Xport Genie Application: A Prototype of AI Driven Public Services for Export Facilitation of SMEs in Indonesia

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Abstract

This study examines Xport Genie, a prototype of an AI-driven public service developed to overcome the structural barriers that Small and Medium Enterprises (SMEs) in Indonesia face when exporting. The core problem is that despite SMEs' dominance in the domestic economy, their export penetration rate remains very low due to challenges such as difficulties in product classification (HS codes), a lack of integrated market data, and weak digital marketing capabilities. To address this, Xport Genie utilizes a multi-modal AI architecture that combines Computer Vision to automate product classification and Generative AI to provide potential market recommendations and create effective marketing content. The findings indicate that the prototype serves as an intuitive interface that synthesizes disparate official datasets from various government sources, making them more accessible and actionable for SMEs. In conclusion, Xport Genie is a specific, AI-focused public service model that can significantly boost SMEs' contribution to national exports and support the Indonesian government's digital transformation goals.

Keywords : *AI-driven Public Service; SMEs; Export; Digital Transformation; Xport Genie.*

Xport Genie: Prototipe Aplikasi Layanan Publik Berbasis AI Untuk Fasilitasi Ekspor UKM di Indonesia

Abstrak

Studi ini mengkaji Xport Genie, sebuah prototipe layanan publik berbasis AI yang dikembangkan untuk mengatasi hambatan struktural yang dihadapi Usaha Kecil dan Menengah (UKM) di Indonesia dalam kegiatan ekspor. Masalah utamanya adalah meskipun UKM mendominasi ekonomi domestik, tingkat penetrasi ekspor mereka masih sangat rendah karena tantangan seperti kesulitan dalam klasifikasi produk (kode HS), kurangnya data pasar yang terintegrasi, dan lemahnya kapabilitas pemasaran digital. Untuk mengatasi hal ini, Xport Genie menggunakan arsitektur AI multi-modal yang mengkombinasikan Visi Komputer untuk mengotomatisasi klasifikasi produk dan AI Generatif untuk memberikan rekomendasi pasar potensial serta menciptakan konten pemasaran yang efektif. Temuan menunjukkan bahwa prototipe ini berfungsi sebagai antarmuka yang intuitif yang mensintesis berbagai dataset resmi dari berbagai sumber pemerintah, membuatnya lebih mudah diakses dan dapat ditindaklanjuti oleh UKM. Sebagai kesimpulan, Xport Genie adalah model layanan publik spesifik yang berfokus pada AI yang dapat secara signifikan meningkatkan kontribusi UKM terhadap ekspor nasional dan mendukung tujuan transformasi digital pemerintah Indonesia.

Kata Kunci: Layanan publik berbasis AI; UKM; ekspor; transformasi digital; Xport Genie.

A. INTRODUCTION

In the context of the national economy of Indonesia, the Small and Medium Enterprises (SMEs) are of pivotal importance. It is not the case that SMEs are a tertiary relative within the economy, but rather, as their contribution to the GDP of Indonesia is 9,580 trillion rupiahs (which is 61% of the GDP) in 2023, they are the economy's primary and the most fundamental. Moreover, they are the primary sector that the 97% of the workforce is employed, and they are instrumental to investment, economic growth, as well as poverty reduction (Rofifah, 2025) . The economic and social impact that they bring forth is arguably the most extensive in the context of the Indonesian domestic economy (Saputera et al., 2021).

However, that the dominance that Indonesia has within their domestic economy SME sector does not translate successfully to the international economy. Indonesia has around 65.5 million small and medium enterprises (SMEs), with only about 15.7% attaining global reach. This penetration rate is abysmally low, especially when juxtaposed with Indonesia's economic peers such as China and the U.S., with 68% and 35% SME export ratios, respectively. There is, however, disconcerting evidence smuggled into the statistics. The disparity between internal economic strength and external trade SME weaknesses is a case of profound structural dissonance (Asian Exim Banks Forum,2025). The sector is unarguably productive and competitive at the local level, yet there are some serious, not to say trivial hurdles that prevent achieving success internationally. What word activity can generate is not the dilemma; it is the inability to 'think global' that poses the greatest challenge. This creates a unique and, to a great extent, unexploited prospect for well-directed policy investment.

Ministry of Trade Priority Program

Since its inception, the Ministry of Trade of the Republic of Indonesia has focused on implementing plans that are geared towards improving the country's exports performance, especially at the level of Small and Medium Enterprises (MMEs), and has treated the unlocking of structural constraints that has historically plagued the SMEs the ability to compete and perform in the international market as a key pillar of the non-oil & gas exports strategy.

An example of such as programs is the 'SMEs BISA Ekspor' program, which is, as the name suggests, a coaching program that assists SMEs at all stages of export readiness, commencing with pre-export training to the actual export of goods. The program focuses specifically on training as well as mentorship concerning the export process, export documentation, export readiness, and quality control of exportable goods, with the intention of having a pool of trained and equipped entrepreneurs for the export market. The success of this program is, in most instances, defined by the new exporters that the program has registered, as well as the new value of transactions that are attributed to the program. Along these lines, the Ministry has designed and implemented some crucial digital public services to optimize trade information and workflows. These services include:

INAEXPORT (Indonesia Export Information System). This digital platform serves not only as a comprehensive database of goods and services exports products but also as a B2B platform. It offers an online directory to narrow the gap between local producers and foreign buyers (INAEXPORT.id).

INATRIMS (Indonesia Trade Information System). This provides an unparalleled, unified repository of all trade and trade-related laws, regulations, and documents, as well as procedures and trade-related information.

There is much collaboration between public administrative entities and privatization institutions funding in developing trade-related documents and procedures. INATRIMS is designed to improve government openness and reduce the unscrupulous complexity of paperwork and paperwork compliance associated with exportation, especially for small and medium-sized enterprises (Ministry of Trade, Indonesia).

The commitments to these programs indicate a well-defined strategy for using digital services and export-focused strategic aid. The Xport Genie development as a multi-modal AI agent fits and enhances these efforts. By providing an intelligent and easy-to-use platform for intricate tasks like market and product classification, Xport Genie can be a next-gen digital public service. This boosts the MoT's reach and impact and serves as a mark for Indonesia's digital transformation framework.

Identification of Structural Barriers to SME Internationalization

The current state of low export penetration does not result from a single factor, but rather from a consolidation of several structural barriers that, together, form a highly frictional context for potential SME exporters. The Xport Genie project proposal outlines three central barriers: inability to determine the product HS codes, disparate and incomplete market data, and a nascent ability to engage in result-oriented digital marketing.

The Xport Genie project proposal does not rely solely on the project proponents' analyses. Other assessments also identify and build on the challenges that SMEs face. The quality of available human resources, the accessibility of capital and financing, and the cumbersome nature of the administrative and bureaucratic systems are also identified as barriers to growth and export preparedness. Moreover, analyses of the export performance of SMEs in Indonesia show that weak "market intelligence capability" and "marketing communication capability" are key elements that hinder the global competitiveness of these firms. The multi-layered nature of these challenges informs the design of the Xport Genie application. The descried problem is approached through the customized barriers for pain identification and resolution of "Any Shipper" such as - "HS Code" telling, marketing and marketing meme contents, as well as, market information and market Intelligence collection. The platform is not a coincidential tool. It is a deliberate, designed, and rational solution customized for the achicement of the target pain area of the SME export ecosystem.

National Policy Digital Transformation Alignment

Xport Genie's development is not an independent technological project. Rather it is a direct digital transformation of the Indonesian government's policy. By 2024, the Indonesian government aims to digitally transform 30 million SMEs, which is a strategy to give them wider market access and strengthen their products competitiveness (Jakarta Globe, 2025).

Policies made by the government are usually grand and lofty statements which do not go to the length of describing the means to achieve what them. The Xport Genie application, by virtue of its form, offers a feasible and quantitative means of achieving these policy goals. It translates the vague and intangible "digital transformation" and "improved market access" policy goals set for SMEs to provide a practical answer to a significant policy problem. The outcome of such a project can therefore serve as a direct measurement of the effectiveness of the government's wider digital economy policy. The application is also a public policy agenda setter, offering a means by which the lofty policy goals can be attained.

B. METHOD: ARCHITECTURAL AND OPERATIONAL FRAMEWORK

The Multi-Modal AI Architecture: a Convergence of Computer Vision and Generative AI

Xport Genie has a custom tailored multi-modal AI architecture. It makes use of both Computer Vision and Generative AI, enabling seamless communication and interaction between the user and the application.

The first crucial element is Computer Vision, or Visual AI, which streamlines the complex and often manual task of product classification. Users can upload a product photo on the web, and the computer will determine the product class and the corresponding Harmonized System (HS) code.

This benefit of Xport Genie is its ability to automate a step in the export process which is manual, prone to errors, and requires specialized knowledge. Computer Vision bypasses a critical knowledge barrier for users.

The second core component is Generative AI, which is embedded in the system for multiple functions. An LLM is the system's core which plugs in the system with intelligent and interactive support. This includes making recommendations on probable export markets based on the user's product, global trade data, and trade diplomacy data. Moreover, it is used to automatically enhance product photos to improve marketing and also create unique marketing copies that resonate with target culture. This versatile use of Generative AI turns the application from a passive information tool into an active, engaging "virtual consultant."

A Thorough and Unified Knowledge Base

The effectiveness of the AI models used by Xport Genie is a function of the knowledge base's accuracy and depth. The application's intelligence incorporates an integrated system that combines data from various national and global sources such as Badan Pusat Statistik (BPS), the Ministry of Trade's INAEXPORT and INATRIMS platforms, and the ITC Trade Map (Hidayati et al., 2025). This data integration is an important feature of the system, and very much so, from the public service aspect as well.

The government of Indonesia has trade and regulatory data from a variety of sources that is very informative (OxCAIGG, 2025). Unfortunately, these sources tend to be siloed and lack the interactive features that would make the data usable and actionable for a typical SME owner. Xport Genie addresses this problem by serving as an intuitive, user-facing interface that synthesizes these disparate official datasets into a single, unified source.

C. DISCUSSION

Xport Genie as a Digital Public Service and Model for Governance

Xport Genie serves as an effective tool for the capacity building and democratization of market intelligence. The platform enables SMEs to access global market information, demand patterns, and country-specific regulations that were difficult to obtain or interpret without extensive expertise and monetary investment.

The Generative AI features, especially, perform as virtual consultants or export coaches, providing real-time, interactive advice on compliance and developing professionally written marketing materials that can improve the competitiveness of a product. This resolves the 'marketing communication capability' gap that academic literature has quoted as a fundamental barrier for SME exporters (Zalsadilla et al. 2024). In this information-advanced era, asymmetric information acts as a powerful form of market control, especially for businesses that do not have sophisticated marketing departments. This platform immediately provides critical information,

sophisticated tools, and services to SMEs at little or no cost through a mobile application. Thus, it directly reduces this asymmetry. This enables SMEs to "punch above their weight" (ITA, 2025) and make it possible for them to compete with far larger firms, as well as to expand their export markets beyond those traditionally relied upon. This is a strategic objective for the long-term economic resilience of Indonesia (Pambagyo, 2025).

Comparative Analysis with Global Digital Commerce Platforms

For a better understanding of the model provided by XportGenie, it is important to analyze it with the contemporaneous initiatives taken by other developing countries. Many other countries are developing their own digital trade platforms and Xport Genie is no exception.

For instance, the Digital Free Trade Zone (DFTZ) of Malaysia (HKTDC,2025) is a big scale public-private collaboration with the Alibaba Group. Its DFTZ module is an extensive, platform-centered model that focuses on the provision of both physical and digital ecosystems for e-commerce and logistics, e-fulfillment hubs, and an e-service platform to assist SMEs in exports (Yean, 2025).

Brazil's National Artificial Intelligence Plans (EBIA) and Thailand's National Artificial Intelligence Strategy (AI Thailand, 2025) take a different direction. Like most national-level strategies, these spend investment focused on AI infrastructure, human capital, and developing the use of AI across apex public services and innovation-driven business sectors (International Trade Administration, 2025). Although these formulate the important groundwork necessary for AI usage, they are not likely to take the form of a singular, accessible, and public-facing problem-solving solution the way Xport Genie does.

What sets Xport Genie apart is the 'AI-first, problem-specific' public service model. Unlike other projects, which are either broad-based e-commerce ecosystems, Xport Genie is narrowly focused on addressing a high-volume and high-friction problem using sophisticated AI, having Computer Vision for HS codes, and additional valuable services. This approach, which addresses and fundamentally resolves an important problem using specially tailored technology, is likely a more effective and easier model of public sector digital transformation for developing countries.

Table 1. Digital platform comparation

Flatform	Digital Free Trade Zone (DFTZ)ama	National AI Plan (EBIA)	National AI Strategy
Country	Malaysia	Brazil	Thailand
Model	Public-Private Partnership	National Government Strategy	National Government Strategy
Primary Focus	E-commerce and logistics	Infrastructure and strategic sectors	Human capacity and infrastructure
Key Feature	E-fulfillment hubs, e-service platforms, and collaboration with major marketplaces.	Investments in high-performance computing (HPC), innovation projects, and AI development.business	Promotion of AI use in key industries and government sectors, talent development.

Source: Developed in this study (2025).

Managing the Difficulties of Trust, Governance, and Data Privacy

Even in the case of the AI-assisted government service XportGenie, there are issues with trust, governance, and data privacy. For any government-sponsored application, the trust of the public is critical. The system is going to be used in business data sMEs and therefore, there needs to be a privacy-first approach along with strong data governance frameworks to be in place from the inception to enhance public trust.

In addition, RM and content generation AI models require directive management to reduce the risk of algorithmic bias. The AI's "black box" operates on the principle of effectiveness, and accountability and transparency incompatible, akin to a criminal investigation without a crime (Fisher, 2025). A positive AI public service interface should not only focus on "productive" outcomes, but should be able to prove that it is "lawful, safe and responsible" (GCDO, 2025). This entails a formal phased deployment schedule, proactive breach reporting, and public ethical and governance policies around the AI system (Tambunan, 2025).

4. CONCLUSION AND RECOMENDATION

Conclusion

The analysis shows us that the Xport Genie is a project of strategic importance that addresses an enduring structural issue in overriding SME export penetration in Indonesia. By removing the barriers to the knowledge and process complexities, the application is able to offer a targeted solution that could offer a substantial new source of economic growth to the country. This new model of public service delivery is augmented by the multi-modal AI architecture and shared governmental data.

The citizens gain insights from previously unavailable and inaccessible government data through actionable fragmentation. Hence, this embodies the tenets of a futuristic, highly responsive digital government. The project could serve the government's digital transformation objectives, increase the contribution of SMEs to national exports, and enhance Indonesia's global position in AI-assisted trade.

Recomendation

To ensure the significant impact and sustainable longevity of the XportGenie platform, several strategic recommendations are proposed based on the pilot findings and benchmarks. The initial step should involve scaling the pilot project to other key centers of Small and Medium Enterprises (SMEs) across the region. This expansion is crucial not only to rigorously evaluate the platform's scalability but also to obtain a richer and more varied dataset on user experience and needs. In parallel with this expansion, the government should augment the application's impact through a subsidized digital skills program. This program would run concurrently with the platform's introduction, serving to equip SMEs with the specific competencies required to use XportGenie effectively while also developing fundamental digital literacy—a skill set essential for navigating the broader environment of the Automated Trade Global Terminal.

Beyond the principal aim of increasing export contribution, which remains central to the project, the success of XportGenie must be assessed across multiple, comprehensive dimensions. These should include key metrics such as user acquisition rates, the average time taken by SMEs to perform export-related administrative activities, overall user satisfaction, and the expansion in both the range of exportable products and the target markets reached. These diverse indicators will serve as more holistic Key Performance Indicators (KPIs) for the application's effectiveness. Finally, to optimize the full export process for SMEs, it is vital to foster extensive Public-Private Partnerships. Collaborating with established private e-commerce and logistics companies will provide crucial support to SMEs, smoothing out the practical steps and physical challenges inherent in the export supply chain.

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