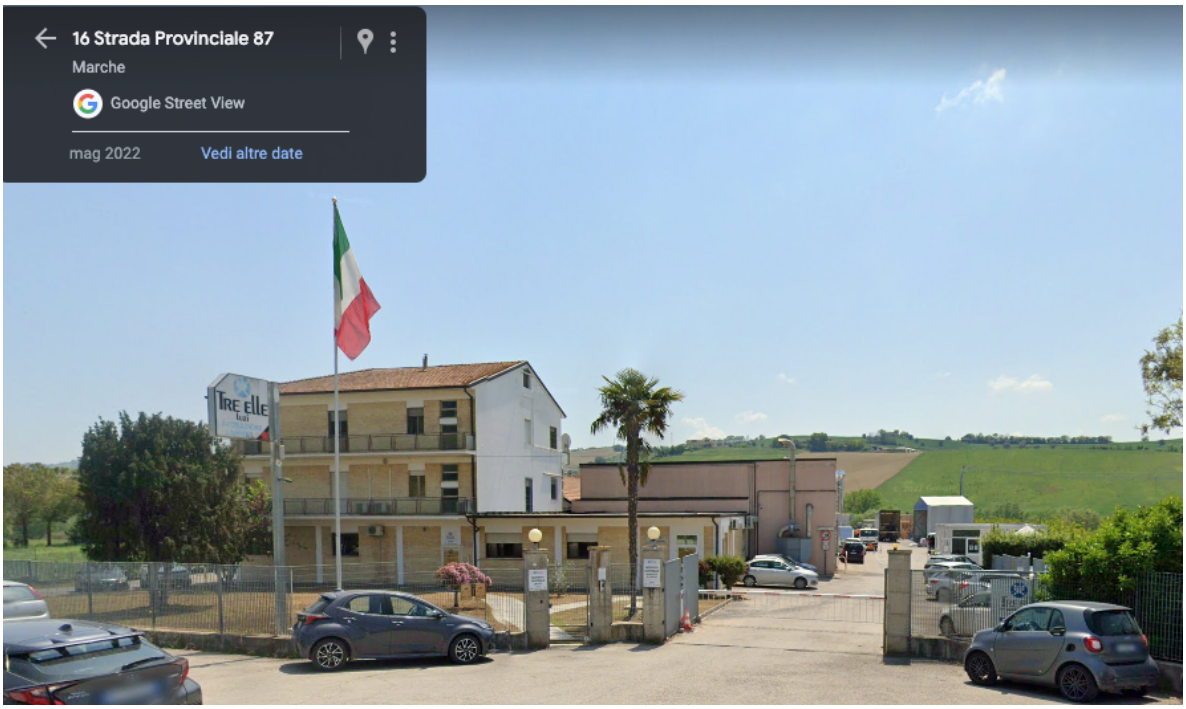

Figure 4 Tre Elle SRL

Location of TRE ELLE Srl, Central Italy, Marche region.

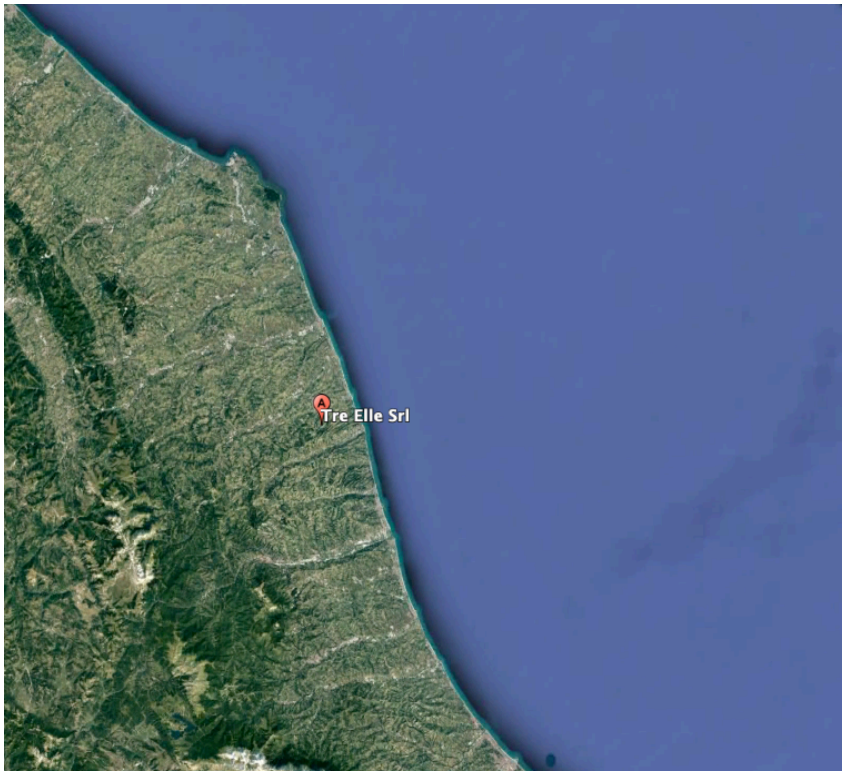

Figure 5 Tre Elle's Location

1.12 Technological Context

The company carries out proper preventive and extraordinary maintenance, and throughout the year 2022, new machinery has been purchased with a strong emphasis on the level of production automation. Innovations are necessary to maintain competitiveness in the market, integrate with customers and suppliers, and ensure business continuity. Furthermore, Tre Elle carries out internal design and development of some products in collaboration with clients, finding innovative solutions.

1.13 Employee social context

In general, company training plans are respected, and the quality office conducts periodic evaluations of training gaps through a skill matrix. Continuous training and skill development are prioritized through partnerships with professional schools, ensuring employees stay ahead of technological advancements. The company promotes well-being, creating a supportive and inclusive workplace that enhances motivation and productivity.

1.14 System Processes

The company is divided into the following primary processes:

1) Process Planning
2) Procurement and Supplier Qualification
3) Product Design
4) Internal Manufacturing and Outsourced Manufacturing

The company is divided into the following support processes:

1) Training and Development
2) Customer Satisfaction Monitoring
3) Infrastructure Management/Maintenance
4) Measurement Equipment Management

1.15 Documented Information

From a systemic point of view, documented information is based on:

1) Operating Procedures
2) Operating Instructions
3) Forms

1.16 Suppliers

The main suppliers are:

- ARCELOR MITTAL
- VENETA NASTRI
- OIKI
- CENTRO IMBALLAGGI
- SAPIO

1.17 Organizational Climate

Employees expect to work in a good workplace, compliant with current regulations (including labor laws and privacy), and payment deadlines. The company climate is good, and there have been no significant disputes in recent years.

1.18 Stakeholders

Tre Elle Company has developed and maintains a specific procedure for monitoring and reviewing stakeholders identified for the Quality Management System and the requirements applicable to them. As for the year 2022, the level of the previous year is maintained.

1.19 Scope and Application of the Quality Management System

The Quality Management System of Tre Elle Company is compliant with the ISO 9001:2015 model with the following scope:

TRE ELLE S.R.L.
Sede legale o principale - CONTRADA ETE
17 - 63900 - Fermo (FM) - Marche

Scopo: PROGETTAZIONE E COSTRUZIONE DI CARPENTERIA METALLICA PER L' INDUSTRIA METALMECCANICA E L'ARREDO

Norma: UNI EN ISO 9001:2015
Schema di Accreditamento: SGQ
Settori: **17**

Figure 6 UNI EN ISO 9001:2015

1.20 Quality Policy

According to UNI EN ISO 9001:2015, Tre Elle Srl defines the primary objective of its Policy as: The full Satisfaction of Customers, the compliance with Legal Requirements and other regulations subscribed to by the organization, Laws and Regulations, it considers essential, in order to maintain

and improve its competitiveness, a constant commitment to Quality in every sector of the company that deals with "Design and construction of structural metalwork for the Mechanical Engineering and Furniture Industry".

1.21 Business Model Canvas

The Business Model Canvas emphasizes key partnerships with suppliers and subcontractors while focusing on the design and construction of metalwork solutions. Flexibility and skilled personnel are vital resources. The Value Proposition centers on flexibility in product implementation. Customer Relationships are loyalty-based, with the sales department handling Customer Segments. Channels include commercial partners and internal sales support, ensuring flexibility and customer-focused solutions.

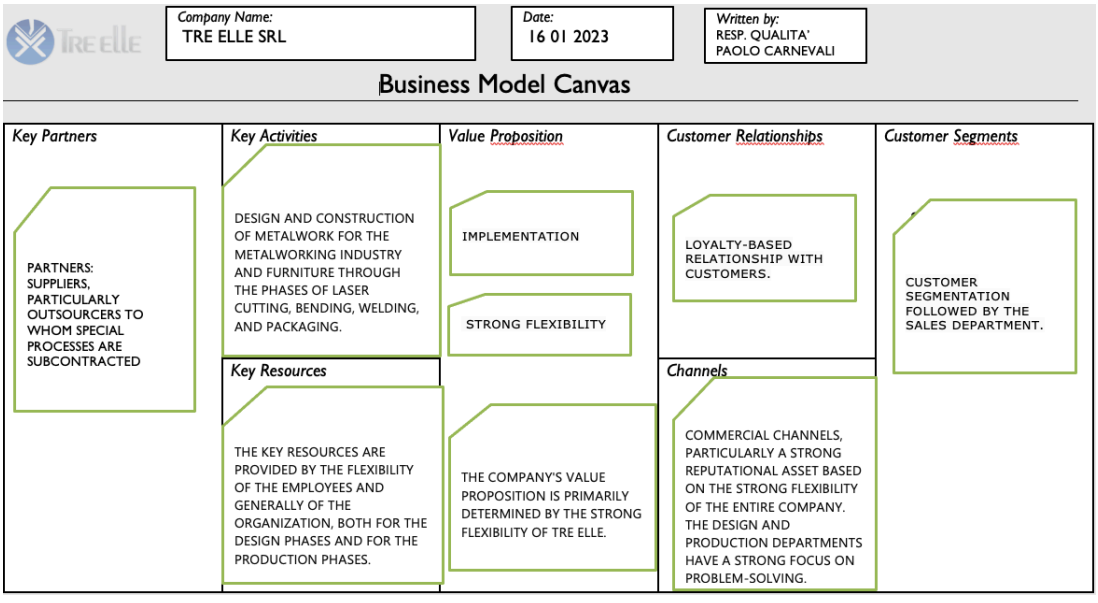

Figure 7 Tre Elle's Business Model Canvas

Chapter 2

ORGANIZATIONAL CHANGE

Change is not only a possibility but a constant in life and in organizations. Stability and balance are temporary conditions that can be disrupted at any time by various internal and external forces. Understanding and preparing for this inevitability is essential for resilience and success.

4.4 Organizational Change

In the context of organizations, the ability to adapt to change has become fundamental to their survival and long-term success. Effective change management, including clear vision, strong leadership, stakeholder engagement, effective communication, risk management, flexibility, employee empowerment, and sustainment and reinforcement, is the key to navigating these changes and remaining relevant and competitive.

Those organizations capable of anticipating and effectively managing change have a significant advantage in the market. This implies not just adapting to external changes, but also fostering an internal culture that promotes innovation, flexibility, and continuous learning. This culture can inspire and motivate employees to embrace change and drive the organization forward.

Organizational change has been defined by various authors in different ways, reflecting its multifaceted nature and importance in management literature.

The Cambridge Dictionary defines Organizational change as “a process in which a large company or organization changes its working methods aims, for example in order to develop and deal with new situations or markets”. (Cambridge Dictionary, 2024)

A pioneering psychologist in the field of organizational change, Lewin defined it as "a modification or transformation of the organization's structure, processes or culture, to improve the organizational performance and effectiveness." (Lewin, 1947)

This denotes a substantial adjustment in the framework, procedures, ethos, or tactics of a sizable corporation or entity, intended to accommodate new circumstances, markets, technologies, or other internal or external influences. Organizational change encompasses a range of elements, including the reorganization of departments, the adoption of new technologies., reevaluation of operational procedures, or even transformation of the organizational ethos to foster adaptability and innovation. The primary objective of such change endeavors is to enhance performance, competitiveness, and overall efficacy in response to shifting conditions.

4.5 The Change Process

The change process in an organization typically involves several stages or steps, often called change management. “Change processes have a set of starting conditions (point A) and a functional endpoint (point B). The process in between is dynamic and unfolds in stages.” (Miller, 2020)

The dynamic process of change stages has garnered substantial attention within management literature. Its multifaceted nature and profound significance have sparked diverse interpretations among authors. Their insights offer compelling reasons to understand the intricacies of change stages and their pivotal role in driving organizational success.

Once the need is established, developing clear objectives and a structured change plan is crucial. This plan should articulate the vision, outline specific steps, and allocate resources and responsibilities.

Implementation should be carefully managed and closely monitored to track progress and make necessary adjustments. It's important to incorporate the changes into the organizational culture through ongoing support and training, which helps sustain the transition. Evaluating the outcomes against initial objectives provides valuable insights for future change initiatives, fostering a culture of continuous improvement.

4.6 Theoretical Models of Change Management

This section is intended to outline the prominent change management models described in the literature. Several authors and researchers in organizational change management have proposed various theoretical models of change. Some of the most prominent theoretical models include:

4.6.4 Lewin´s Change Management Model

This three-stage model, developed by Kurt Lewin and known as the "unfreeze-change-refreeze" model, is commonly used in organizational change management.

Lewin emphasized the link between how people think and behave, highlighting the impact on their response to situations and their method of implementing change. “How a problem or situation is perceived can influence the action taken to address it, and that action can shape future perceptions and fact-finding. Lewin emphasized the interdependence of an individual or group’s cognitive and behavioral processes and believed this circular feedback loop was essential to his approach to change.” (Alvarado, 2024)

Even though it may be considered somewhat outdated, managers sometimes use this model as a planning tool. The model includes the following primary phases:

1. **Unfreeze:** Before any change can occur, the existing situation must be unfrozen or loosened. This initial phase is crucial and often met with resistance from team members. It involves preparing the organization for change by creating awareness of the need for change and overcoming any resistance to it. This might involve communicating the reasons for change, addressing

concerns, and building a sense of urgency among employees. Effective communication and awareness-raising are vital during this stage.

2. **Change:** The second phase involves the actual transition process. This may involve introducing new processes, structures, technologies, or ways of working. It's important to support employees through this transition by providing training, resources, and ongoing communication. Transition encompasses personal changes, including individuals' reactions and adjustments to the proposed changes. The adaptation period may vary for each person and is an internal process.

3. **Refreeze:** Once the change has been implemented, this stage focuses on stabilizing the new state and ensuring that the changes become embedded into the organization's culture and practices. This might involve reinforcing new behaviors, celebrating successes, and adjusting as needed to sustain the change. This entails embedding the newfound knowledge into the company's culture and operational practices, ensuring lasting integration.

4.6.5 Kotter's Eight-Step Change Model

The Kotter Eight-Step Change Model, developed by Dr. John Kotter, a professor at Harvard Business School, is a widely used framework for managing organizational change. This model provides a structured approach to effectively

navigate change within an organization. It focuses on steps such as creating a sense of urgency, forming a powerful coalition, creating a vision for change, communicating the vision, empowering employees, generating short-term wins, consolidating gains, and anchoring new approaches in the culture.

"Kotter […] discussed the practices of leading change in terms of creating the climate for change by creating a sense of urgency, forming a powerful guiding coalition, developing and communicating a vision, engaging and enabling the whole organization by removing obstacles, and implementing and sustaining change by building on change." (Onia, 2022)

Here are the eight steps of the Kotter model:

1. Create Urgency: Establish a sense of urgency among stakeholders about the need for change. This involves communicating the reasons behind the change and the potential consequences of not changing.

2. Form a Powerful Coalition: Build a team of influential individuals who can champion the change effort and provide support throughout the process. This coalition should include leaders from various levels of the organization.

3. Create a Vision for Change: Develop a clear and compelling vision that outlines the desired future state of the organization. The vision should be easy

to understand, inspire employees, and align with the organization's values and goals.

4. Communicate the Vision: Effectively communicate the vision to all stakeholders, emphasizing the benefits of the change and addressing any concerns or questions they may have. Communication should be ongoing and transparent.

5. Remove Obstacles: Identify and address any barriers or obstacles that may impede the progress of the change initiative. This may involve restructuring processes, reallocating resources, or addressing cultural issues.

6. Create Short-Term Wins: Celebrate early successes and milestones to build momentum and demonstrate the change effort's benefits. These small victories help motivate employees and reinforce the change's importance.

7. Build on the Change: Use the momentum from the initial wins to tackle larger challenges and continue driving progress toward the vision. This may involve making further adjustments to processes, systems, or behaviors.

8. Anchor the Changes in Corporate Culture: Embed the changes into the organization's culture and practices to ensure they become the new norm. This involves reinforcing the new behaviors, values, and processes through leadership actions and recognition.

The Kotter model emphasizes the importance of leadership, communication, and stakeholder engagement throughout the change process.

4.6.6 ADKAR model

The acronym derives from the English words Awareness, Desire, Knowledge, Ability, and Reinforcement. Progressing through each step enables advancement to the subsequent one. The model offers a straightforward procedure to assist individuals in recognizing the necessity for change, fostering a desire to participate, and aiding them in acquiring knowledge that will eventually translate into new skills. The final phase of the process entails activities aimed at reinforcing these fresh behaviors, routines, and proficiencies, thereby fostering a new organizational culture.

Awareness – Building awareness stands as the initial phase in any change endeavor. Change necessitates stepping beyond comfort zones and navigating uncertain environments. This may induce stress and significantly affect an individual senses of security. Resistance to change is an inherent human trait; hence, communication leveraging data, statistics, and trends should underscore the imperative for change, offering expectations and forecasts to rationalize the requisite efforts.

Desire – Simply raising awareness proves insufficient. The subsequent step ensues when individuals desire to support and engage in the change process. To achieve this, communication must become more targeted, primarily through face-to-face interactions with select local groups. This stage highlights the significance of supervisors and coordination managers who should understand their team members and be able to motivate them effectively.

Knowledge – Awareness and desire serve as foundational elements for accessing knowledge about one's capabilities and role within the new organizational framework. Thus, it becomes imperative to adequately train individuals, aiding them in developing knowledge commensurate with the new requirements. A well-structured training program necessitates an evaluation of the affected population, assessing each group's existing skill set, and a comparison with the desired level of knowledge.

Ability—This stage heralds the actualization of genuine change. Preceding phases lay the groundwork by fostering awareness, desire, and training for new methodologies. Now is the time to translate learning into action, effectively initiating genuine change. Consistent practice and time are indispensable to facilitate the transformation of newfound knowledge into practical skills, alongside the optimization of relevant tools. Typically, this phase involves the intervention of a trainer to ensure correct implementation.

Reinforcement – At this juncture, the groundwork is laid for establishing a new organizational culture. This represents the final phase, yet it harbors potential pitfalls of failure. The human brain exhibits a natural propensity to revert to former patterns. Therefore, vigilance is essential to enable individuals to utilize their newfound skills effectively. Rectifying any dysfunctions and, conversely, reinforcing positive behaviors through rewards and recognition is vital. Engaging a coach to guide, motivate, and steer individuals in the right direction can expedite the process. Given the prolonged period of monitoring and reinforcement, opportunities for further improvement may emerge, necessitating periodic reviews. This cyclical approach aligns with the principles of the Agile methodology and offers a fresh interpretation of the ADKAR model.

4.7 Effective change management

Effective change management is crucial for organizational success in today's rapidly evolving business environment. It encompasses the strategic planning, seamless implementation, and proficient management of change within an organization, aiming to reduce disruptions and optimize the chances of success. The key components and guiding principles of effective change management are as follows:

Change initiatives should be guided by a clear vision of the desired future state and well-defined objectives. It is crucial to communicate this vision effectively to all stakeholders to ensure alignment and commitment. Leadership plays a pivotal role in the process, as leaders must champion the change, provide direction, and actively support the various stages. Their involvement is vital in inspiring confidence and motivating employees.

Engaging stakeholders at all levels, including employees, managers, customers, and other relevant parties, is crucial for successful change management. Early involvement, seeking feedback, and addressing concerns are essential steps to garner support and commitment. Open and transparent communication is pivotal to effectively managing change. Leaders should clearly articulate the reasons for change, its anticipated impact, and the roles and responsibilities of stakeholders. Communication should be timely, consistent, and tailored to different audiences' needs.

Risk management is another vital aspect, as change initiatives often pose risks such as employee resistance, operational disruptions, and unforeseen challenges. Effective change management entails identifying potential risks,

developing mitigation strategies, and proactively addressing issues as they emerge. Organizations should also embrace a flexible and adaptive approach, as change is seldom linear or predictable. Agility is crucial for adjusting plans and strategies based on feedback and evolving circumstances, thus enhancing the likelihood of success.

Empowering employees is indispensable for the success of the change process. Providing adequate training, resources, and support enables employees to adapt to new ways of working and contribute positively to the initiative. Recognizing milestones and achievements helps sustain momentum and morale throughout the change process. Additionally, nurturing a culture of continuous learning and improvement is crucial, wherein failures are perceived as opportunities for growth, and valuable lessons are applied to future endeavors.

Lastly, sustaining and reinforcing change efforts over the long term is essential, as change is an ongoing process. Organizations must focus on integrating new behaviors and practices into the organizational culture to ensure lasting and effective change.

Adhering to these principles and practices can significantly enhance organizations' ability to manage change effectively and increase the likelihood of achieving their desired outcomes.While structural, technological, and procedural changes are necessary to facilitate organizational change, it is crucial to recognize that people are the driving force behind actual change.

Effective change managers must understand and manage the human component of change, which involves motivating and engaging employees, providing adequate training and support, and addressing resistance to change.

Resistance to change is a common and natural phenomenon that can impede progress in change initiatives. Change managers need to collaborate with business leaders to minimize this resistance by engaging employees in the change process, effectively communicating the reasons and benefits of change, and providing support during the transition.

The success of a change initiative relies on effectively managing the human aspect of the organization. Addressing resistance to change proactively and collaboratively is a crucial part of this process.

Chapter 3

RESISTANCE TO CHANGE

Overcoming resistance to change is a significant challenge for management. Organizations must first identify the underlying reasons, factors, and forces contributing to this resistance. Once these are understood, they can develop and implement strategies to address and mitigate the issues. Successfully executing these strategies enhances employee performance and helps management effectively navigate and reduce resistance to change.

Resistance to change is common when individuals or organizations face disruptions to their established routines or environments. According to Kotter in his book Leading Change (1996), change resistance refers to "those actions or inactions by individuals or groups that serve to either maintain the status quo or, failing that, to slow the process of change."

Ford, Ford, and D'Amelio (2008) in their article on resistance to change suggest that it encompasses "behaviors that hinder the implementation of a change initiative or that actively seek to maintain the status quo."

Armenakis and Bedeian (1999) define change resistance as "the behavior exhibited by individuals or groups when they perceive that a change is a threat to them or their interests." They emphasize that resistance can arise from fear of the unknown, loss of control, or disruption of existing routines and roles. This definition underscores the psychological and emotional aspects of resistance, noting that it often stems from perceived threats to personal or group stability within an organization.

Resistance to change can be defined as the active or passive behavior exhibited by individuals or groups to maintain the status quo or impede the implementation of change. This resistance is often fueled by fear, perceived threats, or the disruption of existing routines.

Various factors, including fear of the unknown, often drive this resistance. Uncertainty about future outcomes can generate anxiety and reluctance to embrace change. “As organizations face increasing pressures to adapt to their

complex and rapidly changing environments, they are forced to change and innovate to survive. Since employee buy-in and ownership of the change process is key to ensuring successful implementation of change initiatives, it is paramount to understand what causes resistance to change.” (El-Taliawi, 2018)

The perceived loss of control over one's environment or responsibilities can intensify opposition, as individuals may feel their autonomy is being eroded. Concerns about potential status or job security losses can further compound resistance, especially when organizational changes jeopardize established roles or job stability.

The disruption of familiar practices, which offer comfort and predictability, can also lead to resistance, as adapting to new ways of working may be seen as inconvenient or challenging. Moreover, resistance is often fueled by mistrust or a lack of confidence in the leadership driving the change, mainly if the motives behind the change could be more transparent or better communicated. "Effective communication of the vision helps people understand the change and why it is necessary, thus reducing resistance by addressing fears and uncertainties." (Kotter, 1996)

Inadequate communication exacerbates the issue, leading to misunderstandings, rumors, and fear. Different perceptions of the situation can also contribute to resistance, as individuals may view the need for change differently and believe the proposed changes are unnecessary. "Short-term wins help to build momentum and demonstrate that the change is working. This visibility of progress helps to counteract resistance by showing that the change effort is succeeding. (Kotter, 1996)

Fear of failure plays a significant role, as individuals may doubt their ability to cope with new demands or technologies, further solidifying their resistance.

"To effectively manage resistance, it is crucial to understand its underlying causes and address them directly rather than merely focusing on the symptoms." (Armenakis & Bedeian, 1999) To successfully manage resistance to change, it is essential to understand and tackle its root causes, actively involve those impacted by the change, ensure clear and open communication, and engage stakeholders to build a sense of ownership and minimize resistance.

Rosabeth Moss Kanter, in her article Ten Reasons People Resist Change (2012), describes how organizational change often brings resistance, which can

manifest in various ways, from outright rebellion to subtle inertia. Common sources of this resistance include a perceived loss of control, where individuals feel their autonomy is threatened, and excess uncertainty, which makes change seem daunting. Sudden or unexpected changes can provoke resistance, making gradual introduction and communication crucial. Additionally, too many changes at once can overwhelm people, while concerns about competence and increased workload can further hinder acceptance. The ripple effects of change can disrupt other departments or stakeholders, and past resentments may resurface, complicating the transition. Finally, genuine threats such as job loss or investment risks require leaders to be honest and fair. By addressing these factors thoughtfully—involving affected parties, providing clear communication, and offering support—leaders can minimize resistance and facilitate a smoother transition.

"Resistance to change is not just a matter of gaining consensus to start a change; the best way to avoid resistance is to assure employees by supporting them and motivating them, involving them, and explaining clearly why the change is taking place and what the benefits are that they are going to receive. By doing this, employees have a clear vision and a sense of direction about the job that has to be performed and can also reduce their feelings of insecurity about losing their job." (Ali, 2010)

3.1 Factors Leading to Resistance to Change

Factors contributing to resistance to change include perceived loss of control, excess uncertainty about the future, sudden changes without preparation, increased workload, potential loss of status, fear of incompetence, disruption of established routines, concerns about job security, past resentments, mistrust in leadership, and inadequate communication. Leaders must comprehend these factors in order to tackle resistance and implement effective strategies.

Strickland, G. (2000). Declares that “People resist change because they experience a loss of identity, of belonging.” Emphasizing a profound aspect of organizational change dynamics, this perspective underscores that resistance is not simply a reaction to new procedures or policies but is deeply rooted in emotional and psychological responses. When individuals perceive that change threatens their established identity or disrupts their sense of belonging within a team or organization, their resistance can be particularly intense.

Understanding one's identity and sense of belonging is crucial for personal well-being and job satisfaction. Individuals often find a significant portion of their self-worth and security from their organizational roles and relationships. Introducing changes, particularly those that impact roles, responsibilities, or

team structures, can make individuals feel as though their personal and professional identities are being threatened. This feeling of loss can result in resistance to change, as individuals work to safeguard their sense of self and their position within the organization.

Leaders who acknowledge and validate employees' feelings of loss or disruption are better equipped to facilitate smoother transitions. Organizations can mitigate resistance and support their teams through evolution by actively involving employees in the change process, offering reassurance, and fostering a sense of inclusion and value.

Horgan, T., & Simeon, J. (1988) stated, "Individuals with low expectations of success and those who doubt that successful performance will be rewarded are more likely to struggle with adapting to change" suggests that a person's mindset and beliefs about their ability to succeed and be rewarded play a significant role in how well they adapt to changes. Those who lack confidence in their potential for success or who believe that their efforts will not be recognized or rewarded are more likely to resist or struggle with adapting to new situations or organizational changes. This highlights the psychological barriers that can impede effective change management.

This observation underscores the importance of fostering a positive organizational culture where employees feel valued and confident in their abilities. When individuals believe that their efforts will lead to success and that success will be rewarded, they are more likely to embrace change and adapt quickly. On the other hand, if employees feel disillusioned or pessimistic about the outcomes of their efforts, it can create a significant barrier to change. Organizations should focus on building confidence and clear communication regarding rewards and recognition to mitigate resistance to change. By addressing these psychological factors, leaders can better support their teams through transitions and ensure smoother adaptation processes.

The resistance to change can stem from various factors such as the perceived loss of control, uncertainty about the future, sudden changes, increased workload, potential loss of status, and fear of incompetence. Other contributors to this resistance include the disruption of established routines, concerns about job security, past resentments, mistrust in leadership, and inadequate communication. Emotional and psychological responses, like the perceived threat to one's identity and sense of belonging, also significantly impact how individuals react to change. Moreover, when people have low expectations of success or doubt that their efforts will be recognized, they are more likely to

struggle with adapting to new situations. To effectively manage resistance, leaders must address these underlying concerns by fostering a supportive and inclusive culture, building confidence, and ensuring clear communication. This approach will help facilitate smoother transitions and enhance the organization's ability to implement change successfully.

3.2 Approaches to Mitigate Resistance to Change

To successfully navigate organizational change challenges, it is essential to employ strategies that address the root causes of resistance. Among these strategies, motivation, communication, and training are pivotal in fostering a smooth transition and reducing opposition. Motivation ensures that employees are engaged and see the value in the change, which can significantly lower resistance. Clear and consistent communication helps to alleviate uncertainty and build trust, making the change process more transparent and understandable. Training equips individuals with the necessary skills and knowledge, empowering them to confidently adapt to new processes or systems. Together, these three elements—motivation, communication, and training—serve as foundational approaches to mitigate resistance to change, ensuring that the organization can move forward effectively and cohesively.

3.2.1 Motivation

Motivation plays a crucial role in overcoming resistance to change. When individuals lack motivation, they tend to show little interest in change initiatives, often leading to passive or active resistance. Without a solid reason to embrace change—whether on a personal, professional, or organizational level—employees may not see the value in altering their routines or stepping out of their comfort zones. On the other hand, when motivated individuals are more likely to see change as an opportunity for growth, improvement, or innovation, which can significantly reduce resistance. This highlights the importance of creating a motivating environment where employees understand the benefits of change and feel encouraged to participate fully in the process. Indeed, in The Lead of Change, Kotter states that "Motivation plays a crucial role in overcoming resistance to change; when individuals are not motivated, they are less likely to engage in or support change initiatives." (1996)

Also, Armenakis, A. A., & Bedeian, A. G. (1999) Says that "Lack of motivation can significantly contribute to resistance to change, as employees may not see the benefits of the change or may fear that their efforts will not be recognized or rewarded." The lack of motivation can significantly contribute to resistance to change because it directly affects how employees perceive the

value of the change. When employees don't see clear benefits or rewards from a change initiative, they are less likely to put effort or enthusiasm into the process. This lack of motivation can lead to apathy, disengagement, and even active resistance, as employees may fear that their contributions will go unnoticed or unrewarded. Additionally, without motivation, the energy and drive needed to adapt to new systems or processes are diminished, making it more challenging for organizations to successfully implement change. Addressing motivational factors by clearly communicating the benefits and ensuring recognition can play a crucial role in overcoming resistance.

3.2.2 Communication

Effective communication is a vital component in diminishing resistance to change, as it serves to bridge the disparity between the objectives of a change endeavor and the perceptions of those impacted by it. Clear and transparent communication ensures that employees comprehend the change's rationale, potential advantages, and personal implications. Well-informed individuals are more inclined to feel engaged in the process and less likely to resist change out of apprehension or uncertainty.

Kotter emphasizes that "ineffective communication can lead to misunderstandings and increased resistance to change." (1996) He argues that clear, consistent, and continuous communication is vital for minimizing resistance and ensuring that employees understand the need for and the benefits of the change. In *Employee Perspectives on Implementation Communication as Predictors of Perceptions of Success and Resistance*, published in Western Journal of Communication, Lewis highlights that "the effectiveness of communication during the implementation of change directly influences the level of resistance encountered." (Keith, 2006)

Furthermore, open communication channels enable employees to voice their concerns, seek clarification, and offer feedback, which can be invaluable in addressing potential issues before they escalate. By nurturing a two-way dialogue, leaders can cultivate trust, demonstrate empathy, and make employees feel valued and understood, reducing the trepidation and skepticism often associated with change. In this way, communication not only elucidates the change but also engenders a sense of inclusivity and ownership among employees, rendering them more disposed to support and actively participate in the change process.

At the conclusion, we can say that clear and transparent communication helps employees understand the reasons and benefits of change, making them more likely to support it. Open channels for feedback and dialogue build trust and show empathy, creating a sense of inclusion and ownership. By ensuring employees feel informed and valued, communication helps to ease the transition and encourages active participation in the change process.

3.2.3 Training

Training is essential in effectively addressing resistance to change within organizations. “Training is a crucial element in the change process, helping employees to understand and execute new initiatives effectively.” (Kotter, 1996) It helps employees overcome uncertainty and lack of preparedness when faced with new systems, processes, or technologies. Effective training programs provide employees with the skills, knowledge, and confidence needed to navigate changes successfully.

Comprehensive training ensures that employees fully understand the new systems or processes being implemented. This includes not only learning how to operate new technologies but also understanding the reasons for the change and how it fits into the broader organizational goals. By clarifying these aspects,

training helps to dispel uncertainties and build competence among employees. “Effective training programs enhance employees' skills and confidence, which helps reduce resistance to change by addressing the uncertainties associated with new tasks or technologies.” (Noe, 2018)

Training programs should include both theoretical knowledge and practical experience. Theoretical knowledge gives a foundational understanding of the concepts, while practical experience through hands-on sessions or simulations allows employees to apply what they have learned in a controlled environment, reducing anxiety associated with the unfamiliar.

Ongoing support is crucial for effective training. Providing additional resources, refresher courses, and access to support even after the initial training sessions ensures that employees can overcome challenges when applying their new skills in real-world situations.

3.3 Technological Change Resistance

Resistance to technological change occurs when individuals or groups within an organization hesitate or oppose the introduction of new technologies, systems, or processes. “Technological change often faces resistance because it disrupts established routines and requires new skills, leading to fear of incompetence among employees." (Schein, 2004) This resistance can take various forms, from hesitance to adopt new tools to outright opposition, such as refusing to use the latest technology or sabotaging its implementation. Overcoming this resistance is a fundamental challenge for organizations seeking to integrate innovations and maintain their competitive edge successfully.

Several factors contribute to resistance to technological change. A primary factor is the fear of job loss or reduced status, wherein employees worry that new technologies could render their roles obsolete or decrease their significance within the organization. "Resistance to technology adoption is frequently a response to the perceived threat to one's job or status within the organization." (Zuboff, 1988) This concern often arises from the perception that automation or advanced technologies might replace human labor, leading to job insecurity and anxiety about the future.

Another significant factor is a lack of skills or confidence. Employees may resist new technology if they feel they do not have the skills needed to use it or fear they will not be able to learn it effectively. This resistance is often driven by the fear of appearing incompetent or failing to meet the new technological demands, leading to reluctance to embrace change. The disruption of established routines also plays a significant role, as people often resist changes that disrupt their familiar work practices or require them to adapt to new methods. The comfort of routine can create a psychological barrier to accepting new technology.

Uncertainty and anxiety are common contributors to resistance as well. Introducing new technology can create uncertainty about the future, leading to anxiety about how these changes might impact job security, workload, or the overall work environment. This fear of the unknown can make employees resistant to changes that threaten their sense of stability or comfort. In addition, some employees may generally mistrust or be skeptical of new technologies, especially if they have experienced previous failures or negative consequences from past technological changes. This mistrust can lead to resistance as employees question the necessity or reliability of the new technology.

More communication and training can be needed to increase resistance to technological change. "Resistance to technological change is frequently rooted in a lack of understanding and fear of the unknown, which can be mitigated through proper training and communication." (Kotter, 1996)

When changes are not communicated, or employees are not adequately trained, they may resist due to an absence of clarity or confidence in using the new technology. With proper communication and training, employees may feel prepared and supported by the changes, leading to resistance.

To ensure successful technological changes and maximize the adoption of new technologies, organizations must address these factors decisively to minimize resistance and facilitate a seamless transition. Organizations can address job security concerns, provide training, and foster open communication to reduce resistance and encourage employee acceptance of technological advancements.

3.1.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a theoretical framework that explains how users accept and use a technology. Developed by Fred Davis in 1986, TAM is an adaptation of the Theory of Reasoned Action (TRA), originally proposed by Ajzen and Fishbein in 1975. TAM was specifically designed to predict organizations' adoption and use of information technology (IT).

In his work, *A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results* (Davis, 1986) he initially proposed a model that explores how motivational processes mediate the relationship between system features and user behavior. It suggests that a system's characteristics influence users' motivation to use it, which in turn affects their actual use or non-use. The model aims to predict user acceptance early in the system development process.

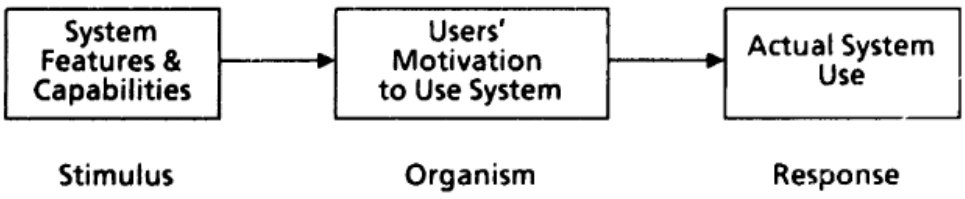

Figure 8 Motivational Variables in TAM (Davis, 1986)

This approach allows practitioners to evaluate different systems through brief exposure and motivational assessments, avoiding the disruptions and risks of full implementation. Successful application of this model could help designers make informed decisions, prioritize promising systems, and identify potential issues early, ultimately enhancing user acceptance and resource efficiency.

TAM was developed in response to the growing need to understand why users accept or reject information technology in organizational settings. During the 1980s, as computers and IT systems became increasingly integral to business operations, there was a clear need to explain the factors influencing their adoption. Davis proposed TAM to provide a reliable measure of users' likelihood of system adoption, focusing on the psychological factors influencing their attitudes toward technology.

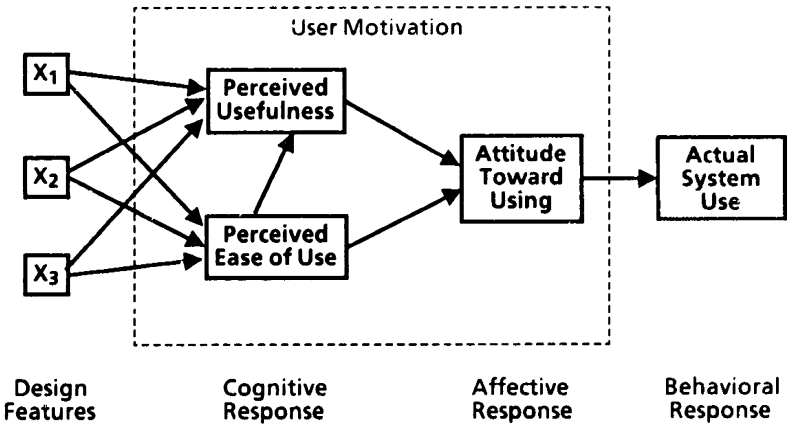

Figure 9 Original TAM Model (Davis, 1986)

The model was developed based on two key constructs:

- **Perceived Usefulness (PU):** This refers to the "degree to which a person believes using a particular system would enhance their job performance" (Davis, 1989). This underscores the importance of perceived usefulness as a core determinant of technology acceptance within the TAM framework. It emphasizes that if users believe a technology will positively impact their work performance, they are more likely to adopt it.
- **Perceived Ease of Use (PEOU)** refers to the degree to which a person believes using a particular system would be free of effort. If users find the technology easy to use, they are more likely to adopt it. (Venkatesh & Davis, 2000) This definition highlights the importance of user-friendliness and minimal effort in influencing a user's decision to engage with a new system. A system that is perceived as easy to use reduces the cognitive and physical demands on the user, thus increasing the likelihood of its acceptance and integration into daily practices. This emphasizes the critical role of intuitive design and accessibility in promoting the widespread adoption of technological innovations.

TAM posits that these two factors influence an individual's attitude toward using the technology, affecting their behavioral intention to use the technology and, ultimately, their actual usage behavior.

The Technology Acceptance Model has become one of the most widely used models in understanding IT adoption and has been applied in various contexts, including education, healthcare, and business. TAM's simplicity and robustness make it a valuable tool for researchers and practitioners aiming to design, implement, and manage new technologies. Over the years, TAM has been extended and modified to include additional variables such as subjective norms, experience, and voluntariness to account for more complex scenarios. Despite these extensions, the core of TAM—Perceived Usefulness and Perceived Ease of Use—remains central to understanding user acceptance of technology.

TAM's significance lies in its practical implications: by understanding the factors that influence technology acceptance, organizations can develop strategies to enhance user adoption, such as improving the perceived ease of use through better user interface design or demonstrating the usefulness of the technology through training and support.

3.1.1 Extended Technology Acceptance Model (TAM2)

The extended Technology Acceptance Model (TAM2) was developed by Viswanath Venkatesh and Fred Davis in 2000 as an expansion of the original TAM. TAM2 aims to provide a more comprehensive understanding of the factors influencing technology adoption, particularly in organizational contexts.

TAM2 introduces social influence processes as a key addition. This encompasses the subjective norm, which reflects the perceived social pressure to adopt or reject a technology. Users are more likely to embrace technology if influential individuals in their environment, such as supervisors or colleagues, support its use. Additionally, image within the context of social influence denotes how using the technology can enhance the user's status or reputation within a group. Voluntariness also plays a role in influencing users' acceptance of technology, depending on whether its adoption is perceived as mandatory or optional.

TAM2 also integrates instrumental cognitive processes. This includes job relevance, which evaluates how well the technology is perceived as relevant to the user's job responsibilities. If a technology is seen as highly relevant, it is more likely to be considered useful and, consequently, adopted. Another critical

factor is outcome quality, which refers to the user's perception of how well the technology performs in relation to the tasks it is meant to assist with. Result demonstrability gauges how clear and tangible the results produced by the technology are, which can influence the user's willingness to adopt it.

While TAM2 retains the foundational concepts of the original TAM, such as Perceived Ease of Use (PEOU) and Perceived Usefulness (PU), it delves into how these perceptions are influenced by the newly introduced factors. For instance, if a technology is perceived as relevant to job tasks, easy to use, and supported by influential individuals, it is more likely to be deemed useful and, therefore, adopted.

The TAM2 model provides a more extensive framework for understanding the acceptance of technology. It considers not only individuals' perceptions of ease and usefulness but also the social and cognitive factors that influence these perceptions. As a result, it is a valuable model for organizations looking to predict and encourage technology adoption among their employees.

Chapter 4

CASE STUDY “TRE ELLE”

Tre Elle Srl. has encountered significant resistance when trying to change internal processes and implement new systems, especially the "Programma Gestionale TSE." Leaders have observed frequent pushback from employees, who often respond with statements like "That's not how I do this," indicating their reluctance to change. The company has introduced a step-by-step approach to integrating the new system, with the goal of improving material traceability and reducing workload through barcode scanning. However, employees still prefer the old system and find the new one more burdensome. This resistance to technological change underscores the broader challenge of ensuring user adoption in system upgrades. Despite the expected benefits of "Programma Gestionale TSE," the hesitation to move away from familiar systems presents a significant obstacle to full implementation. Overcoming these challenges

demands a nuanced approach that considers employee concerns while emphasizing the advantages of technological innovation.

This case study examines the role of perceived usefulness, ease of use, training, and managerial support in overcoming this resistance and facilitating the successful implementation of the new system at Tre Elle using the Technology Acceptance Model (TAM) as a framework. The following sections will provide a detailed analysis of these factors and suggest solutions to enhance system adoption.

4.1 Objectives

The primary goal is to analyze the factors influencing the implementation and acceptance of the "Programma Gestionale TSE" within Tre Elle. This involves understanding how resistance can be mitigated, and acceptance can be facilitated, especially considering previous employee hesitations.

4.1.1 Specific Objectives

1. **Examine Perceived Usefulness (PU) and Behavioral Intentions (BIU):** Determine how employees' perceptions of the system's usefulness affect their intention to adopt and use "Programma Gestionale TSE."
2. **Assess Perceived Ease of Use (PEOU) and Its Impact on Adoption:** Explore how the perceived ease of use influences both employees' intentions to use and their actual use of the new system.
3. **Evaluate the Role of Support from Superiors:** Investigate how managerial support impacts employees' intentions to use and engage with the system.
4. **Analyze the Contribution of Training:** Assess the effectiveness of training programs in enhancing perceived ease of use and overall system adoption.
5. **Consider Generational Impact:** Study how generational differences affect perceptions of ease of use and the actual use of the system.

4.2 Methodology

The proposed Technology Acceptance Model (TAM) encompasses various elements contributing to system acceptance, as illustrated in the following diagram.

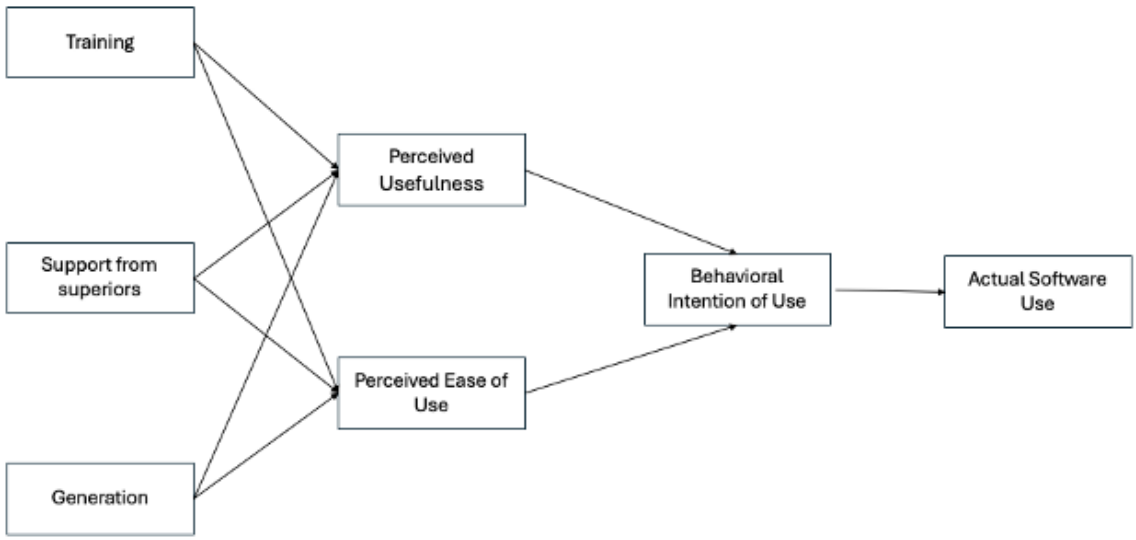

Figure 10 Tre Elle's Adaptation Model

The study examines the impact of training, support from supervisors, and generational disparities on perceived usefulness and perceived ease of use. These perceptions, in turn, influence employees' behavioral intention and actual use of the software. The visual representation offers a comprehensive understanding of the interrelationships among the primary constructs, guiding the analysis of survey data gathered from Tre Elle employees.

The TAM questionnaire was adapted and incorporated to an extended TAM model that includes six constructs with various items across each domain, totaling up to 17 items (ANNEX[1]). The items were measured using a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." The scoring method involved averaging the total summation of responses for each item, providing insights into the adoption and use of "Programma Gestionale TSE".

The study is grounded in the hypothesis that perceived usefulness (PU) and perceived ease of use (PEOU) significantly affect both the behavioral intention to use the system (BIU) and its actual use (AU). The perceived usefulness is used to assess how the system enhances job performance and productivity, while perceived ease of use evaluates the system's simplicity and flexibility.

Furthermore, the study considers the role of training and support from superiors in facilitating system adoption. Effective training is hypothesized to improve the perceived ease of use, while managerial support is believed to strengthen employees' intentions to engage with the new system.

To explore these dynamics, a structured questionnaire that contained 17 items was answered by 25 of the employees that use "Programma Gestionale TSE" at Tre Elle using Google Forms. The survey was sent via a link, ensuring easy

[1] The image represents the structure of the questionnaire used in this study. Although the actual questionnaire was administered digitally through Google Forms, this visual representation is provided as an annex for reference . Participants were assured of confidentiality, and responses were collected anonymously to ensure honest feedback

access for participants and covering the key areas mentioned above. Additionally, the survey included questions about training effectiveness and support from superiors, aiming to gauge their impact on employees' intention to use the system. This approach allowed for efficient data collection and analysis, providing a comprehensive understanding of the factors influencing technology acceptance. The following table shows all constructs and related items that were included in the questionnaire:

Table 1 Constructs and Items Questionnaire

CONSTRUCT	ITEMS	
PERCEIVED USEFULNESS (PU)	PU1	Using "Programma Gestionale TSE" in my job would enable To accomplish tasks more quickly
	PU2	Using "Programma Gestionale TSE" would improve my job performance
	PU3	Using "Programma Gestionale TSE" would increase my productivity
	PU4	Using "Programma Gestionale TSE" would enhance my effectiviness on the job
	PU5	Using "Programma Gestionale TSE" would make it easier to do my job
	PU6	I find "Programma Gestionale TSE" useful in my job
PERCEIVED EASE OF USE (PEOU)	PEOU1	I think learning to use "Programma Gestionale TSE" is easy for me
	PEOU2	I think "Programma Gestionale TSE" is a flexible program to interact with
	PEOU3	I think "Programma Gestionale TSE" is easy to use
	PEOU4	I think it is easy for me to become skillful at using "Programma Gestionale TSE"
BEHAVIORAL INTENCION OF USE	BIU	I plan to use "Programma Gestionale TSE" as is extended to manage all areas
ACTUAL USE	AU 1	I use "Programma Gestionale TSE" considering 1 (never) and 5 (always)
	AU 2	Considering 5 labor days a week, the number of days I use "Programma Gestionale TSE"
TRAINING	TRA1	We have a continuous training plan
	TRA2	I have received training to use the new management system
SUPPORT FROM SUPERIORS	SFM1	I feel comfortable providing feedback or asking questions about using the new management system
	SFM2	The managers are committed to answering questions about the new management system

Each aspect relates to the study using the Technology Acceptance Model (TAM):

- **PU1-PU6**: Focus on the system's ability to enhance job efficiency, performance, and productivity. These elements help validate the hypothesis that perceived usefulness influences behavioral intentions to use the system.

- **PEOU1-PEOU4**: These items evaluate the system's learnability and flexibility, which are crucial for testing the hypothesis that perceived ease of use impacts both the intention to use and actual usage.
- **BIU**: Capture employees' intentions to incorporate the system into their routines, supporting the idea that higher PU and PEOU increase the likelihood of system adoption.
- **AU1-AU2**: Measure how frequently the system is used, providing data to explore the relationship between PU, PEOU, and actual system use.
- **TRA1-TRA2**: Focus on the role of training in enhancing the ease of use, aligning with the hypothesis that effective training positively affects PEOU.
- **SFM1-SFM2**: Examine the influence of managerial support on the intention to use, emphasizing the importance of supportive leadership in technology adoption.

These constructs collectively offer a comprehensive framework for analyzing technology acceptance within the organization. The findings aim to support Tre Elle in overcoming resistance, ensuring successful implementation, and enhancing organizational efficiency. In addition to these constructs, the generation of the employee will also be considered.

4.3 Hypotheses

The primary goal is to test a hypothesis set to develop a strategic plan that aligns with the organization's needs and enhances technology adoption. The hypotheses are centered around perceived usefulness and ease of use, examining their impact on employees' behavioral intention and actual use of the system. We posit that if employees perceive the system as beneficial for improving job performance and easy to use, their likelihood of adopting it increases. Additionally, the role of support from superiors and the availability of practical training are hypothesized to influence behavioral intentions and ease of use perceptions significantly.

The study examines age as a demographic factor assigned to generations, exploring its impact on ease of use and actual system usage. Through testing these hypotheses, the research aims to develop a comprehensive plan to reduce resistance and guarantee successful implementation of "Programma Gestionale TSE," ultimately improving Tre Elle’s operational efficiency and productivity.

The hypotheses to be tested are:

1. Perceived Usefulness (PU) and Behavioral Intention to Use (BIU) The perceived usefulness of "Programma Gestionale TSE" will positively influence employees' behavioral intention to use the system.

Employees who believe that using "Programma Gestionale TSE" will improve their job performance (PU2), productivity (PU3), and effectiveness (PU4) are more likely to intend to use the system regularly.

2. Perceived Ease of Use (PEOU) and Behavioral Intention to Use (BIU) The perceived ease of use of "Programma Gestionale TSE" will positively affect employees' behavioral intention to use the system.

If employees perceive that "Programma Gestionale TSE" is easy to learn (PEU1) and use (PEU3), and that it is a flexible program (PEU2), they are more likely to have a positive intention to use it frequently.

3. Perceived Usefulness (PU) and Actual Use (AU) There is a positive relationship between perceived usefulness and actual use of "Programma Gestionale TSE".

Employees who find "Programma Gestionale TSE" useful in their daily tasks are likely to use it more often (AU1 and AU2).

4. Perceived Ease of Use (PEOU) and Actual Use (AU) The perceived ease of use of "Programma Gestionale TSE" will positively influence actual system usage.

If employees find the system easy to use, with minimal effort needed to become skillful (PEU4), they will likely use it more frequently in their work routines.

5. Support from Superiors (SFM) and Behavioral Intention to Use (BIU) Support from superiors will positively influence the behavioral intention to use "Programma Gestionale TSE".

Employees who feel comfortable seeking feedback or asking questions about the system (SFM1) and have support from management (SFM2) will likely have stronger intentions to adopt the system.

6. Training (TRA) and Perceived Ease of Use (PEOU) Training will positively influence the perceived ease of use of "Programma Gestionale TSE".

Employees who receive continuous training (TRA1) and specific training on the system (TRA2) will perceive the system as easier to use and more intuitive.

7. Generation and Perceived Ease of Use (PEOU) Younger generations (e.g., Millennials and Generation Z) will perceive "Programma Gestionale TSE" as easier to use compared to older generations (e.g., Baby Boomers and Generation X).

Given that younger employees might be more familiar with technology, they may find "Programma Gestionale TSE" easier to navigate and use.

8. Generation and Actual Use (AU) Younger generations will have higher actual use of "Programma Gestionale TSE" compared to older generations.

Generational comfort with technology could mean that younger employees (e.g., Generation Z and Millennials) will use "Programma Gestionale TSE" more frequently in their tasks compared to Baby Boomers or Generation X.

4.4 Results

The following chart titled "Generations" illustrates the distribution of participants by generational cohort within this study. Generations were coded as follows: 1 for Generation Z, 2 for Generation Y, 3 for Generation X, and 4 for Baby Boomers. For analysis purposes, these were grouped into two broad categories to better explore generational differences. Participants in Generation Z and Generation Y (coded as 1 and 2) were classified as "younger generations," while those in Generation X and Baby Boomers (coded as 3 and 4) were classified as "older generations." The breakdown is as follows:

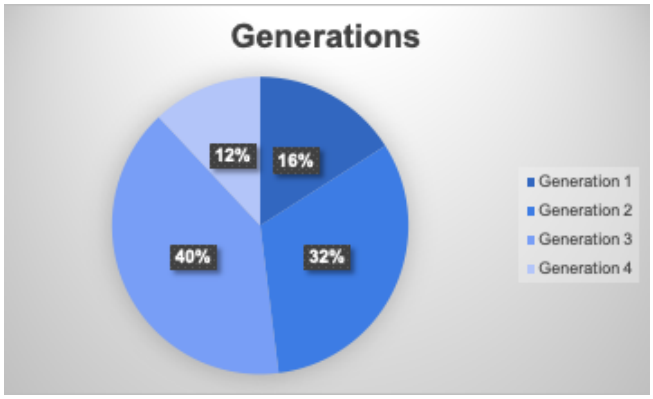

Figure 11 Generations

This distribution enables a comparative analysis of how younger versus older generations interact with and perceive the ease of use and actual utilization of the system, providing insights into the influence of generational differences on these constructs.

The following Critical Path Model shows a structural equation model (SEM) consisting of Confirmatory Factor Analysis (CFA) and path analysis, performed using the Lavaan package in R software. SEM integrates both measurement models (CFA) and structural models (path analysis), making it useful for testing theoretical models involving multiple relationships between latent constructs and observed variables.

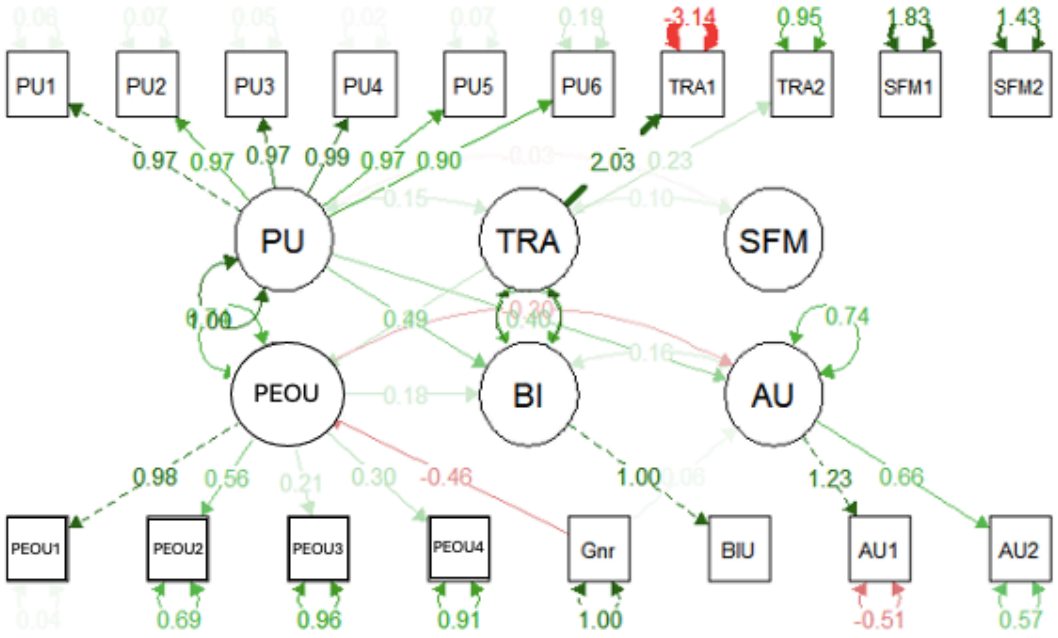

Figure 12 Structural Equation Model

Latent Variables: PU, TRA, SFM, PEOU, BI, AU (unobserved constructs). Observed Variables: Rectangles such as PU1, PU2, PEOU1, AU1, etc., represent observed variables used to measure the latent variables.

The following table helps to understand how well each item measures its respective construct and provides insights into the reliability and validity of the measurement model.

Table 2 Reliability and Validity

CONSTRUCT	ITEMS	Unstandardized Estimate	Standard Error	z-value	p-value	Std.lv	Std.all
PERCEIVED USEFULNESS (PU)	PU1	1.000				1.212	0.971
	PU2	0.880	0.065	13.561	<0.01	1.067	0.965
	PU3	0.872	0.059	14.802	<0.01	1.057	0.975
	PU4	0.890	0.053	16.949	<0.01	1.079	0.988
	PU5	0.947	0.069	13.636	<0.01	1.149	0.966
	PU6	0.732	0.080	9.185	<0.01	0.887	0.901
PERCEIVED EASE OF USE (PEOU)	PEOU1	1.000				0.988	0.979
	PEOU2	0.612	0.212	2.885	0.004	0.604	0.559
	PEOU3	0.180	0.177	1.014	0.310	0.178	0.205
	PEOU4	0.274	0.183	1.496	0.135	0.271	0.301
BEHAVIORAL INTENCION OF USE (BIU)	BIU	1.000				0.745	1.000
ACTUAL USE (AU)	AU 1	1.000				1.059	1.230
	AU 2	0.519	0.194	2.674	0.007	0.549	0.657
TRAINING (TRA)	TRA1	1.000				1.775	2.034
	TRA2	0.098	0.190	0.517	0.605	0.175	0.231
SUPPORT FROM SUPERIORS (SFM)	SFM1	1.000				NA	NA
	SFM2	0.750	1.159	0.647	0.518	NA	NA

PU (Perceived Usefulness)

All indicators are highly significant, and PU1, PU4, PU5 have the strongest influence on the latent construct. The scale for PU is well-defined, with all indicators contributing effectively.

- **PU1** (Estimate = 1.000): As the reference indicator, its loading is fixed to 1.0. The standardized loading of 0.971 shows that PU1 strongly correlates with PU.
- **PU2** (Estimate = 0.880, p-value < 0.01): Strong and statistically significant loading, indicating PU2 is a good measure of PU.
- **PU3** (Estimate = 0.872, p-value < 0.01): Strong loading (0.975 standardized), showing that PU3 contributes well to the construct.

- **PU4** (Estimate = 0.890, p-value < 0.01): Very strong contribution (0.988 standardized), almost as high as PU3 and PU5.
- **PU5** (Estimate = 0.947, p-value < 0.01): Among the highest contributions (0.966 standardized), this is a critical item in measuring perceived usefulness.
- **PU6** (Estimate = 0.732, p-value < 0.01): Slightly lower loading (0.901 standardized), though still significant, it may represent a slightly weaker indicator of PU.

PEOU (Perceived Ease of Use)

PEOU1 is the most reliable indicator for ease of use. PEOU2 is also somewhat reliable, though weaker, while PEOU3 and PEUO4 do not significantly contribute to the latent construct. This could suggest that these items need further refinement or might be dropped from the model.

- **PEOU1** (Estimate = 1.000): The reference indicator shows that it's a highly reliable measure of PEOU with a strong standardized loading.
- **PEOU2** (Estimate = 0.612, p-value < 0.01): Significant loading, but weaker (0.559 standardized). It indicates a decent but not very strong reflection of the latent construct.

- **PEOU3** (Estimate = 0.180, p-value = 0.310): This indicator has an insignificant loading ($p > 0.05$), suggesting that it doesn't contribute meaningfully to measuring PEOU.
- **PEOU4** (Estimate = 0.274, p-value = 0.135): Although its standardized loading (0.301) is slightly higher than PEU3, it is still statistically non-significant ($p > 0.05$).

BI (Behavioral Intention)

BIU (Estimate = 1.000, Standardized = 1.000): As the single indicator for BI, its loading is perfectly defined. With a standardized loading of 1.000, BIU is the singular and comprehensive measure of Behavioral Intention in this model.

AU (Actual Use)

AU1 is a reliable indicator of actual use, while AU2 is weaker but still statistically significant. AU1 dominates the representation of this latent construct.

- **AU1** (Estimate = 1.000, Standardized = 1.059): The reference indicator, showing that AU1 is a very strong measure of AU.

- **AU2** (Estimate = 0.519, p-value = 0.007): Significant, but the loading is much weaker compared to AU1 (0.657 standardized). This indicates AU2 has a moderate but lower contribution to measuring Actual Use.

TRA (Training)

TRA1 is a very strong indicator of training, while TRA2 is not significant.

- **TRA1** (Estimate = 1.000, Standardized = 2.034): This indicator has an extremely high standardized loading, showing that it is a very strong and reliable measure of trust.
- **TRA2** (Estimate = 0.098, p-value = 0.605): Non-significant loading, meaning TRA2 does not meaningfully contribute to measuring training in this model.

SFM (Support from Superiors)

Only SFM1 contributes to measuring Support from Superiors. SFM2 does not offer a significant contribution and should be revisited.

- **SFM1** (Estimate = 1.000, no standardized loading given): The primary measure of system functionality.
- **SFM2** (Estimate = 0.750, p-value = 0.518): Non-significant loading, showing that this indicator is not reliable in this context.

Based on the above information, we can conclude the following strengths or weaknesses for the constructs:

- **Strong Constructs**: PU, AU, TRA, and BI are robust constructs with highly significant indicators (PU5, AU1, TRA1, and BIU) strongly contributing to the measurement.
- **Weaker Constructs**: PEOU and SFM have weaker indicators. Specifically, PEU3, PEU4, TRA2, and SFM2 do not contribute significantly and may need revision.

Based on the following regression table, the hypotheses listed were analyzed:

Table 3 Regressions

		Unstandardized Estimate	Standard Error	z-value	p-value
BEHAVIORAL INTENCION OF USE (BIU)	PU	0.298	0.108	2.766	0.006
	PEOU	0.136	0.131	1.035	0.301
	SFM	-0.110	0.142	-0.775	0.438
ACTUAL USE (AU)	PU	0.352	0.105	3.348	0.001
	PEOU	-0.324	0.154	-2.101	0.036
	Generation	0.067	0.142	0.470	0.639
PERCEIVED EASE OF USE (PEOU)	TRA	0.128	0.244	0.523	0.601
	Generation	-0.505	0.158	-3.192	0.001

1. PU → BIU (Employees who perceive the system as useful will intend to use it more.) This hypothesis is **accepted**. Employees who perceive the system as useful (PU) are more likely to intend to use it (BIU), as indicated by the significant p-value and the positive estimate. Since all indicators for PU are highly significant and have strong factor loadings, this suggests that when employees find the system useful (reflected in the high significance of PU1-PU6), they are more likely to have the intention to use it more. This is a solid relationship to highlight, as perceived usefulness is a critical BIU driver.

2. PEOU → BIU (Employees who perceive the system as easy to use will intend to use it more.) This hypothesis is **not accepted**. The ease of use (PEOU) does not significantly affect employees' intention to use the system even if the estimate is positive. Perceived Ease of Use (PEOU) shows a mixed contribution from its indicators. PEU1 is a strong and significant indicator, while PEU3 and

PEU4 are not significant. This could indicate that ease of use has some effect on BIU, but it is weaker than PU's effect. Therefore, it might be beneficial to refine the measurement of PEOU or reconsider its overall strength in predicting BIU compared to PU.

3. PU → AU (Employees who perceive the system as useful will use it more.) This hypothesis is **accepted**. The perceived usefulness of the system (PU) significantly influences actual use (AU) in a positive way. Given the strong factor loadings for PU and the statistical significance of all its indicators, we can infer that Perceived Usefulness is a strong predictor of Actual Use (AU). Employees who find the system useful (e.g., for improving their performance or efficiency) are more likely to engage with it. The high loading of PU5, for example, suggests that employees especially value the system when it directly helps with task performance.

4. PEOU → AU (Employees who perceive the system as easy to use will use it more.) This hypothesis is **not accepted**. Although the relationship is significant, the negative coefficient suggests that employees who perceive the system as easier to use (PEOU) tend to use it less frequently, which is an unexpected result and may require further investigation. The weaker

significance of some PEOU indicators (PEU3 and PEU4) suggests that the relationship between Perceived Ease of Use and Actual Use is not as strong as the one between PU and AU. Although PEU1 and PEU2 are significant, the overall contribution of ease of use to actual system usage seems moderate. This implies that employees may prioritize the usefulness of the system over how easy it is to use.

5. Support from superiors → BIU (Support increases intention to use.) This hypothesis is **not accepted**. The support from superiors (SFM) does not have a significant effect on behavioral intention to use (BIU), moreover, the estimator is negative, which is contradictory. It would be interesting to explore more this relationship.

6. Training → PEOU (Training increases the perceived ease of use.)

This hypothesis is **not accepted**. Training (TRA) does not significantly affect employees' perceived ease of use (PEOU).

Training likely improves employees' ability to use the system, increasing Perceived Ease of Use (PEOU). While PEU1 shows a strong correlation, the lower significance of other PEOU indicators suggests that the ease of use may be improved through targeted training that addresses specific difficulties

represented by PEU3 and PEU4. Reinforcing the training programs could result in a stronger and more significant impact of PEOU on outcomes like BIU and AU.

7. Generation → PEOU (Younger employees find it easier to use.)

This hypothesis is **not accepted**. The finding (p-value = 0.001), which is statistically significant, suggests that generational factors do indeed influence perceived ease of use, but not in the expected direction. Interestingly, the results indicate the opposite, with a negative coefficient (-0.505) showing that older employees perceive the system as easier to use.

8. Generation → AU (Younger employees use the system more frequently.)

This hypothesis is **not accepted**. There is no significant relationship between generation and actual use (AU) as indicated by a non-significant p-value of 0.639. This result suggests that generational differences do not play a meaningful role in determining the actual usage frequency (AU) of the system among employees.

4.5 Discussion

The table below provides a clear summary of the findings related to the hypotheses.

Table 4 Hypotheses' Findings

Hypothesis	Path	Unstandardized Estimate	Standard Error	p-value	Findings
H1	PU → BIU	0.298	0.108	0.006	ACCEPTED
H2	PEOU → BIU	0.136	0.131	0.301	NOT ACCEPTED
H3	PU → AU	0.352	0.105	0.001	ACCEPTED
H4	PEOU → AU	-0.324	0.154	0.036	NOT ACCEPTED
H5	SFM → BIU	-0.110	0.142	0.438	NOT ACCEPTED
H6	TRA → PEOU	0.128	0.244	0.601	NOT ACCEPTED
H7	Generation → PEOU	-0.505	0.158	0.001	NOT ACCEPTED
H8	Generation → AU	0.067	0.142	0.639	NOT ACCEPTED

The unexpected negative relationship between PEOU (Perceived Ease of Use) and AU (Actual Use), **H4: PEOU→AU** suggests that employees who perceive the system as easier to use, tend to use it less frequently, which contradicts the expected outcome.

There are several possible explanations for this, and it is imperative that in the future, further study is conducted to gain a comprehensive understanding of the situation:

- Employees who find the system easy to use might become overconfident and feel that they do not need to use it as frequently to achieve their goals.

- If the system is perceived as too simple, employees might think it lacks the necessary features for more complex tasks. As a result, they may seek alternative tools or methods, reducing their reliance on the system.
- Employees who find the system intuitive and easy to use might have less motivation to undergo training or explore advanced features. This could lead to a superficial understanding of the system, causing them to use it less frequently because they don't fully realize its potential capabilities.

On the other hand, the acceptance of **Generation → PEOU** with a negative coefficient indicates a surprising outcome where older employees find the system easier to use, contrary to the original hypothesis that younger employees would perceive it as easier. Several factors could explain this unexpected result:

- Older employees may have more experience with similar management systems or processes in their previous roles. If the system is designed in a way that aligns with older employees' past experiences, they may find it easier to use.

- Older employees may have received more thorough or focused training on using the system, giving them greater confidence in navigating it. This could lead to a higher perceived ease of use, especially if they were more motivated to engage with training resources compared to younger employees.
- Younger employees might have higher expectations for system usability and could be more critical if the system doesn't align with modern user experience standards they are familiar with. This critical perspective could lead to a lower perceived ease of use.

This result highlights the importance of not assuming that younger generations will always find new technologies easier to use. Organizational context, training, and the specific nature of the system in question play a significant role in shaping user perceptions across different age groups.

About H5, **SFM→ BIU,** Understanding the reasons behind the weaker contribution on SMF is important, as it could affect the results.

SFM1 measures employees' own perceptions of their comfort level in providing feedback ("*I feel comfortable providing feedback or asking questions about using the new management system")*, while SFM2 *("The managers are*

committed to answering questions about the new management system") reflects external support from managers. These two aspects might not align well enough to represent the overall system functionality construct strongly.

If employees feel comfortable asking questions (SFM1), but managers are not perceived as truly supportive or responsive (SFM2), there's a gap between expectations and reality. This discrepancy could dilute the strength of SFM as a whole, making it insignificant.

The results can be explained in two possible ways:

- **SFM2's Poor Contribution (p-value = 0.518):** The non-significance of SFM2 suggests that managerial support is either not perceived as crucial by employees or is inconsistently provided. If employees do not feel that managers are genuinely committed to answering their questions, it diminishes the overall value of system functionality. This would explain why SFM as a construct is not contributing significantly to usage intention.
- **SFM1's Impact is Not Sufficient:** While SFM1 might reflect some level of comfort in feedback, this alone does not fully capture whether the system's functionality aligns with user needs. A feeling of comfort in giving feedback is only a partial measure of system effectiveness. The

system's core functionality could still be lacking, regardless of user comfort in raising concerns.

Furthermore, we have found a discrepancy between TRA 1 and TRA2:

TRA1 *"We have a continuous training plan)* is statistically significant, suggesting that employees who perceive continuous training efforts have a stronger perception of the system's ease of use or utility. This reflects that ongoing training programs positively impact employees' experience and engagement with the system, ensuring they feel supported and capable of using the system effectively. On the other hand, TRA2 *"I have received training to use the new management system"* is not statistically significant ($p = 0.605$), which could indicate several potential issues related to the effectiveness of the specific training they received:

The results may be attributed to the following potential factors:

- Employees may feel that their training for the new system was not comprehensive enough, leading to a weaker association between training and perceived ease of use or system engagement.
- There could be discrepancies in how training is delivered across the organization, with some employees receiving more thorough

instruction than others, leading to varying levels of comfort and competence with the system.

- Employees might perceive the training as too generic or not directly relevant to their daily responsibilities, making it less impactful in helping them effectively use the new management system.
- The method of training (e.g., online courses, in-person sessions) might not match employees' preferred learning styles, leading to lower engagement and understanding of the system.

The results show that there are factors that affect employee engagement and the perceived ease of use of the new system. However, further investigation is needed to understand the underlying causes. The variation in training experiences, including their comprehensiveness, delivery methods, and relevance to daily responsibilities, suggests that a more detailed understanding of these aspects could be helpful. Future research could focus on exploring these areas more deeply, and assessing how customized training approaches and diverse learning styles might improve the overall effectiveness of the implementation process. Addressing these issues could help the organizations better support their employees and improve system adoption and engagement.

CONCLUSION AND FUTURE DEVELOPMENTS

In this concluding chapter, we summarize the study's findings concerning the relationship between employees' perceived usefulness (PU) of the system and its effects on both behavioral intentions to use (BIU) and actual use (AU). Our results indicate that when employees perceive a system as beneficial, they are more likely to intend to use it and engage with it actively. These findings suggest practical initiatives to enhance system adoption, including targeted training programs and awareness campaigns.

To foster continuous improvement and increase the new software's perceived usefulness (PU), I propose an initiative focused on targeted training sessions and awareness-building activities within Tre Elle. Given that perceived usefulness strongly impacts employees' behavioral intention to use (BIU) system, enhancing PU could significantly boost adoption rates and engagement.

To enhance employees' understanding and utilization of the software, thereby improving productivity and driving business outcomes. These are some initiative proposals:

Training Sessions: Comprehensive training sessions are proposed to be organized, designed to deepen employees' understanding of the software's benefits and functionalities critical to their roles. Targeted training modules will feature specific use cases, demonstrating how tasks are simplified, productivity is boosted, and actionable insights are provided by the software. Interactive workshops, hands-on exercises, and guided simulations will be utilized to facilitate direct engagement with the software, allowing a full grasp of how workflows can be streamlined by employees. Training has clearly played a crucial role, but its effects have varied based on employees' experience and expectations. A targeted training program could improve both adoption and interest in the system, ensuring that each group receives the type of instruction best suited to their needs and preferences. In this way, more complete and consistent use of the management system could be facilitated across all organizational levels.

Awareness Campaign: An Awareness Campaign is recommended to enhance employees' understanding of the software's overall value to the organization. Regular internal communications, including newsletters and "tips and tricks" sessions, will be utilized in this campaign to showcase the positive impact of the software on both individual and team performance. It is aimed to create the perception that the software is an essential tool aligned with employees' objectives, thereby encouraging greater adoption and utilization.

Feedback Mechanism for Continuous Improvement: To ensure ongoing enhancement of the software's usability and effectiveness, a Feedback Mechanism is proposed to be established. This will include quarterly surveys and a dedicated feedback channel for continuous input. The insights collected will be considered invaluable in informing future software enhancements and identifying any additional training needs, thereby fostering a culture of continuous improvement within the organization.

A structured approach rooted in the PDCA (Plan-Do-Check-Act) cycle is recommended to support the implementation of these initiatives and ensure their long-term success. The organization can systematically address challenges related to system adoption and refine initiatives based on ongoing assessments and feedback. Each stage of the PDCA process—defining the problem and

planning the methodology, implementing the solutions, analyzing results, and taking corrective actions—serves as a foundation for continuous improvement. This structured approach reinforces employees' confidence and competence in using the software and aligns with the organization's objectives of enhancing productivity and achieving sustainable growth. These initiatives will allow employees to improve their skills in using the software effectively. This enhancement in capability is expected to increase productivity, ultimately contributing to the organization's overall success and growth.

- **Plan:** This phase involved identifying the problem, defining the research methodology, and outlining potential scenarios for investigation. This step laid the groundwork for understanding the factors influencing system adoption, focusing on constructs like Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and support from superiors (SFM).
- **Do:** In this stage, the software was installed, and data collection tools, such as the questionnaire, were implemented to gather insights. This enabled analysis of how different generational groups perceive the system and allowed measurement of the influence of PU, PEOU, and SFM on Actual Use (AU) and Behavioral Intention to Use (BIU).
- **Check:** The data analysis revealed that PU significantly impacts both BIU and AU, indicating that employees who view the software as useful

are more likely to adopt and utilize it consistently. By contrast, PEOU and SFM showed lesser impact, suggesting a need to reconsider the emphasis on these areas in training and support efforts. When results do not meet expectations, such as generational differences in ease of use, further investigation needs to be conducted to understand the reasons behind these findings.

- **Act:** Several initiatives were proposed to address the identified issues based on these insights. For example, it was suggested that Tre Elle could prioritize demonstrating the software's practical benefits, showing employees how it can simplify tasks and enhance productivity. Additionally, training sessions focusing on advanced features and real-world applications could improve employees' engagement with the system, ultimately increasing both PU and AU.

To successfully implement the proposed actions at Tre Elle, a well-structured checklist can enhance employee engagement while boosting the software's Perceived Usefulness (PU) and Actual Use (AU). This checklist outlines essential action steps and includes columns for tracking progress, assigning responsibilities, and providing status updates.

Table 5 Action Plan for Enhancing Employee Engagement with Software: Checklist and Timeline

Action Step	Details/Guidelines	Assigned To	Due Date	Status	Comments
1. Identify Key Software Features	Review software features that simplify tasks and enhance productivity for different roles.	Project Lead/IT Team	[Date]	Not Started	
2. Develop Use Cases	Create specific use case scenarios that highlight practical benefits of the software.	Project Lead/Training Team	[Date]	Not Started	Example scenarios for each dept.
3. Design Targeted Training Modules	Customize training modules based on employee roles, learning styles, and age groups.	Training Team	[Date]	Not Started	Include basic and advanced levels.
4. Schedule Training Sessions	Organize interactive workshops and hands-on exercises for different teams.	HR/Training Coordinator	[Date]	Not Started	Consider smaller group sessions.
5. Conduct Training and Gather Feedback	Deliver training sessions, focusing on advanced features and real-world applications. Collect participant feedback.	Trainers/HR	[Date]	Not Started	Use surveys for immediate feedback.
6. Monitor Engagement and Usage Levels Post-Training	Track software usage data and employee engagement to measure changes in PU and AU post-training.	IT/Data Analyst	[Date]	Not Started	Include qualitative feedback.
7. Adjust Training Content as Needed	Refine training materials based on employee feedback and observed usage patterns.	Training Team	[Date]	Not Started	Update quarterly if needed.
8. Provide Ongoing Support and Refresher Training	Offer follow-up sessions to reinforce knowledge and address any emerging questions or issues.	HR/Training Coordinator	[Date]	Not Started	Plan for semi-annual sessions.
9. Communicate Success Stories and Practical Benefits	Share real examples from employees who benefited from using the software effectively.	Communications Team	[Date]	Not Started	Use newsletters or team meetings.
10. Evaluate Overall Impact	Assess changes in PU and AU after implementing the initiatives, using KPIs like task efficiency, productivity, and employee satisfaction.	Project Lead/HR	[Date]	Not Started	Compare data with baseline stats.

This checklist provides a clear, step-by-step approach to implementing the initiatives, tracking progress, and adjusting as necessary. It will also help ensure accountability and measure the success of each action item.

In conclusion, the PDCA cycle presents a valuable framework for continuous improvement, allowing Tre Elle to consistently reassess and refine each initiative over time. This iterative approach promotes sustainable progress, ensuring the company can adapt to evolving needs while continuously enhancing employee engagement and productivity. Through this ongoing process, Tre Elle is well-equipped to achieve lasting success in effectively leveraging its software tools, ultimately driving both operational efficiency and organizational growth.

BIBLIOGRAPHY, REFERENCES AND WEB SOURCES

Cambridge Dictionary. (2024). Retrieved from Cambridge Business English Dictionary: https://dictionary.cambridge.org/dictionary/english/organizational-change?q=ORGANIZATIONAL+CHANGE

Lewin, K. (1947). *Field Theory in Social Science.* New York: Harper & Romw.

Miller, K. (2020, March 19). *Harvard Business School Online*. Retrieved from 5 CRITICAL STEPS IN THE CHANGE MANAGEMENT PROCESS: https://online.hbs.edu/blog/post/change-management-process

Alvarado, E. (2024). Strategies for Change Implementation in the Energy Industry. Connecticut, USA.

Onia, S. I. (2022). *Journal of Social Studies.* Retrieved from Using Kotter's theory to lead change at University of Khartoum: A qualitative study: https://journal.uny.ac.id/index.php/jss/article/view/51098/pdf

El-Taliawi, O. G. (2018, May). *Researchgate.* Retrieved from Resistance to organizational change: https://www.researchgate.net/publication/334451574_Resistance_to_Organizational_Change

Kotter, J. P. (1996). *Leading change.* Harvard Business School Press.

Ford, J. D., Ford, L., & D'Amelio, A. (2008). *Resistance to change: The rest of the story.* Academy of Management Review.

Armenakis, A. A., & Bedeian, A. (1999). *Organizational change: A review of theory and research in the 1990s. .* Journal of Management.

Kanter, R. M. (2012, september 25). *Ten Reasons People Resist Change.* Retrieved from Harvard Business Review: https://hbr.org/2012/09/ten-reasons-people-resist-chang

Ali, A. (2010). Resistance to change and strategies to manage it. *Journal of Management Development*, 670-680.

Strickland, G. (2000). *Managing Change in Organizations.* Routledge.

Horgan, T., & Simeon, J. (1988). Adaptation to Organizational Change: The Role of Expectations and Rewards. *ournal of Organizational Behavior*. Retrieved from Adaptation to Organizational Change: The Role of Expectations and Rewards.

Keith, L. L. (2006). Employee perspectives on implementation communication as predictors of perceptions of success and resistance. . *Western Journal of Communication*, 297-315.

Noe, R. A. (2018). *Employee training and development. .* McGraw-Hill Education.

Schein, E. H. (2004). *Organizational Culture and Leadership.* . Jossey-Bass.

Zuboff, S. (1988). *In the Age of the Smart Machine: The Future of Work and Power.* Basic books.

Davis, F. (1986). *A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results.* MIT Sloan School of Management.

Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. . *MIS Quarterly*.

Venkatesh, V., & Davis, F. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. . *Management Science*, 186-204.

ANNEX

Questionario

Gentile partecipante,

Questo questionario ha l'obiettivo di raccogliere informazioni per migliorare le nostre prestazioni e ottimizzare l'ambiente di lavoro. Le domande sono volte a comprendere meglio le vostre esperienze nell'uso del software "Gestionale TSE". Il vostro feedback è essenziale per il nostro miglioramento continuo. Completamente anonimo: Le risposte saranno trattate in maniera confidenziale e non influenzeranno in alcun modo la vostra posizione o valutazione sul lavoro. Sincerità: Vi chiediamo di rispondere con la massima onestà. La vostra sincerità è fondamentale e non ci saranno conseguenze negative.

Per le domande da 1 a 11 e 14-17, selezionate il grado di accordo con le affermazioni utilizzando la scala da 1 (Fortemente in disaccordo) a 5 (Fortemente d'accordo). Per le domande 12 e 13, valutate la vostra esperienza o l'utilizzo del sistema con la scala indicata.

		Fortemente in disaccordo	In disaccordo	Neutrale	D'accordo	Fortemente d'accordo
1	Usare "Gestionale TSE" nel mio lavoro mi permette di completare i miei incarichi più velocemente					
2	Usare "Gestionale TSE" migliora la mia prestazione lavorativa					
3	Usare "Gestionale TSE" aumenta la mia produttività					
4	Usare "Gestionale TSE" aumenta la mia efficenza nel lavoro					
5	Usare "Gestionale TSE" rende più facile il mio lavoro					
6	Trovo che "Gestionale TSE" sia utile nel mio lavoro					
7	Penso che apprendere a usare "Gestionale TSE" sia facile per me					
8	Penso che "Gestionale TSE" sia un programma flessibile con il quale interagire					
9	Penso che "Gestionale TSE" sia facile da usare					
10	Penso che sia facile per me diventare esperto nell'usare "Gestionale TSE"					
11	Ho intenzione di usare "Gestionale TSE" per gestire tutte le varie aree del mio lavoro					
12	Utilizzo "Gestionale TSE" considerando come 1 (mai) e 5 (sempre)	1	2	3	4	5
13	Considerando 5 giorni lavorativi a settimana, il numero dei giorni che utilizzo "Gestionale TSE" è:	1	2	3	4	5
14	Disponiamo di un piano di formazione continua.					
15	Ho ricevuto la formazione per utilizzare il nuovo sistema gestionale.					
16	Mi sento a mio agio nel fornire feedback o nel porre domande sul uso del nuovo sistema gestionale.					
17	I dirigenti si impegnano a rispondere alle domande sul nuovo sistema gestionale					

Grazie per il tuo tempo e per aver completato il questionario