

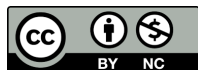
Chapter 2.1. Digitalization to Overcome the Challenges of Customs Brokerage

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Abstract. Customs brokers play a crucial role in international trade, acting as intermediaries between importers, exporters and government customs authorities. They provide basic services that facilitate the smooth movement of goods across borders. One of the main functions of customs brokers is the preparation and submission of the necessary documentation for customs clearance. However, customs brokers encounter difficulties in their work. Uncertainty around trade agreements and border policies, regulatory complexity, corruption and bureaucracy, lack of transparency of procedures, technical limitations, infrastructure problems, technology gaps and inadequate staff skills. Directions for improving the situation are being considered. Comprehensive reforms, optimization of customs procedures, increased transparency of customs operations, ensuring adaptability to a changing environment, improving the efficiency of infrastructure and implementing effective electronic systems are necessary. The main purpose of this study is to determine directions for creating a more favorable environment for the activities of customs brokers based on digitalization to overcome the challenges of the customs fraternity, which in turn will contribute to the expansion of foreign trade and the economy. Digital transformation is a key factor in bridging the technological divide. The lack of integrated digital platforms is a significant obstacle for customs brokers. By investing in digital tools training, brokers can transition from legacy systems to more efficient modern technologies. Customs brokers must adopt a holistic approach to digital transformation, including automating processes, improving customer interactions and ensuring regulatory compliance. The results indicate that digital tools can improve the efficiency of customs processes, allowing brokers to respond quickly to changing conditions and achieve a high level of competitiveness. The digital transformation of the customs fraternity is critical to adapting to uncertainty. Automated systems can reduce human error, speed up processes and improve data accuracy, which is important in a rapidly changing environment. Brokers investing in technology will be better positioned to navigate the complexities created by geopolitical factors.

Keywords: customs brokers; digitalization; infrastructure; transformation; customs digitalization; trade facilitation; e-customs; supply chain efficiency; regulatory compliance.

1. Challenges Faced by Customs Brokers in Ukraine. The geopolitical status of Ukraine has long been a subject of scholarly discourse, particularly in the context of its relations with other countries. As a country situated at the crossroads of Europe and Asia, Ukraine's European identity is shaped by a complex interplay of economic, political, and socio-cultural factors. These characteristics not only define Ukraine's position within the broader European space but also influence its integration into European institutions and its role in regional and global geopolitics.

Economically, Ukraine's European status is largely determined by its efforts to align with European standards of development, particularly through market reforms, integration into the European Union economy, and participation in regional trade agreements. Ukraine's strategic location as a key transit hub for energy resources, its agricultural potential, and its industrial base all contribute to its economic ties with European countries. The implementation of economic reforms, such as the adoption of EU-compatible legal frameworks, anti-corruption measures, and efforts to modernize infrastructure, have been crucial in shaping Ukraine's European aspirations.

Despite challenges such as political instability, economic crises, and ongoing conflicts, Ukraine has made significant strides in aligning its economy with European norms. The EU-Ukraine Association Agreement, which includes provisions for deeper economic integration, is a critical step in Ukraine's pursuit of greater economic ties with Europe. The development of a free trade area with the EU and participation in the Eastern Partnership program further enhance Ukraine's economic integration into the European space.

Furthermore, Ukraine's foreign policy priorities emphasize cooperation with European institutions, including the EU and NATO. Ukraine's desire for greater security and political stability within the European context is driven by the aspiration to enhance its sovereignty and territorial integrity, particularly in the face of Russian aggression and the annexation of Crimea in 2014. The pursuit of NATO membership and continued dialogue with the EU represent key political dimensions of Ukraine's European status.

Ukraine's European status in the geopolitical space is the result of a multifaceted process, shaped by the interplay of economic, political, and socio-cultural factors. As Ukraine continues to strengthen its ties with European institutions and reform its internal systems, its European identity will increasingly

be defined by its active participation in the European project and its commitment to the values of democracy, human rights, and the rule of law.

“Recognition of the European status of the geopolitical space of Ukraine is a unique methodological principle for identifying the economic, political, and sociocultural characteristics that define it, both of the entire space and its constituent parts... The challenge associated with an adequate way of representing our postmodern era is to formulate an understanding of world politics that corresponds to the need to move beyond the problematic of sovereignty, focused on geopolitical segmentation, stable actors, and economic power; it should be a vision that takes into account the significance of the flows, networks, and identities found within them but does not resort to simply introducing new levels of analysis” (Nekhai, 2024). In this regard, attention should be paid to improving the principles of operation of those organizations that directly carry out procedures related to the initial stage of presenting our products on the international market.

Customs brokers play a crucial role in the international trade landscape, acting as intermediaries between importers, exporters, and government customs authorities. Their expertise in navigating the complexities of customs regulations ensures that goods are imported and exported smoothly and efficiently. This article explores the essential functions and principles of customs brokers.

Customs brokers are licensed professionals who facilitate the clearance of goods through customs. They are knowledgeable about trade laws, tariffs, and regulations, making them invaluable assets for businesses engaged in international trade. By ensuring compliance with customs regulations, brokers help prevent delays, fines, and other complications that can arise during the import/export process.

One of the primary functions of customs brokers is to prepare and submit the necessary documentation for customs clearance. This includes invoices, shipping manifests, and customs declarations, which must be accurate and complete to avoid delays.

Customs brokers help classify goods according to the Harmonized System codes, which determine the applicable duties and taxes. Accurate classification is essential for ensuring that the correct tariffs are applied. Brokers facilitate the payment of customs duties and taxes on behalf of their clients, ensuring compliance with all financial obligations required for the import/export of goods.

Customs brokers represent their clients before customs authorities, managing the clearance process to ensure that shipments are released in a timely manner.

Brokers provide valuable advice on compliance with trade regulations, helping businesses understand import/export restrictions, duty drawbacks, and other pertinent issues. Many customs brokers also offer logistics services, assisting with the transportation and storage of goods, ensuring that shipments reach their destination efficiently.

The activities of customs brokers are carried out on the basis of sound principles (Table 2.1).

Table 2.2. Principles Guiding Customs Brokers

Principles	The essence of the principles
Compliance	A fundamental principle guiding customs brokers is adherence to legal and regulatory requirements. They must ensure that all activities comply with international trade and customs laws
Accuracy and Transparency	Customs brokers must maintain high standards of accuracy in documentation and declarations. Transparency in their operations fosters trust with clients and customs authorities alike
Ethical Conduct	Ethical behavior is crucial for customs brokers. They must act in the best interests of their clients while adhering to legal obligations, avoiding any actions that could be considered fraudulent or deceptive
Continuous Learning	The field of customs brokerage is dynamic, with laws and regulations frequently changing. Brokers must engage in continuous professional development to stay informed about updates in trade policies, tariffs, and customs procedures

Source: systematized by the author according to (Akinsola, 2023)

Customs brokers are essential partners in the world of international trade, providing critical services that facilitate the smooth movement of goods across borders. Their expertise in navigating the complexities of customs regulations, combined with their commitment to compliance and ethical conduct, makes them invaluable to businesses engaged in global commerce. As trade continues to evolve, the role of customs brokers will remain vital in ensuring that international trade operates efficiently and effectively.

Customs brokers in Ukraine play a vital role in facilitating international trade, ensuring that goods move smoothly across borders while complying with

complex regulations. However, they face numerous challenges that can hinder their operations and impact the efficiency of trade. This article explores some of the key issues confronting customs brokers in Ukraine today.

Regulatory Complexity. One of the most significant challenges for customs brokers in Ukraine is the complexity of customs regulations. The legal framework governing customs procedures is often intricate and subject to frequent changes. This variability makes it difficult for brokers to stay updated and compliant, leading to potential delays and increased costs for businesses. Correct use of these rules requires special knowledge and constant vigilance, which can be overwhelming for many brokers.

Customs brokers are essential partners in international trade, providing critical services that facilitate the smooth movement of goods across borders. Their expertise in navigating the complexities of customs regulations and commitment to compliance and ethical conduct makes them invaluable to businesses engaged in global commerce. As trade evolves, customs brokers will remain vital in ensuring that international trade operates efficiently and effectively.

Customs brokers in Ukraine are vital in facilitating international trade, ensuring that goods move smoothly across borders while complying with complex regulations. However, they face numerous challenges that can hinder their operations and impact trade efficiency. This article explores some critical issues confronting customs brokers in Ukraine today.

Regulatory Complexity. One of the most significant challenges for customs brokers in Ukraine is the complexity of customs regulations. The legal framework governing customs procedures is often intricate and subject to frequent changes. This variability makes it difficult for brokers to stay updated and compliant, leading to potential delays and increased business costs. Correctly using these rules requires special knowledge and constant vigilance, which can be overwhelming for many brokers.

Corruption and Bureaucracy. Corruption remains a pervasive issue within the customs system in Ukraine. Customs brokers often encounter bureaucratic hurdles that can complicate the clearance process. Bribes and unofficial payments may be expected in certain situations, creating an ethical dilemma for brokers who strive to operate legally. This corruption undermines trust in the customs system and leads to increased costs and uncertainty for businesses.

Customs brokers in Ukraine play a crucial role in facilitating import and export processes. However, their activities are often hampered by numerous bureaucratic obstacles that negatively impact the efficiency and competitiveness of their businesses. One of the main issues is the need for more precise and transparent customs procedures. Changes in legislation and customs rules occur frequently, complicating the work of brokers. Customs authorities often interpret regulations differently, leading to customs clearance delays and additional costs.

Moreover, customs brokers must provide many documents for each shipment. These requirements can be excessive or not aligned with actual needs, prolonging the process and creating an additional burden, especially for small and medium-sized enterprises. Corruption is another severe problem, as brokers frequently encounter informal demands and bribery to expedite customs clearance. This situation increases costs and poses significant risks for companies trying to operate within the law.

Technical limitations within customs authorities further complicate matters. Often, they need more resources to work efficiently, and automation systems for electronic document management frequently experience malfunctions or have limited functionality. This can delay processes and make interactions between brokers and customs more challenging. Additionally, the need for more qualified personnel in the customs service affects the overall efficiency of customs brokers. Many customs staff need help working with new technologies or fully understanding the specifics of international trade, resulting in errors and delays during the clearance process.

To improve this situation, comprehensive reforms are needed. Simplifying customs clearance procedures, increasing transparency in customs operations, and implementing effective electronic systems can help reduce bureaucratic obstacles. By addressing these issues, Ukraine can create a more favorable environment for customs brokers, ultimately contributing to foreign trade growth and the overall economy.

Competition and Market Pressures. The customs brokerage market in Ukraine is becoming increasingly competitive, with many players vying for business. This competition can drive down prices and lead to a race to the bottom regarding service quality. Brokers may feel pressured to cut costs, which can compromise the level of service provided and result in increased errors or compliance issues.

The customs brokerage sector in Ukraine is undergoing dynamic changes driven by globalization, technological advancements, and evolving regulatory environments. Customs brokers play a vital role in ensuring the efficiency of international trade by handling customs clearance processes. However, increasing market competition and pressure require them to improve their services and strategies continuously.

The growth of international trade has led to an increase in the number of customs brokers in Ukraine. New market participants, including traditional firms and startups offering innovative solutions, create high competition. Additionally, the automation of customs clearance processes and the use of digital platforms are changing the rules of engagement, providing clients with the option to choose between traditional brokers and new technological solutions.

Market pressure forces brokers to lower service prices, often reducing profit margins. This is particularly relevant for small and medium-sized enterprises, which may need more resources to invest in new technologies. In response to this pressure, customs brokers need to find ways to enhance the efficiency of their processes and reduce costs.

In a highly competitive environment, companies must embrace innovation. Electronic document management, improved management systems, and enhanced customer service are critical for competitiveness. Brokers offering unique solutions or specialized services are more likely to succeed.

Competition and market pressure in the customs brokerage sector in Ukraine require companies to be flexible and capable of adapting to change. An innovative approach focused on improving service quality and optimizing processes may be crucial to survival and growth in a competitive market. The prospects of customs brokerage in Ukraine depend on market players' ability to adapt to a constantly evolving business environment.

Ongoing geopolitical tensions and conflicts in the region also impact the operations of customs brokers in Ukraine. Uncertainty surrounding trade agreements and border policies can lead to fluctuations in trade volumes and create additional complexities for brokers. Navigating these unstable conditions requires adaptability and resilience.

The activities of customs brokers are significantly influenced by geopolitical factors, which shape the regulatory landscape, trade relationships, and operational challenges they face. Let us explore how geopolitical dynamics, such as

international relations, regional conflicts, trade agreements, and economic sanctions, impact the customs brokerage sector. By analyzing these influences, we aim to understand how customs brokers can navigate the complexities of an ever-changing geopolitical environment. By analyzing these influences, we aim to provide insights into how customs brokers can navigate the complexities of an ever-changing geopolitical environment.

Customs brokers serve as intermediaries between businesses and government authorities, facilitating the movement of goods across borders. Their role is increasingly important in a globalized economy, where many factors influence trade flows. Geopolitical events, such as shifts in political power, conflicts, and changes in international trade policies, directly affect customs brokerage operations.

Geopolitical factors can significantly alter trade patterns. For instance, political tensions between countries often lead to imposing tariffs and trade barriers. Customs brokers must stay informed about these developments to advise their clients on compliance and risk management effectively. Additionally, geopolitical instability in one region can lead to supply chain disruptions, prompting brokers to seek alternative routes or partners.

The relationships between countries play a crucial role in determining trade opportunities. Positive diplomatic ties facilitate smoother customs processes, whereas strained relations can increase scrutiny and delays. For example, the ongoing trade tensions between the United States and China have prompted many businesses to reconsider their supply chains, affecting customs brokers who handle goods between these nations.

Conflicts can severely disrupt trade routes and logistics. Customs brokers must be prepared to navigate these challenges, including rerouting shipments or dealing with increased security measures. The situation in Ukraine, for instance, has led to significant changes in trade dynamics across Eastern Europe, compelling brokers to adapt quickly to new realities.

Bilateral and multilateral trade agreements are essential in shaping customs operations. Agreements such as the United States-Mexico-Canada Agreement or the Comprehensive and Progressive Agreement for Trans-Pacific Partnership can create new opportunities for customs brokers by simplifying procedures and reducing tariffs. Brokers must remain abreast of such agreements to capitalize on the benefits they offer their clients (WCO Customs Brokers Guidelines, 2023).

Economic sanctions imposed by governments can profoundly impact customs brokerage activities. Brokers must ensure compliance with these sanctions to avoid penalties and legal repercussions. A deep understanding of the geopolitical landscape and the ability to track changes in sanctions regimes are required. For instance, sanctions against countries like Iran or North Korea create complex scenarios for brokers, necessitating thorough due diligence on the part of customs professionals.

In light of the challenges posed by geopolitical factors, customs brokers must adopt new technologies to enhance their resilience. Digital tools can improve the efficiency of customs processes, enabling brokers to respond quickly to changing conditions. Blockchain and artificial intelligence can streamline documentation, enhance transparency, and facilitate compliance monitoring.

The digital transformation in customs brokerage is critical for adapting to geopolitical uncertainties. Automated systems can reduce human error, speed up processes, and improve data accuracy, all essential in a rapidly changing environment. Brokers should invest in technology to navigate the complexities caused by geopolitical factors.

Data analytics can give customs brokers valuable insights into market trends, compliance risks, and operational efficiencies. By analyzing data related to geopolitical events, brokers can make informed decisions and develop strategies that mitigate potential disruptions.

Geopolitical factors play a significant role in shaping the operations of customs brokers. Adapting to changes in international relations, regional conflicts, trade agreements, and sanctions is essential for success in this field. As the global trade landscape evolves, customs brokers must embrace technological advancements and data-driven strategies to remain competitive. Ultimately, understanding and responding to geopolitical influences will be crucial for customs brokers looking to thrive in an increasingly complex and interconnected world.

Infrastructure Challenges. Ukraine's infrastructure poses additional challenges for customs brokers. This circumstance leads to delays in cargo clearance. Poor road conditions and limited access to transportation options further complicate logistics, making it difficult for brokers to ensure the timely delivery of goods. "To ensure risk minimization to increase profitability and financial strength, enterprises need to adapt to the new reengineering system a set

of measures that allow identifying combined business processes into a holistic management system, in which control, monitoring, and assessment of negative environmental factors to stabilize the competitiveness of business entities play a key role” (Trusova & etc., 2023).

Technological Gaps. While technology has the potential to streamline customs processes, Ukraine faces significant technological challenges. Many customs brokers still need to rely on outdated systems for documentation and communication with customs authorities. The lack of integrated digital platforms can lead to inefficiencies, increased processing times, and a higher likelihood of errors in documentation.

Training and Professional Development. The evolving nature of international trade and customs regulations necessitates ongoing training for customs brokers. However, access to professional development opportunities in Ukraine is often limited. Many brokers need more resources to pursue advanced training or certification, which can hinder their ability to adapt to changes in the industry and improve their service offerings.

Customs brokers in Ukraine play a crucial role in facilitating international trade, but they face various challenges that can impact their effectiveness. Addressing regulatory complexity, corruption, infrastructure limitations, and technological gaps is essential for improving the customs brokerage environment. By investing in training and development, enhancing infrastructure, and promoting transparency within the customs system, Ukraine can better support its customs brokers and enhance its position in global trade.

2. Overcoming Challenges Faced by Customs Brokers in Ukraine. Customs brokers in Ukraine are essential players in the international trade landscape, facilitating the movement of goods across borders. However, they face numerous challenges, including regulatory complexity, Corruption, outdated infrastructure, and technological gaps. One effective way to address these issues is through acquiring digital skills. This work explores how increasing digital competencies can help customs brokers in Ukraine overcome current challenges.

They are streamlining Regulatory Compliance. One of the most significant hurdles for customs brokers is navigating the complex web of customs regulations. Digital skills can empower brokers to use online resources and software that provide real-time updates on regulatory changes. By utilizing tools such as automated compliance management systems, brokers can ensure they are

up to date with the latest requirements, reducing the risk of errors and delays.

They are enhancing Transparency and Reducing Corruption. Corruption remains a persistent issue in the customs process. By adopting digital tools for documentation and communication, customs brokers can enhance transparency. Implementing electronic platforms for submissions and approvals creates a clear, traceable record of transactions, reducing opportunities for corrupt practices. Additionally, training in digital ethics and compliance can further promote a culture of integrity within the industry.

Adaptability in a Changing Environment. The geopolitical landscape can create uncertainty for customs brokers. By developing digital skills, brokers can quickly adapt to changes in trade agreements, tariffs, and customs procedures. For instance, data analytics tools allow brokers to assess market trends and make informed decisions, ensuring they remain agile in the face of shifting conditions.

They are building a Collaborative Ecosystem. Digital skills foster collaboration among customs brokers, clients, and customs authorities. By utilizing online platforms for communication and information sharing, brokers can work more effectively with stakeholders. This collaboration can improve problem-solving, faster customs clearance, and a more efficient overall process.

They are improving Infrastructure Efficiency. While Ukraine's physical infrastructure may pose challenges, digital solutions can significantly improve efficiency. Customs brokers can leverage logistics software to optimize routing and inventory management, helping mitigate the impact of poor infrastructure. By analyzing data and utilizing digital mapping tools, brokers can make informed decisions that enhance the speed and reliability of their services.

They are enhancing Infrastructure Efficiency in Customs Brokerage. In international trade, the efficiency of customs brokerage is crucial for ensuring that goods move smoothly across borders. In Ukraine, customs brokers face significant challenges related to infrastructure that can impede their operations and affect overall trade efficiency. This work explores strategies for enhancing infrastructure efficiency in customs brokerage and the benefits that can result from these improvements.

Understanding the Current Infrastructure Challenges. Customs brokers in Ukraine often encounter various infrastructure-related issues, including:

- inadequate facilities: many customs offices and border checkpoints lack the necessary equipment and space to handle high volumes of goods efficiently,

leading to delays in processing;

- poor transportation networks: insufficient road and rail infrastructure can complicate logistics, making it difficult to transport goods to and from customs facilities promptly;

- limited technology integration: Many customs facilities still rely on outdated systems for documentation and communication, which can slow down processes and increase the risk of errors.

Improving the efficiency of customs brokerage facilitates the implementation of several strategies:

- investment in modern facilities: Upgrading customs offices and border checkpoints with state-of-the-art technology and adequate space can significantly improve processing times. For this, it is necessary to install automated customs clearance systems and expand storage capabilities;

- developing transportation networks: Improving the road and rail networks that connect customs facilities to crucial trade routes is essential. Investing in infrastructure development can facilitate smoother logistics and reduce transit times for goods;

- implementing digital solutions: Embracing digital technologies can streamline customs processes. For example, utilizing electronic data interchange (EDI) systems allows for the rapid exchange of information between customs brokers and authorities, minimizing paperwork and expediting clearance times

- training and development: Training customs personnel in the latest technologies and processes is critical. Regular workshops and training sessions can equip staff with the necessary skills to leverage new systems effectively.

Collaboration between the government and private sector is vital for enhancing customs infrastructure. Public-private partnerships (PPPs) can facilitate investments in infrastructure projects, bringing together resources and expertise from both sectors. Such collaborations can lead to innovative solutions tailored to the specific needs of customs operations.

Improving infrastructure efficiency in customs brokerage yields several benefits:

- reduced processing times: enhanced facilities and streamlined processes lead to faster customs clearance, minimizing delays in the supply chain;

- lower costs: Efficient operations reduce operational costs for customs brokers, which can translate into lower costs for businesses engaged in

international trade;

- increased competitiveness: a more efficient customs brokerage system enhances Ukraine's competitiveness in the global market, attracting more foreign investment and trade opportunities;

- improved compliance: with better infrastructure and technology, customs brokers can more easily comply with regulations and requirements, reducing the risk of fines and penalties.

Enhancing infrastructure efficiency in customs brokerage is essential for facilitating international trade in Ukraine. By investing in modern facilities, improving transportation networks, implementing digital solutions, and fostering public-private partnerships, the customs brokerage system can become more effective and responsive to the needs of businesses. These improvements benefit customs brokers and contribute to Ukraine's overall economic growth and competitiveness in the global marketplace.

Overcoming technological gaps is also essential. The need for integrated digital platforms is a significant barrier for customs brokers. By investing in training for digital tools, brokers can transition from outdated systems to more efficient, modern technologies. Learning to use cloud-based platforms, electronic data interchange, and other digital solutions can streamline processes and reduce paperwork, ultimately saving time and resources.

Bridging Technological Gaps in Customs Brokerage. In the fast-paced world of international trade, customs brokers play a pivotal role in ensuring the smooth movement of goods across borders. However, many brokers need help with significant technological gaps that hinder their efficiency and effectiveness. Bridging these gaps is essential for modernizing customs operations and enhancing the overall trade experience. This article explores the challenges posed by technological gaps and presents strategies for overcoming them.

Understanding is essential in this process of technological gaps. Technological gaps in customs brokerage can manifest in various ways:

- 1) Outdated systems: Many customs brokers still rely on legacy systems for documentation and data management. These outdated technologies can lead to inefficiencies, increased processing times, and a higher likelihood of errors;

- 2) need for integration: Customs processes often involve multiple stakeholders, including customs authorities, logistics providers, and importers/exporters. A lack of integrated systems can create communication

barriers and result in fragmented workflows;

3) limited data analytics: The ability to analyze data is crucial for making informed decisions. Many customs brokers need access to advanced analytics tools, limiting their ability to assess market trends and optimize operations.

To increase the efficiency and effectiveness of brokers' activities, they need to implement the following strategies:

- investing in modern technology: Customs brokers should prioritize upgrading their systems to incorporate modern technologies such as cloud-based platforms, electronic data interchange, and automated processing tools. These technologies can streamline workflows, reduce paperwork, and enhance communication;

- training and development: Continuous professional development is essential for customs brokers to stay current with technological advancements. Offering training programs on new systems and tools will equip brokers with the skills needed to leverage technology effectively;

- fostering collaboration: Establishing partnerships with technology providers and other stakeholders in the supply chain can facilitate the development of integrated solutions. Collaborative platforms can enhance communication and coordination among all parties involved in customs processes;

- utilizing data analytics: Investing in data analytics tools can give customs brokers insights into their operations, helping them identify inefficiencies and optimize processes. By leveraging data, brokers can make informed decisions that enhance service delivery.

3. The role of digital transformation to improve the activities of the customs broker. Digitalization is converting information into a digital format, enabling it to be processed, stored, and transmitted using electronic devices. This transformation affects data and encompasses changes in business operations, communication, and society as a whole. By leveraging technology, organizations can enhance efficiency, improve decision-making, and create new opportunities for innovation and collaboration. Digitalization reshapes how we interact with information, streamlining processes and facilitating real-time access to data, ultimately leading to a more connected and agile world.

The significance of digital transformation of processes lies in its ability to change how organizations operate and deliver value fundamentally. By

integrating digital technologies into various aspects of business, companies can streamline operations, enhance efficiency, and respond more swiftly to market demands. This transformation optimizes existing workflows and enables the development of innovative products and services. Furthermore, digital transformation fosters a culture of agility and adaptability, allowing organizations to stay competitive in a rapidly evolving landscape. Ultimately, it empowers businesses to harness data insights, improve customer experiences, and create sustainable growth, making it a crucial element in today's digital age. “All anti-crisis measures have a common strategic goal to increase the number of resources that socioeconomic systems of different levels (from enterprises to national economies) receive from outside the market mechanism, i.e. side competitive relations, especially with economic entities of other countries” (Nekhai & etc., 2022).

Digital transformation is a critical driver in bridging technological gaps. Customs brokers should embrace a holistic approach to digital transformation (Table 2.2).

Table 2.2. A holistic approach to digital transformation

Aspect	Description
Process Automation	Automating routine tasks frees up time for customs brokers to focus on more strategic activities, including data entry, document generation, and compliance checks.
Enhanced Customer Experience	Implementing CRM systems improves communication with clients, providing real-time updates on shipments and enhancing overall satisfaction.
Regulatory Compliance	Digital tools ensure compliance with changing regulations, allowing brokers to stay updated on requirements and streamline reporting processes.

Source: author's research

Automation of routine tasks for customs brokers significantly simplifies processes and increases operational efficiency. Customs brokers deal with many documents daily, which must be processed, verified, and ensured for compliance with legal requirements. Many of these tasks required significant time and human resources from managers. With the introduction of modern technology, they can now be performed much faster and more accurately. Automation helps reduce errors arising from human factors and minimizes the risk of penalties for non-compliance with procedures.

With automated systems, customs brokers can easily handle the processing of customs declarations, generate required reports, and verify data in real time. This not only saves time but also allows for quicker adjustments in response to changes in legislation or customs practices, ensuring that documents and processes are updated promptly. Instead of manually checking thousands of data fields or cross-referencing information across various systems, software can automatically perform these tasks, freeing up employees from routine work and enabling them to focus on more strategic matters.

Such systems also make it possible to plan and forecast customs expenses and other necessary procedures with greater accuracy, ensuring precision and transparency in operations. Furthermore, automation helps reduce management service costs and decreases employee workload. As a result, the customs broker gains a significant competitive advantage by saving time and resources on routine tasks, while clients benefit from faster and more accurate services.

In conclusion, automating routine tasks for customs brokers is a convenience and a necessity for optimizing workflow, improving the accuracy and quality of services, and ensuring competitiveness in a rapidly changing market.

Implementing Customer Relationship Management (CRM) systems for customs brokers is crucial in enhancing client interaction and overall service quality. Customs brokers manage a diverse client base with varying needs, ranging from individual importers and exporters to large corporations. Maintaining clear and consistent communication with clients is essential for ensuring smooth operations and client satisfaction in such a dynamic environment. A CRM system helps streamline these interactions by centralizing all client-related information in one place.

With a CRM system, customs brokers can track and manage client communications, document exchanges, and specific requirements throughout the process. The system stores critical data such as client contact details, shipment history, payment information, and preferences, allowing brokers to access relevant information and provide personalized service quickly. Additionally, CRM systems enable brokers to automate reminders for follow-ups, critical deadlines, and required actions, reducing the risk of missed tasks or delays.

The integration of CRM software also helps enhance collaboration within the brokerage team. All members can access the same up-to-date client information, ensuring no details are overlooked and that the service provided to

clients is efficient and consistent. This seamless coordination is essential in a complex field like customs brokerage, where multiple processes must be managed simultaneously.

Moreover, CRM systems provide valuable insights and analytics, enabling customs brokers to identify trends, assess client needs, and predict future demand. This data-driven approach allows brokers to proactively offer tailored solutions, improve customer retention, and even discover new growth opportunities.

In summary, implementing a CRM system for customs brokers improves the efficiency of daily operations, strengthens client relationships, enhances service delivery, and provides a competitive edge in an increasingly complex and fast-paced industry. By leveraging CRM technology, brokers can foster long-term client loyalty and better meet the evolving needs of their clientele.

Brokers can leverage automated compliance management systems to stay informed about regulatory requirements and simplify the reporting process. In the fast-paced world of customs brokerage, staying up-to-date with constantly changing laws, rules, and regulations is critical. Compliance management systems streamline this process by automatically tracking regulatory updates, ensuring brokers are always aware of the latest legal changes that may affect their operations. By automating the monitoring of compliance obligations, brokers can minimize the risk of overlooking critical updates or making costly mistakes.

These automated systems also simplify the complex process of generating and submitting reports. Rather than manually compiling data from multiple sources or worrying about meeting various deadlines, brokers can rely on the system to generate accurate, real-time reports based on the most current data available. This reduces the workload and improves accuracy, ensuring that all submissions meet the regulatory standards and deadlines.

Furthermore, automating compliance processes allows brokers to devote more time to other important tasks, knowing that the system handles regulatory monitoring and reporting intricacies. This reduces the burden on staff and increases operational efficiency, as brokers can focus on delivering value to their clients while maintaining high compliance with the relevant laws and regulations.

Automated compliance management systems provide brokers with the tools to navigate complex regulatory landscapes more efficiently and effectively. By staying ahead of compliance requirements and simplifying reporting, these

systems help brokers maintain smooth operations and avoid non-compliance risks.

Bridging the technological gaps in customs brokerage offers numerous advantages (Table 2.3).

Table 2.3. Advantages of overcoming technological gaps in customs brokerage

Advantages	Description
Increased Efficiency	Overcoming technological gaps leads to faster customs clearance, reducing delays and improving overall operational efficiency.
Cost Reduction	Streamlined workflows and automated processes lower operational costs, enabling customs brokers to offer more competitive pricing.
Enhanced Accuracy	Advanced technologies minimize the risk of human error in documentation and data management, leading to improved accuracy in customs declarations
Better Decision-Making	Access to data analytics enables customs brokers to make informed decisions, enhancing service delivery and operational effectiveness

Source: author's research

The customs brokerage sector is undergoing a significant transformation driven by technological advancements. However, many customs brokers still need to work on technological gaps that hinder their efficiency and effectiveness. By identifying critical areas for improvement and discussing innovative solutions, we aim to provide insights into how customs brokers can achieve greater efficiency and adaptability in a rapidly changing environment.

Customs brokers play a crucial role in facilitating international trade by managing the complexities of customs clearance and compliance. In an increasingly digital world, the efficiency of customs brokers is paramount to the success of businesses reliant on global supply chains. However, many brokers still need to operate using outdated systems and manual processes that create inefficiencies and increase the risk of errors. This paper will examine the impact of technological gaps on customs brokerage operations and propose strategies for bridging these gaps to improve overall efficiency.

Despite the rapid advancement of technology in various industries, customs brokerage has needed to be faster to adopt innovative solutions. Many customs brokers rely on traditional documentation, communication, and data management

methods, which can lead to delays and inaccuracies. Common technological gaps include:

- *inefficient documentation processes* - many brokers still use paper-based systems for managing customs documents, which can lead to misplacement, delays, and compliance issues;
- *limited integration of digital tools* - a lack of integration between various software systems used in customs brokerage can hinder the seamless flow of information, complicating the process of customs clearance;
- *inadequate data analytics* - many customs brokers need to leverage data analytics to monitor and optimize their operations, missing opportunities for improvement and risk management.

To enhance efficiency, customs brokers must focus on overcoming these technological challenges. Several strategies can be implemented:

1) *Adopting Electronic Document Management Systems (EDMS)*: Transitioning from paper-based processes to electronic document management can significantly reduce processing times and minimize the risk of errors. An EDMS allows for more accessible storage, retrieval, and sharing of documents, facilitating smoother communication with customs authorities and clients.

2) *Implementing Integrated Software Solutions*: Investing in integrated customs brokerage software can streamline operations by consolidating various functions—documentation, compliance checks, and communication—into a single platform. This integration improves efficiency and enhances data accuracy and reporting capabilities.

3) *Utilizing Data Analytics for Decision-Making*: By adopting data analytics tools, customs brokers can gain insights into their operations, identify bottlenecks, and make informed decisions. Predictive analytics can also help brokers anticipate regulatory changes and adjust their strategies accordingly.

4) *Training and Development*: Ensuring staff are trained in the latest technologies is essential for maximizing their potential. Providing ongoing training and support can help employees adapt to new systems and improve their overall productivity.

Examining successful customs brokerage firms that have effectively bridged technological gaps can provide valuable insights. For instance, a leading European customs brokerage implemented an integrated software solution that automated key processes, resulting in a 30% reduction in clearance times and

improved compliance rates. Another company adopted a cloud-based EDMS that enabled real-time team collaboration, significantly enhancing operational efficiency (2024).

Bridging technological gaps is essential for customs brokers aiming to enhance their efficiency and adaptability in a rapidly evolving industry. Customs brokers can significantly improve their operations by embracing electronic document management, integrated software solutions, and data analytics (Pasichnyi& etc., 2024; Nekhai& etc., 2023; Nekhai& etc., 2021). Furthermore, investing in staff training ensures that the workforce can effectively leverage these technologies. Addressing technological shortcomings will ultimately enable customs brokers to provide better services to their clients and thrive in a competitive landscape.

Bridging technological gaps in customs brokerage is essential for modernizing operations and enhancing the efficiency of international trade. By investing in modern technology, fostering collaboration, and embracing digital transformation, customs brokers can overcome these challenges and better serve their clients. As the global trade landscape evolves, adapting to technological advancements will be vital to ensuring competitiveness and success in the customs brokerage industry.

4. Continuous Professional Development of Customs Brokers in the Era of Digitalization. Digital skills training is essential for ongoing professional development. By participating in online courses, webinars, and workshops focused on digital competencies, customs brokers can stay abreast of industry advancements. This knowledge enhances their skill set and equips them to provide better client service in an increasingly competitive market.

In today's fast-paced global trade environment, customs brokers play a crucial role in facilitating the movement of goods across borders. As digitalization transforms various industries, customs brokerage is no exception. The need for continuous professional development) in this field has never been more critical.

In this section, we will explore the importance of continuous professional development for customs brokers, focusing on digitalization.

The Importance of Continuous Professional Development. For customs brokers to stay relevant and competitive in a rapidly changing environment, continuous professional development is essential. It involves ongoing education

and training that helps brokers enhance their skills, knowledge, and expertise. This is particularly important in digitalization, where new technologies and processes can significantly impact customs operations.

Embracing Digital Skills. As customs processes are increasingly digitized, brokers must acquire new digital skills to thrive. Key areas of focus include:

1) *Understanding Digital Platforms:* Customs brokers should be familiar with digital platforms and tools that facilitate customs clearance, such as electronic data interchange systems and cloud-based management software. Training programs that cover these technologies can empower brokers to utilize them effectively.

In recent years, the landscape of customs brokerage has evolved significantly due to the rise of digital platforms. These platforms play a crucial role in streamlining operations, enhancing efficiency, and improving compliance in international trade. As customs brokers navigate increasingly complex regulations and market demands, understanding the functionalities and benefits of digital platforms becomes essential.

Digital platforms for customs brokers offer a range of tools designed to facilitate communication, documentation, and data management. By automating routine tasks such as customs declarations and tariff classification, these platforms reduce the potential for human error and increase processing speed. Furthermore, the integration of real-time data analytics allows brokers to make informed decisions quickly, responding to changing regulations and market conditions effectively.

Another significant advantage of digital platforms is their ability to foster collaboration between various stakeholders in the supply chain. Brokers can connect seamlessly with importers, exporters, freight forwarders, and customs authorities, ensuring that information flows smoothly and efficiently. This interconnectedness enhances transparency and helps maintain compliance with customs regulations, reducing the risk of delays and penalties.

Moreover, using digital platforms enables customs brokers to provide better client service. By offering a user-friendly interface and access to valuable insights, brokers can help their clients navigate the complexities of international trade more effectively. This client-centric approach builds trust and positions brokers as strategic partners in their client's success.

However, the transition to digital platforms also presents challenges. Brokers must adapt to new technologies and invest in training to ensure that their teams use these tools proficiently. Additionally, data security and privacy concerns must be addressed, as the sharing of sensitive information becomes more prevalent.

In conclusion, understanding digital platforms is vital for customs brokers who aim to thrive in a rapidly changing industry. By leveraging these technologies, brokers can enhance operational efficiency, improve compliance, and provide superior service to their clients. As the global trade environment evolves, those embracing digital solutions will be better positioned to navigate customs brokerage's complexities successfully.

2) *Data Analytics Competency*: With the growing importance of data in decision-making, customs brokers need to develop skills in data analytics. Understanding how to analyze and interpret data can lead to more informed decisions regarding customs processes, tariffs, and trade compliance;

3) *Cybersecurity Awareness*: As operations become more digital, the risk of cyber threats increases. Customs brokers must be educated about cybersecurity best practices to protect sensitive information and ensure the integrity of their operations.

4) *Leveraging Online Learning Resources*. The rise of online learning platforms offers customs brokers unprecedented access to training and resources. Webinars, e-courses, and virtual workshops can provide valuable insights into the latest developments in customs regulations, digital tools, and best practices. By leveraging these resources, brokers can tailor their learning to meet their needs and schedules.

5) *Building a Culture of Lifelong Learning*. To foster a culture of continuous professional development, organizations must encourage their employees to prioritize learning. This can include:

- *Providing Access to Training Programs*: Employers should invest in training programs focusing on digital skills and customs regulations. Supporting employees in their professional growth can enhance overall organizational performance;

- *Encouraging Knowledge Sharing*: Creating platforms for knowledge sharing among customs brokers can facilitate learning from one another. Regular

meetings or forums can provide opportunities to discuss challenges, share experiences, and explore innovative solutions;

- Setting Development Goals: Encouraging brokers to set personal and professional development goals can motivate them to pursue continuous learning. By tracking progress and celebrating achievements, organizations can reinforce the importance of ongoing education.

Investing in continuous professional development in the direction of digitalization yields numerous benefits (Table 2.4).

Table 2.4. Expected benefits of investing in Continuous Professional Development in the area of digitalization

Benefits	Essence
Enhanced Efficiency	Brokers equipped with the latest digital skills can streamline customs processes, leading to faster clearance times and improved service delivery.
Increased Competitiveness	Staying updated on digital tools and technologies allows customs brokers to remain competitive in a crowded market, attracting more clients and business opportunities
Improved Compliance	Continuous training helps brokers stay informed about changes in customs regulations and digital compliance requirements, reducing the risk of errors and penalties
Adaptability to Change	A focus on continuous learning fosters adaptability, enabling customs brokers to embrace new technologies and practices as they emerge

Source: author's research

In an era of rapid change, digitalization and professional development are essential for customs brokers to thrive in their business. By prioritizing acquiring digital skills, leveraging online learning resources, and fostering a culture of lifelong learning, customs brokers can enhance their expertise and adaptability. Ultimately, this commitment to professional growth will benefit individual brokers and contribute to the overall efficiency and effectiveness of the customs brokerage industry in the global marketplace.

Conclusion. Customs brokers are essential partners in international trade, providing essential services that facilitate the smooth movement of goods across borders. As trade evolves, customs brokers will remain vital in ensuring efficient and effective international commerce.

Customs brokers are intermediaries between importers, exporters, and government customs authorities. Their expertise in navigating complex customs regulations ensures the seamless and efficient import and export of goods. One of the customs brokers' primary functions is preparing and submitting required documentation for customs clearance. These firms operate on specific principles, including compliance with customs regulations and activities, accuracy and timeliness of information, ethical behavior, and ongoing professional development.

However, customs brokers need help with their work. The uncertainty surrounding trade agreements and border policies can lead to fluctuations in trade volumes and create additional difficulties for brokers. Economic sanctions imposed by governments can also have a profound impact on the operations of customs brokers. Brokers must ensure compliance with these sanctions to avoid fines and legal consequences. This requires a deep understanding of geopolitical situations and the ability to track changes in sanction regimes. Adapting to shifts in international relations, regional conflicts, trade agreements, and sanctions is crucial for success in this field. As global trade develops, customs brokers must embrace technological advancements and data-driven strategies to remain competitive.

Some issues hinder the complete execution of customs brokers' functions: regulatory complexity, corruption and bureaucracy, lack of procedural transparency, technical limitations, infrastructure challenges, technological gaps, and insufficient staff qualifications. To improve the situation, comprehensive reforms are needed, including streamlining customs procedures, increasing the transparency of customs operations, ensuring adaptability in a changing environment, improving infrastructure efficiency, and implementing effective electronic systems. By reducing bureaucratic barriers, a more favorable environment can be created for customs brokers, contributing to the growth of foreign trade and the economy.

The absence of integrated digital platforms is a significant obstacle for customs brokers. By investing in training for digital tools, brokers can transition from outdated systems to more efficient, modern technologies. Digital transformation is a key factor in overcoming the technological gap. Customs brokers must adopt a holistic approach to digital transformation, including process automation, improved customer experience, and ensuring regulatory

compliance. With automated systems, customs brokers can better handle customs declarations, generate necessary reports, and conduct real-time data verification. This not only saves time but also enables quicker responses to changes in legislation and customs practices, allowing for timely adjustments in documents and processes. More accurate planning and forecasting of customs expenses also become possible.

Enhancing Customer Relationship Management systems to bridge technological gaps for customs brokers is critical in improving client interaction and overall service quality and forecasting future demand. By automating compliance monitoring, brokers can minimize the risk of overlooking critical updates or errors and simplify the complex process of generating and submitting reports.

Customs brokers can significantly improve their operations by implementing electronic document flow, integrated software solutions, and data analytics. Furthermore, investing in staff training ensures that the workforce is equipped to use these technologies effectively.

Digital platforms for customs brokers offer a range of tools designed to facilitate communication, documentation, and data management. There is also a need to encourage brokers to set personal and professional development goals, motivating them to engage in continuous learning.

Digital tools can improve the efficiency of customs processes, allowing brokers to respond to changing conditions and achieve high competitiveness quickly. Digital transformation in customs brokerage is crucial for adapting to uncertainty. Automated systems can reduce human errors, accelerate processes, and enhance data accuracy, essential in a rapidly changing environment. Brokers investing in technology will have better opportunities to navigate the complexities of geopolitical factors.

The challenges customs brokers face in Ukraine are significant, but acquiring digital skills offers a viable path toward overcoming these obstacles. By embracing technology and enhancing their digital competencies, customs brokers can improve regulatory compliance, increase transparency, optimize operations, and adapt to changing market conditions. Investing in digital skills benefits individual brokers and strengthens the overall efficiency and integrity of Ukraine's customs brokerage system, positioning it more favorably in the global trade arena.

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