

How Do Organizational Factors As Safety Culture Influence Security Performance In Customs? A Literature Review

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Abstract

We argue that the contemporary risk society has globally shifted the emphasis of Customs border control from a primary focus on tariffs and taxes to a greater emphasis on societal safety and security. Border control management faces multifaceted challenges in their daily security endeavours, including the need for high efficiency and trade facilitation, elevated uncertainty, refugee flows, conflicts, wars, constrained financing, outdated equipment, the necessity of new technologies, and evolving regulations for goods importation (Tolletaten, 2022). On a global scale, customs agencies are expected to be more adaptable and responsive than ever before. The insufficient analysis of international customs data, encompassing staff performance among other aspects, presents a critical concern for customs administrations (Pérez Azcárraga et al., 2022). The aim of the paper is to assess the extent to which organizational and safety culture factors relate to security performance. Security performance encompasses the implementation of diverse measures, procedures, and controls aimed at mitigating security risks and threats, as well as ensuring compliance with international standards and regulations governing customs security. This study employed a literature review methodology drawing data from reputable scientific sources. Paradoxically, despite demonstrated utility of safety culture concept in numerous high-risk industries, associated practical advantages and safety performance improvement, research within the specific context of Customs and security performance improvement appears to be notably lacking. Building upon the insights from this literature review, our study contributes to the expansion of academic knowledge related to safety culture and its components, particularly beneficial for the Customs context.

Keywords: organizational factors, safety culture, security culture, security performance, customs, border control

1. Introduction

Customs and border control is one of the main societal safety institutions in the most countries and deals with the variety of tasks essential for the overall well-being of society and, specifically, societal safety. Societal safety is “the society's ability to maintain critical social functions, to protect the life and health of the citizens and to meet the citizens' basic requirements in a variety of stress situations” (Olsen et al., 2007, 69). Customs is supposed to protect society by securing transport chains, combating cross-border crime, shadow economy and illegal trade, threats to citizens' health, safety, environment and economical offences through efficient enforcement methods, as well as modern technological tools and data systems.

In the recent years, customs and border control have encountered a myriad of challenges, notably heightened by pandemics, wars, conflicts, sanctions and illegal immigration. On top of that is the necessity to maintain efficient operations with limited resources, adapting to restructuring processes, new modern technological and digital tools (Pérez Azcárraga et al., 2022; Tolletaten, 2022; Ylönen and Aven, 2023). Therefore, analyzing organizational factors that will either contribute to customs reliability and effectiveness, and subsequently affecting societal safety in general, or hinder it, are critical both for customs and societal safety.

Achieving optimal safety performance necessitates effectively addressing and managing safety risks. Whereas security performance includes work on detection and elimination of security threats, employees' personal security, organizational security and overall societal safety and security. Border security extends beyond averting physical attacks on individuals or property. It encompasses aspects such as revenue collection, consumer protection, thwarting the breach of a nations' policies through unlawful cross-border movements (McLinden et al., 2010), smuggling of drugs, weapons, along with other prohibited and dangerous goods, which may

destabilize economy and create hazards for population (Stene and Folgerø, 2018), and dealing with cyber threats (Ylönen and Aven, 2023).

Safety culture (further SC) being an organizationally integrated concept influences employees' thought and behavior, which subsequently affect both safety and security performance. SC can be defined as "shared beliefs, norms, values, practices, and organizational structures related to safety" (Aven and Ylönen, 2021). SC encompasses both safety and security concepts, distinguished by the nature of undesired events, being predominantly non-intentional in safety, as opposed to having the deliberate intent in security.

From the normative perspective a good SC can be designed. Improvement of SC correlates with organizational productivity and efficiency. Strong SC enhances organizational culture, resilience and prevents drifting into failure (Dekker, 2006). It contributes to elimination of hierarchy, communication improvement, proactive approach of employees and management, reduces the necessity of compliance and control. Additionally, assessing SC helps in identification of vulnerabilities that can deteriorate performance and cause failures.

Hence, recognizing the customs' pivotal role as a safeguarding entity within society, extensive challenges, intricate web of tasks and legislative structures, it becomes imperative to grasp the organizational factors influencing the customs performance. Additionally, considering importance and practical use of SC for customs, as well as for the expansion of the research field, it is therefore reasonable to formulate the following query:

"How do organizational factors, exemplified by safety culture, affect security performance in customs and border Control?".

2. Theoretical framework

2.1. The aspect of organizational factors/dimensions

Attention to organizational factors marked a paradigm shift in safety termed the New View, contrasting it with the conventional Old View (Dekker, 2006, 2014). The New View acknowledges that individuals typically strive to perform their tasks effectively, aligning their actions with the present context, objectives, knowledge, and focus. The New View asserts that human behavior represents a mere manifestation of broader systemic issues within an organization, encompassing factors like working conditions and an intricate web of underlying causes that can culminate in unfavourable outcomes, including accidents. This approach prompts a re-evaluation of the safety and reliability of systems. Central to the New View is the principle of "local rationality," rooted in cognitive science research (Dekker, 2014). It encourages a holistic understanding of the interplay between individual actions and broader systemic issues, ultimately contributing to enhanced safety and security practices. Incorporating the New View into the customs and border control environment can offer valuable insights into how organizational factors can influence security performance.

In order to be able to identify how organizational factors as SC might affect performance, we need to identify relevant organizational factors, exemplified by SC research beneficial for the customs context. Such factors encompass a wide array of components, including mindset, structures, and practices (Aven and Ylönen, 2021). Reiman and Oedewald (2009) distinguish 12 organizational dimensions, required to ensure safety: management actions, management system, change management, learning practices, supervisory activity, cooperation and communication, competence management and training, resource management, procedure management, risk management, safety communication and management of subcontractor. Together, they shape the framework within which safety and security measures are planned, executed, and assessed.

2.2. Organizational culture

Organizational culture represents a shared understanding that forms the basis for organizational behavior (Karlsen, 2014). It encompasses informal values and norms that evolve and become essential in the operations of formal organizations, influencing employees' behavior, attitudes, and performance (Christensen et al., 2007). It helps to conserve administrative resources as employees may think and act similarly while pertaining certain freedom (Christensen et al., 2007).

Organizational SC can be classified into three main manifestations: "psychological" which pertains to safety climate; "behavioral" related to actions; "situational" which is linked to organizational artifacts, for example structure and safety management systems (Akselsson et al., 2009). Organizational culture manifests itself via organizational climate, being one of the causal factors influencing job, work performance and satisfaction (Guldenmund, 2000). It precedes culture formation and is understood as perceptions of employees about their work environment and policies.

2.3. The aspect of SC (as an organizational integrated concept)

SC is a part of organizational culture encompassing a unique blend of safety, security and culture elements. Rooted in the realms of sociology, anthropology, individual, and organizational psychology, it forms the essence of an organization's approach to safety and performance. Reason calls it the "engine" propelling the system toward the objective of maintaining the highest resilience against operational hazards (Reason, 1998). The concept defies a single definition and is understood as "those aspects of the organizational culture which will impact on attitudes and behavior related to increasing or decreasing risk" and "strong convictions or dogmas underlying safety attitudes" (Guldenmund, 2000). Where safety is defined as "without unacceptable risk" (SRA, 2018).

It is generally agreed in research on a multidimensional character of safety-culture, nevertheless various dimensions are distinguished by different researchers. Furthermore, diverse industries develop distinct SC frameworks, focusing on their peculiarities while aligning with interests of stakeholders (Fleming et al., 2018).

For example, Flemming and Scott (2013) distinguished 43 dimensions, which they categorized into six overarching concepts: "leadership, safety integration, accountability, resiliency, learning and safety values" (Fleming et al., 2018). Dekker (2006) distinguishes the main subcomponents: management commitment and involvement, reporting systems, employees' empowerment and incentive structures. A widely shared viewpoint is the necessity of a common commitment for the improvement of safety attitudes and behavior throughout the whole organization, where both structure and climate encourage clear, open, and two-way communication, with a tendency towards resilience and flexibility, enabling adaptation to new circumstances with a predominant mindset of continual vigilance (Olive et al., 2006).

The question of whether SC and security culture should be distinct was discussed by Jore (2020). Security is understood as "the perceived or actual ability to prepare for, adapt to, withstand, and recover from dangers and crises resulting from deliberate, intentional, and malicious acts such as terrorism, sabotage, organized crime, or hacking" (Jore, 2019). Jore claims that while concepts should be examined individually, in practice, they must not be separated from one another. By evaluating and comprehending the safety and security culture within an organization, it becomes possible to gain insights into how safety and security performance can be nurtured and maintained (Martin, 2019). Additionally, this assessment helps in identification of vulnerabilities that can deteriorate performance and cause failures. Despite the fact that it is more common in academia to see security culture as a concept integrated into the SC concept (Jore, 2020), we choose to describe the differences for the reasons of clarity.

2.4. Security culture

Though SC and security cultures are different in a way of addressing and handling different risks, they can reinforce each other (Martin, 2019). High-risk industries, such as aviation, healthcare, and maritime, have long-established SCs that have been in place for several decades. However, the development of security cultures in these industries is a more recent phenomenon (Martin, 2019). Regulations and vigilant inspections enhance safety cultures. Nonetheless, the same approach can be more challenging in the realm of security, given the dynamic and adaptable nature of security risks, which are not easily managed through regulatory measures (Martin, 2019). Security risks are subjective and depend on values assessments, therefore establishment of common ethical standards are important (Martin, 2019).

Further difference lays in sharing information about threats. While broad sharing of safety risks is one of the typical features in SC, vulnerabilities related to security shall be addressed with caution avoiding the possible revelation by adversaries (Martin, 2019). Communication in security culture has to be effective, the principals "need-to-share" and "need-to-know" must be applied both inside and outside organizations (Martin, 2019, 40). "Security is all about people" (Martin, 2019). Though security risks are mostly caused externally, being difficult to decipher (Jore, 2020), nevertheless "the insider risks" exist and are quite serious for any organization (Martin, 2019). They can be instigated by both permanent and temporary employees. Security culture affects cybersecurity and physical risks.

Security and safety risks can directly oppose each other, "safety systems may fail if they are not secure" (Martin, 2019). Since security risks are forced though possible in mitigation, they can seldom be eradicated (Martin, 2019). Good security, Martin suggests, is to understand which risks can be tolerated, while reducing and avoiding the others, and demonstrating resilience in the face of adversity. Safety risks in contrast to security risks are directly related to profit and production (Jore, 2020).

2.5. The aspect of safety and security performance

Performance in general is evaluated at individual and organizational level. The concept of organizational performance is challenging both in defining and measurement (Brewer and Selden, 2000). It is "a socially

constructed phenomenon that is subjective, complex, and particularly hard to measure in the public sector” (Anspach, 1991; Au, 1996; Brewer & Selden, 2000). Organizations, as a whole, should be created with the aim of attaining excellence in effectiveness and performance, where effectiveness means the extent to which an organization accomplishes its objectives (Daft et al., 2010). Since objectives vary from one organization to the other, it is important to understand which criteria are used for its evaluation.

Safety performance is defined in various ways, “as an overall evaluation of organizational safety, which can reveal the strength and weakness of a safety management system that serves as a basis for organizational improvement in terms of SC and competitiveness”(Stemn et al., 2019a, 2019b; in Wei and Kuo, 2023).

World Customs Organization (WCO) created a working group on development of the “Performance Measurement Mechanism (PMM) including both quantitative and qualitative key performance indicators (KPIs) in all customs competencies: revenue collection, trade facilitation and economic competitiveness, enforcement, security and protection of society, etc. (Ireland et al., 2011). Moreover, sustainable performance improvement in customs administrations means “finding new ways of working with stakeholders, beneficiaries and the community as a whole. Improving the efficiency of these processes and monitoring them with the aid of an unbiased and robust methodology, will require the development of methods and tools taking advantage of the best assets new technologies can offer”(WCO, 2022).

Security performance refers to the execution of various measures, procedures, and checks designed to reduce threats and security risks while also ensuring compliance with international standards and regulations related to customs security.

The goal is to maintain a secure and safe environment for trade while facilitating legitimate cross-border movements, maintaining the integrity of customs operations, and contributing to the societal safety. It also includes the effectiveness and efficiency of measures and actions taken by customs authorities to ensure security and safety of goods, people, and the overall supply chain within international trade activities. It comprises the ability of customs authorities to detect and prevent illicit activities, such as smuggling, trafficking, terrorism, or the movement of prohibited or dangerous goods across borders.

3. Methods and data

The literature search was performed within the scientific bases Scopus and Web of Science, Google Scholar, Oria (UIS library catalogue), Brage (UIS), World Customs Organization database (WCO) and the references of the elected articles. General search strategy included such phrases as “safety culture in customs AND border control”, “customs AND border AND control AND safety AND culture”, “border AND control AND organi*”, “organizational factors in Customs OR border control AND performance” (a detailed description is available upon request).

In total 319 documents were screened, 288 of which did not have a direct relationship between the components studied in the query. 31 articles, one master and 2 PhD theses (partly) were analyzed. Since the papers reflecting the relationship between organizational factors, SC and safety, security performance in the research questions were rare within the customs and border control context, articles providing links between these components within other contexts (military soldiers, police, patient safety, etc.) were also studied. One article was omitted due to its predatory journal origin.

The main observation is that none of the papers combined all three aspects of our research query within the customs context. Interestingly, no direct application of SC concept within the customs context was identified. Only one article (Arcúrio et al., 2020) employed the security culture concept related to airport screening personnel. None of the other papers employed SC or its main components within the customs context, rather reflecting or focusing on some organizational factors and culture, occasionally not relating them to safety or security cultures. Partly, this might be explained by the difficulties to gain insights into the customs officers’ daily practices and subsequent scarce research in the field.

The total of 22 articles were related to the customs context, 9 articles applied other contexts, mostly from high-risk industries (Table 1). Four articles were written for WCJ by customs employees. The publishing journals have high scientific quality and refer to either level 1 or 2 in accordance with the Norwegian register for scientific journals (Register). 13 articles are based on surveys, mapping the correlated factors. Research based on qualitative methods, providing more in-depth insights into the customs practices is scarce. Little research addresses respectively organizational factors with relation to safety culture with focus on safety and security.

Table 1. Analysis of papers origin based on journal types.

Context	Management journals	Health and safety	Safety and security	Psychology	Economics	Social and behavioral	WCJ	Gender and culture	Multi discipline	Migration
Customs	4		8	3	1		4	1		1
Non-customs	2	2	2	1		1			1	

4. Findings and discussion

So, what can we assume from this literature review about how organizational factors, exemplified by safety culture, affecting security performance in customs and border control? The findings indicate a general lack of research within the customs context and scarcity of qualitative research focused on safety culture. Generally, the needs for research in organizational studies and safety culture that utilizes ethnographic methods is crucial according to Antonsen (2009). The methods are valuable in comprehending the intricacies of daily work (Hammersley and Atkinson, 1995), offering insights into both work processes and the broader contextual factors (Antonsen, 2009), contributing to a deeper understanding of safety practices, thereby playing an important role in safety management. Research on customs' everyday practices makes it possible to recontextualize security as "a set of mediated processes situated at the junction between, on the one hand, the actions and worldviews of diverse border security actors and, on the other, security discourses, strategies, policies and technologies" (Côté-Boucher et al., 2014).

Moreover, actors within border security "are interpreters of policy and regulations," they perform their work embraced in their "organizational cultures, settings and concerns," besides they seldom reflect about their routines (Côté-Boucher et al., 2014). Practices often emerge from unspoken, hands-on knowledge that renders the actions to be taken seemingly "self-evident" or commonsensical" (Pouliot, 2008). They apply elective power and form decisions based on formal and tacit understanding acquired from training and experience (Côté-Boucher et al., 2014), representing an exciting nearly unexplored area of research in the custom context.

Nevertheless, certain aspects or components relevant to the research question have been discussed by various authors. Drawing on theoretical knowledge, we can discern these aspects as necessary and relevant components for cultivating a robust SC within the customs context. To answer the research question, we chose to categorize the discussion in three main manifestations of organizational culture suggested by (Akselsson et al., 2009): "psychological" which pertains to safety climate, perceptions and feelings; "behavioral" related to actions, and "situational" linked to structure and safety management. All three components mutually affect each other and often are intertwined, and to ensure continuous improvement, each of these components must exert an influence.

4.1. Psychological safety culture

Chia et al. (2021) conducted one of the pioneering studies (per their view) that examined the work of border security officers from a psychological perspective. The authors acknowledge the varying nature of border security across different countries and emphasize the crucial role these officers play as the "first line of physical defense" in ensuring national safety and security (Chia et al., 2021). Thus, understanding the key competencies necessary for border security work is of paramount importance. They focus specifically on the essential "knowledge, skills, abilities and other characteristics" (KSAOs) which are vital for efficient job performance among Singapore border security officers. To account for the differences in tasks, the study distinguishes between supervisory and non-supervisory officers. Non-supervisory perform mostly tasks related to "primary immigration clearance of travelers and goods" while the supervisory handle "secondary clearance and people management" (Chia et al., 2021).

Despite these distinctions, the study identifies a significant convergence of crucial KSAOs. Critical thinking, stress management, and maintaining calmness are identified as some of the most important skills for both groups of officers. Additionally, possessing a strong work ethic and a positive attitude are deemed essential for good job performance. This is in line with Martin's (2019) claim and necessity of common ethical standards. Furthermore, officers need to have a belief in the significance of their duties and remain motivated to acquire new knowledge to adapt to the dynamic developments in the continuously evolving security environment, as emphasized by the New View in safety (Dekker, 2006). For supervisory officers, leadership skills and crisis management abilities were found to be of utmost importance, whereas non-supervisory officers required skills such as detection and behavioral profiling. Overall, this research sheds light on the crucial psychological aspects and competencies necessary for border security officers to carry out their duties effectively. Fita and Keco (2023) performed a survey within Albanian customs administration employees and argue that career opportunities and training practices are efficient mechanism for and have an essential impact on their organizational performance.

An effective way to assess safety climate within organizations is through the administration of questionnaires and surveys. Customs employees have provided valuable insights into their safety perceptions and the results of conducted surveys in articles published in the World Custom Journal (WCJ). The well-being of customs officers holds great importance for both safety and security performance. The influence of working environment and safety challenges related to work specificity in customs is depicted by several authors. The issue of women's safety at work, insecurities and harassment in the Asia-Pacific region is raised by (Hong et al., 2022). Hong et al. suggest, that improving their working environment by new regulations, encouraging and employing women in leadership positions will improve customs' performance.

Valamalua et al. (2022) emphasize the impact of well-being and work challenges on performance. Stress, pressures, uncertainty, shift work, poor sleep quality, procedures complexity, dangerous goods exposures are identified as typical characteristics of customs officers' work (Chia et al., 2021; Hong et al., 2022; Mansell et al., 2006; Vera et al., 2022). They have a direct impact on job satisfaction and/or burn-out (Komar et al., 2021, Mansell et al., Vera et al.). Main sources of stress are time pressures and deadlines, and large work volume (Mansell et al., 2006). Notably, Mansell et al. found that "minor daily hassles" have a greater impact on well-being compared to "major life events" (Mansell et al., 2006). Reduction of daily organizational hustles therefore can improve performance.

Vera et al. (2022) conducted a study to further explore factors impacting burnout and job satisfaction, namely the influence of ethical leadership on customs officers. It is defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision making" (Brown et al., 2005). The survey findings revealed a significant correlation between ethical leadership and job satisfaction, when the former indirectly influencing burnout by reducing stress levels and enhancing job satisfaction. Importance of security climate and leadership, information exchange and learning, reason and fairness, just culture and good reporting practices in the work of screening officers in Brazilian airport checkpoints are highlighted by Arcúrio et al. (2020).

Furthermore, a case study conducted by Wei and Kuo (2023) among military volunteers suggested that a deeper sense of safety leadership among soldiers leads to a clearer perception of risk, which in turn contributes to improved safety performance. Safety culture is identified as a mediator that connects safety performance with safety leadership (Wei and Kuo, 2023). The authors highlight the evolving nature of 21st-century security defense, which now encompasses threats beyond traditional military concerns, such as infectious diseases, that can cause more casualties than war itself. Consequently, the scope of national security expands to include political, economic, social, and psychological aspects (Wei and Kuo, 2023).

The importance of attention to mental health has become even more evident in the aftermath of Covid-19 pandemic. Paying attention to mental health, addressing it in policies, education and open communication will strengthen customs (Valamalua et al., 2022). Valamalua et al. (2022) raise the issue, being often stigmatized and unattended in the customs administrations' policies compared to physical health, leading to what they have described as a "culture of silence". The implications of neglecting mental health can be significant for both safety and security performance, including accidents, decreased productivity, increased sick leaves, disabilities, and improper utilization of medical services (WHO and ILO, 2000). Valamalua et al. (2022) conclude that open communication along with dialogs require improvement in customs. It may have a positive impact on organizational culture.

A positive organizational culture has the potential to enhance employee performance and reduce work stress (Komar, 2021). One way this can be achieved is through effective SC communication practices. Namely, through the utilization of various data logging applications, which have proved to be beneficial in addressing different challenges. Employees logged their work tasks, goals fulfilment, along with problems, which helped to reduce work stress (Komar, 2021). Not only do they serve a warning and preventive purpose, decreasing safety and security risks, but also stimulate proactivity and reporting typical for a good SC. The security principals "need-to-share" and "need-to-know" (Martin, 2019) can be applied. Additionally, it empowers employees (Dekker, 2006) by fostering a sense of personal value, worth, and contribution towards collective safety and security objectives.

4.2 Behavioral safety culture

Several studies have identified a direct positive correlation between culture and performance (Denison & Mishra, 1993; Ghobadian & O'regan, 2002; Gordon & DiTomaso, 1992; Kotter & Heskett, 1992; Marcoulides & Heck, 1993). Good and appropriate organizational culture increases employees' performance (Komar, 2021). Komar (2021) conducted a questionnaire-based study among Indonesian customs officers, examining the relationship between organizational culture and employee performance through work stress. The findings indicate that organizational culture has a significant impact on employees' performance, with a positive effect when a good and appropriate culture is in place.

Marenin (2010) explored the professional culture of border guards, drawing insights from the police research due to similarities in powers, authority, and hierarchical structures. Surprisingly, he couldn't locate any thorough research addressing the professional culture of border guards. The complex interplay of organizational, structural, and personal factors influencing work performance creates a considerable challenge in the context of border controls and integrated border management. This challenge is characterized as a "messy" problem, which is not effectively addressed by simplistic policies and regulations (Marenin, 2010).

Moreover, EC and FRONTEX regulations do not include anything related to gender inequality and informal cultural rules (Marenin, 2010). Furthermore, it's important to note that not only is functional security

underemphasized within the academic realm, but border management itself is shaped by the interplay of conflicting political priorities, operational necessities, and societal realities, rather than being guided by a cohesive theoretical framework (Hills, 2006). He claims, that values of being accountable and transparent about security actions must be incorporated into the border guards occupational culture (Marenin, 2010). Whereas accountability is a crucial good SC component (Fleming et al., 2018).

Proactivity is considered an integral part of a good safety culture and is discussed by Siripankul et al. (2022). Customs security performance can be improved by fostering a “culture of proactive curiosity”, promoting analytical skills, keen observation, cooperation, collaboration, and trust are highlighted in the article as important aspects of culture to aim for in Thai customs (Siripankul et al., 2022). These elements align with the principles of a good SC and a mindset of continual vigilance (Olive et al., 2006).

Nevertheless, in any organization, including police organizations, there may be occupational cultures and informal work practices, that do not align completely with formal requirements and expectations (Hills, 2006). This indicates the presence of underlying cultural norms and practices that shape behavior within an organization. Zaiotti (2007) further explores the border control culture, which he defines as a “a relatively stable constellation of background assumptions and corresponding practices about borders shared by a border control community in a given period and geographical location”, meaning decision-makers and those responsible for border control. The authors highlight the main characteristics of European border control, such as focus on security, the pivotal function of “national governments, flexibility as favorite working method, and limited judicial and democratic control... with a goal to create ‘an area of freedom, security and justice’ across the region” (Zaiotti, 2007).

Research conducted by (Njau, 2020) establishes a strong positive correlation between automation processes, such as Simba Systems 2005, Single Window Systems, and Scanner Systems, and customs performance. The study concludes that automating processes enhance customs performance by improving transparency and accountability. Digitalization is cited as contributing to the more efficient utilization of customs resources (Customs day, 2023).

The significance of organizational factors in relation to the effectiveness of airport screening officers in detecting threats is emphasized by Kraemer et al. (2009). Factors such as training, performance goals, measurement, and hiring practices are identified as key contributors to screening effectiveness. The researchers propose a framework for human and organizational factors in security screening and inspection (SSI) systems across different transportation modes. It was modified based on the research of organizational and human factors within the field of information and computer security (Kraemer et al., 2009). It describes “the dynamic system environment” and emphasizes how “social dimension” influences “the system performance and decision support” (Kraemer et al., 2009). The authors advocate for a system thinking approach in contrast to a fragmented one commonly applied earlier. They distinguish five interacting factors creating stress burden, which are: “organization, individual, task and work load, technologies and tools, and the operational environment” (Kraemer et al., 2009). They propose achieving equilibrium between the favourable and unfavourable aspects of these factors to enhance work system performance. For example, by “proper job and organization design, such as increased employee participation, comprehensive training, and consistent supervisory support” (Kraemer et al., 2009). Effective and voluntary errors reporting as an element of strong security culture in Brazilian airport screening locations is stressed by Arcúrio et al. (2020). Improper reporting influences the performance negatively. By cultivating a strong safety and security culture, an airport can continually enhance its reputation as a “high-reliability” organization operating in a complex environment (Arcúrio et al., 2020).

4.3. Situational safety culture

Occasionally, SC is referred to as a concept primarily associated with Western practices. Das and Jaiswal (2016) distinguish between eastern and western practices and their impact on performance. They argue that democratic approach and a flatter organizational structure are often typical of Western countries. Authors claim that Human Resource Management (HRM) practices have positive correlation with performance, such as “selection, teamwork, employee participation, training, compensation, etc.”(Das and Jaiswal, 2016).

Several papers discuss the topic of leadership in the workplace. A global challenge faced by customs is the underrepresentation of women in leadership positions. The extent of this challenge varies across different national cultures. According to the WCO (2019) statistics 37 % of customs administration are female, while 29 % are female senior managers and merely 15% are heads of customs. Scholars such as Marenin (2010), Vera et.al. (2022), Prokkola and Ridanpää (2015) and publications in the World Customs Journal by Hong et al. (2022), Mohanakumar et.al. (2022), Siripankul et al.(2022) address these challenges. They argue that women involvement is vital for achieving optimal customs performance. Moreover, leadership is seen as a social asset that shields individuals from stress, but also enhances their performance and overall well-being (Okpozo et al., 2017; Mo and Shi, 2017).

The impact of gender diversity on knowledge formation has been recognized by Baird (2017). Baird conducted a study on production of knowledge, its dissemination and accumulation in border security practices in Europe and North America at the border security fairs. Knowledge, within the realm of security professionals, is seen as a manifestation of established border security cultures (Zaiotti, 2011).

Along with promoting different technological solutions from the industry and formulating actual demands from border control, accent was made on employees training and “practice to instill norms and discipline labour into accepting the shared categories and taken-for-granted discourses of security professionals” (Baird, 2017). Baird raises criticism regarding the commercialization and marketization of practical knowledge. It was observed that the speakers and participants at the fairs were predominantly male reflecting the image of masculine border control previously discussed by Prokkola and Ridanpää (2015). Prokkola, Ridanpää and Baird address the issue of masculinity and its influence on the knowledge production. “The findings suggest that the skewed ratio of men to women may have important effects” and how they are embodied in practices of security. Arcurio et al. (2020) also note a stronger focus on new technology rather than on culture and training within customs. This observation can partially be explained by the issue of knowledge production and the predominance of male dominance within the field on a global scale.

Further, the existing literature on organizational change, culture, and reforms emphasizes the critical role of middle-level managers (Marenin, 2010; Schein, 2017). Zwetsloot et al. describe them as “a transmission belt” between operators to the upper management (Zwetsloot et al., 2013). Maitlis and Sonenshein assert (2010) that middle managers play a crucial role in enacting organizational change by mediating “sensemaking” between top management and frontline employees on the frontline influencing their cognition and behavior. They also engage in “emotional balancing and which they do partly by engaging in sense giving that manages subordinates’ emotions and creates a sense of continuity and change” (Huy, 2002 cited in Maitlis & Sonenshein, 2010). Marenin (2010) suggests that middle-level managers can either act as obstacles or engines of reform, while procedures oriented to top or bottom levels have little impact on occupational cultures (Marenin, 2010). He also stresses the necessity of building networks and effective collaborations, where customs can play a coordinating role.

Skaarup (2021) highlights an important issue regarding the misalignment of what is expected to occur at the border and what transpires in reality, particularly at non-smart borders like the Hyllic station in Sweden. “The border officers are both aware and accepting of the dissonance between the stated aims of total security and the reality of a glitchy and leaky border control” (Skaarup, 2021). The security control there appears to be improvised, relying heavily on the individual decisions of border officers and frequently experiencing intermittent malfunctions. Skaarup argues for the need to conduct studies that delve into the logics of border control, which she claims often rely on inscrutable risk and probability assessments. Pickering and Ham (2014) performed a study of daily performances of boarder control in Australia and conclude that border “is a site of significant social sorting, where various intersections of intelligence-led profiling and everyday stereotyping of women, sex work and vulnerability play out” (Pickering and Ham, 2014). They argue that there is a need for increased vigilance in monitoring border sorting procedures. Additionally, the impact of organizational turbulence and technological advancements on decision-making within customs has been largely overlooked in research (Côté-Boucher, 2016). The study conducted by Côté-Boucher delves into “the paradox of discretion” and decision-making among Canadian border officers. It revealed that the utilization of new technologies has a dual effect, both expanding and constraining the discretion and decision-making abilities of the officers (Côté-Boucher, 2016).

The importance of safety and security culture concepts in assessment of safety and security is increasingly recognized (Velás et al., 2022). Velás et al. suggest to assess safety and security cultures within the following sectors: “security and safety education, management of organization’s security, work environment, security consciousness and behaviour” (Velás et al., 2022). They distinguish several indicators for such an assessment, namely: significance of safety and security for employees and management; developing and implementing security policies; financial and other investments in security and safety; necessary professional expertise; compliance with safety and security standards and laws; operational security procedures and designated responsibilities; compliance with operational rules; preparedness to handle unexpected situations of crisis; security documentation preparation and maintenance; thefts, its amounts and regularity; amount of injuries, accidents and incidents; occasions related to neglect; employees collaboration; awareness of employees of company’s safety and security assignments; employees perceptions on the necessity of safety assurance (Velás et al., 2022). They admit that organizations not involved in production may have other components, which will require authors’ model adjustment. This comprehensive assessment framework provides valuable insights into evaluating safety and security cultures within organizations and allows for a more holistic understanding of their safety and security practices.

Measuring effectiveness of the border management, especially quantitatively raises certain critique. The level of impact or added value cannot be determined from the given data (Marenin, 2010). “Right now, any internal assessment basically says ‘we are doing a good job even when we can’t quantify added value’” (Marenin, 2010,

p. 126). Adomavičiūtė and Daujotaitė (2017) discuss business performance assessment in customs administrations. It should assess “strategy and operations management, financial management, human resources management, marketing, organizational behavior, accounting, control and etc.” (Adomavičiūtė and Daujotaitė, 2017).

Wilpert (2008) distinguishes between two main and opposing “models of regulatory control”: first, compliance with norms and second, oriented on performance and goals. The main problem of compliance, as he stresses, is the necessity of regular control, which is quite complicated to perform within sophisticated socio-technical systems, not to mention such negative influence as interference into daily activities, distrust, limited learning and lack of flexibility.

5. Conclusion

The objective of the article was to examine the existing literature on the impact of organizational factors, specifically SC, on security performance. While the review identified a lack of discussion or application of the SC concept within the customs context, numerous studies conducted in other fields consistently demonstrate a strong relationship between safety culture and security performance.

By initiating this discourse within the customs domain, we shed light on the critical role of organizational factors and SC in both safety and security performance of customs and border control. Moreover, recognizing their broader implications for societal safety underscores the urgency of addressing these factors effectively. Moving forward, ethnographic research, particularly qualitative studies, hold promise for a deeper understanding of specific factors, enabling customs to enhance their effectiveness and safeguard our communities.

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