

Prospects and Challenges of Cambodia's Transport Industry

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1. INTRODUCTION

The service industry, encompassing a wide range of sectors such as finance, insurance, banking, tourism, education, transportation, and others, is one of the most significant contributors to a country's industrialization and economic growth. Cambodia, with its remarkable economic growth rate averaging 7.7 percent annually from 1998 to 2019, is recognized as the fastest-growing economy in Asia (World Bank, 2023). To sustain this growth, Cambodia needs to develop its service industry further. As of 2023, Cambodia's service sector contributed significantly to the country's GDP, accounting for 36.2 percent, next to industry (Statista, 2024). Notably, between 2012 and 2016, the service sector attracted over 50.0 percent of Cambodia's total foreign direct investment (FDI) inflows, surpassing Myanmar (43.0 percent) and even Malaysia (38.0 percent) (Aquarii BD, 2022).

This chapter aims to provide valuable insights into Cambodia's overall transportation business landscape. Although the role of transportation in the service industry's development is well recognized, recent studies indicate that this sector confronts various obstacles that impede its growth. In addition to the existing barriers, Cambodian transportation enterprises have encountered significant obstacles due to the global COVID-19 pandemic, which has continued to affect them during the recovery phase. The global pandemic forced many businesses in the service sector to suspend their operations, while some went bankrupt and finally closed down (Dash & Dash, 2021). In light of these challenges, based on primary and secondary data, this chapter seeks to offer a comprehensive understanding of Cambodia's transportation industry within the service sector by signifying its crucial role in Cambodia's economic development and identifying factors that contribute to its prospects and pose challenges.

The following section, through the literature review, presents an overview of the transportation sector in Cambodia, including its prospects and challenges. It then discusses the methodology used in this study. Subsequent sections present the findings and discussion, followed by the conclusion and recommendations.

2. LITERATURE REVIEW

2.1 Overview of the Transportation Sector

The significance of the transportation sector lies in its contribution, allowing people and goods to move within and outside the country. This sector encompasses various components, including railroads, railways, ports, and airports (Hayes, 2021). According to the World Bank (2023), Cambodia's economy grew by 5.2 percent in 2022, supported by the service sector, which includes trade, travel, and hospitality. This growth was further enhanced by the influx of foreign visitors for the Southeast Asian Games and ASEAN Para Games hosted in Cambodia.

The Asian Development Bank (ADB) emphasized the critical role of transportation in bolstering the four primary drivers of Cambodia's economic growth: agriculture, tourism, manufacturing, and commercial and residential construction (ADB, 2019). Citing data from the Organization for Economic Co-operation and Development (OECD, 2019), the World Bank, and the Asian Development Bank, Aquarii BD (2022) reported that, in 2019, the transportation and storage sector substantially contributed to the economy, accounting for 7.8 percent of Cambodia's GDP and valued at US\$ 2.1 billion.

2.2 Prospects of the Transportation Sector

Development of Transportation Infrastructure

Among various sub-sectors of the transportation industry, road transport, the largest sub-sector of Cambodia's transportation industry, plays a pivotal role, accounting for over 90 percent of passenger and freight transport (ADB, 2019). The country's extensive road network, exceeding 60,000 kilometers, with over 15,000 roads and 4,000 bridges, facilitates this dominance (ADB, 2019). The annual increase in vehicle registrations, consistently reaching double-digit growth, underscores the popularity of road transport. Notably, motorcycles have emerged as a preferred mode of transport, representing 85 percent of all vehicle registrations in 2017 (ADB, 2019).

Railway transport, a significant part of Cambodia's transportation industry, is also a champion of eco-friendliness. The railway system comprises two lines that total 652 kilometers and is recognized for its lower carbon emissions and energy efficiency. One line connects Phnom Penh to Poipet, while the other links Phnom Penh to

Sihanoukville Port. This system effectively utilizes existing railway assets at a low cost, contributing to Cambodia's sustainable development goals (ADB, 2019).

Cambodia's two international ports, Phnom Penh inland and Sihanoukville on the coast play a pivotal role in the country's economic growth by facilitating international trade. These ports, along with the ten airports, including Phnom Penh, Siem Reap, and Sihanoukville, and the upcoming Techno Takhmao International Airport, are crucial in connecting Cambodia to the global market. With a solid infrastructure and a growing budget for national transport infrastructure, these ports and airports are well-equipped to meet the country's developmental needs and the increasing demand for international trade. Over five years, from 2014 to 2018, the national transport infrastructure budget surged, i.e., US\$ 123.75 million in 2014, US\$183.75 million in 2015, US\$223.04 million in 2016, US\$216.70 million in 2017, and US\$158.07 million in 2018 (ADB, 2019). The National Strategic Development Plan (NSDP) 2014–2018 planned a sector expenditure program of US\$910.40 million to enhance the economy through better transport infrastructure (ADB, 2019). Cambodia's focus on improving the transport network is a testament to its commitment to strengthening transport connectivity and building vibrant logistics systems to enhance the economy's competitiveness.

Cambodia has garnered international attention and support from the private sector and foreign nations to further boost its transportation infrastructure. According to a study by the Henan Provincial Communications Planning Survey and Design Institute, Hor (2014) reported that by 2040, Cambodia will need to construct 2,230 kilometers of roads, requiring an investment of approximately US\$26 billion. This plan includes the development of a ring road around Phnom Penh and six expressways connecting various provinces. From 2014 to 2018, the external funding for national and provincial roads was primarily sourced from several countries: The People's Republic of China (38.5 percent), Japan (37.9 percent), The Republic of Korea (12.0 percent), and multilateral development banks (11.6 percent), including the Asian Development Bank and the World Bank (ADB, 2019).

Investment and technical assistance projects within the Greater Mekong Subregion (GMS), which includes Cambodia, The Lao People's Democratic Republic, Myanmar, The People's Republic of China, Thailand, and Vietnam, reached US\$30.3 billion. These projects aim to enhance various sectors, including transport, trade, agriculture, environment, energy, urban development, health, cooperation, and tourism (GMS, 2021). Among these sectors, the development of the transport industry through infrastructure expansion remains a critical component of the GMS program. This initiative has led to constructing, upgrading, or improving approximately 12,500 kilometers of roads and over 1,000 kilometers of railway lines (GMS, 2021). Furthermore, under the regional investment framework 2022, 205 investment and technical assistance projects in priority areas are estimated to be valued at around

US\$77.6 billion, with approximately 85.0 percent of the total earmarked for transportation (GMS, 2021).

Digitalization in the Transportation Sector

Besides developing physical infrastructure, Cambodia has made remarkable improvements in digitalizing the transport sector. Today's digitalized world offers several opportunities, making it convenient for people to connect. Toward digitizing the transportation sector, in 2021, the Logistics Business Association collaborated with the Cambodian Digital Technology Association to boost digital use in the logistics and transportation sector, promote local digital technology and logistics services, and help small and medium enterprises in Cambodia (Chea, 2021). Moreover, both encourage each other to adopt a digital system to provide more functions to people to expand their businesses. According to Chea (2021), the partnership aligns with the government's policy to boost Industry 4.0, indicating the government's commitment to advancing the transportation industry. The private sector must follow suit since the government's public service has become digitalized. Further, the Cambodia Logistics Association also collaborated with Feed the Future Cambodia Harvest II (a USAID-funded project) to overcome the challenges within the logistics in the agricultural sector and provide solutions and investment opportunities for improving innovative logistics systems and management in the supply chain.

2.3 Challenges in the Transportation Sector

Despite facing several challenges, Cambodia's transportation sector has the potential for significant improvement with funding support from external sources. These challenges, including infrastructure and road safety, are being addressed. Cambodia's road network, while currently considered to be of a low standard, is a prime area for improvement (Sisovanna, 2019).

Infrastructure Challenges

According to the Economic Research Institute for ASEAN and East Asia (ERIA), Cambodia has a problem with poor physical infrastructure as the transport network cannot meet the rapidly growing demand for transport facilities and services. This is caused by a lack of paved provincial roads and the low durability of unpaved roads in rural networks (Sisovanna, 2019). Climate change, including heavy rain and floods, has also affected sustainable infrastructure development. Further, according to the "*Improvements and Challenges Associated with the Facilitation of Road Transport in Cambodia,*" traffic congestion and accidents have risen because the public mass transport system has not yet been introduced (Sisovanna, 2019). Although lack of

government subsidies and public interest were responsible for the failure of the first trial of bus services in 2001, the second trial of bus services, supported by the Japan International Cooperation Agency (JICA), successfully launched 10 buses in 2014.

Road Safety

According to the Asian Development Bank (2019), Cambodia's road transport fatality was still higher even though several efforts were made to reduce it. The causes of transportation crashes are road user errors, lack of sufficient education on driving safety, and destructive behaviors such as speeding, driving when drunk, driving against traffic laws, and refusing to use helmets by motorcycle riders. These crashes cause suffering, fear, and trauma to victims and their families, negatively impacting the economy. One of the top priorities for improving road safety is to encourage behavior-based road safety. With a limited budget and human resources, in 2006, the government initiated a national road program through the Ministry of Public Works and Transport's National Road Safety Committee to improve the road safety program in Cambodia.

3. METHODOLOGY

This research relies on primary and secondary data to meet its objectives. As a qualitative research, we conducted ten key informant interviews with senior professionals with broad transport industry experience. We also gathered secondary data from relevant sources, including the World Bank, Asian Development Bank, government agencies, and other web sources related to the potentialities and challenges of the transport sector in Cambodia.

Primary data were recorded, transcribed, and thematically analyzed to understand the topic coherently. The information from the key informants related to the availability of opportunities, major challenges, current trends, government policies, and recommendations was useful in responding to the research questions.

4. FINDINGS AND DISCUSSION

4.1 The Current and Future Trends of the Transportation Sector in Cambodia

Based on data from the World Bank (2023), 5.2 percent of Cambodia's GDP is accounted for by the service sector's help, including trade, travel, and hospitality. This could happen with the involvement of Cambodia's 60,000 kilometers of road length and above 4,000 bridges (ADB, 2019). On top of that, Cambodia's freight and logistics market size has been growing steadily and is expected to continue to expand

from 1.84 billion in 2023 to 2.23 billion US dollars by 2028 (Mordor Intelligence, 2023). The trucking industry comprises three segments: companies specializing in international container freight, registered companies of different sizes, and small businesses expected to register soon (Mordor Intelligence, 2023).

Regarding current trends, the key informant interviews revealed a noticeable shift towards online booking and payment methods in the bus transportation segment. Cambodia's Bus businesses increasingly rely on user-friendly websites and applications to facilitate easy booking and payment processes. Moreover, there is rapid growth in e-logistics within the retail and wholesale sectors, driven by the rising demand for quick commerce. Logistics companies are forming partnerships with online marketplaces and social commerce sellers, creating mutually beneficial opportunities. The younger population, who are enthusiastic users of e-commerce, are also introducing online shopping to older generations, indicating positive prospects for Cambodia's transportation industry in logistics goods (Aquarii BD, 2023).

For future trends, Cambodia strategically plans a high-speed train from Phnom Penh to Poipet, supported by a concessional loan from China. The Cambodia Chamber of Commerce vice president considered this a forward-looking initiative that aims to boost the economy by efficiently transporting passengers, tourists, and agricultural products. Additionally, the project positions Cambodia for potential collaborations with neighboring ASEAN countries, signaling a significant investment opportunity for future economic growth (Vanyuth, 2023).

4.2 The Influence of Transportation Industry on Other Sectors

In the era of globalization, every country has to have connections, as do the sectors in a country that impact each other. The transportation sector in Cambodia plays a critical role in driving the country's economy and has significant implications for various sectors, such as tourism, agriculture, manufacturing, and others.

The transport infrastructure is vital for the growth of the tourism industry in Cambodia, as it enables tourists to travel to different parts of the country and visit various tourist destinations. In 2022, by boosting tourism, Cambodia's international tourism earnings reached US\$1.41 billion, and earnings from domestic tourists reached US\$650 million (Pradeep, 2023). Cambodia received around 2.28 million international tourists in 2022, an increase of 1058.6 percent from 2021, and the sector contributes about 3.6 percent to the country's GDP (Pradeep, 2023).

Moreover, the transport sector is vital for the growth of the agriculture sector, as farmers need efficient transportation to move their agricultural produce from rural areas to markets across the country. Of the total population, 76 percent live in rural areas, and agriculture provides 31.2 percent of total employment, contributing 20.7 percent to the country's GDP in 2021. This emphasizes the need for a well-

functioning transport system to boost agricultural activities in the country (Open Development Cambodia, 2021).

Further, the transport sector plays a crucial role in the growth of the manufacturing sector, particularly the garment industry, which is a major contributor to Cambodia's economy. Garment manufacturing units depend on transport infrastructure to distribute their goods within the country and export them to international markets. Textiles, clothing, footwear, and food and beverages makeup 80 percent of the country's manufacturing value added. These sectors are the largest employers, with 1.4 million workers engaged in manufacturing (UNDP, 2020).

4.3 The Prospects and Opportunities of the Transportation Sector in Cambodia

Cambodia offers tremendous prospects for entrepreneurs in the field of transportation to enhance the standard of their transport companies and Cambodia's reputation in the transportation services industry. Each form of transportation has distinct functions that serve different purposes, opening up many business opportunities.

Transportation is the most essential element that enhances growth in other key sectors, such as agriculture, tourism, manufacturing, and construction. Cambodia's transport contribution to GDP surged to 4204.40 KHR Billion in 2023 from 3889.50 KHR Billion in 2022. GDP from transport averaged 2253.70 KHR Billion from 1998 until 2023, reaching an all-time high in 2023 (Trading Economics, 2024). The World Bank's Global Logistics Performance Index placed Cambodia 98th out of 160 countries in overall logistics performance, which indicates the potential for growth in this sector (OECD, 2021). However, there is no official claim on the amount the transportation sector contributes to Cambodia's GDP as it indirectly facilitates other industries. For example, the travel and tourism industry, which depends significantly on transportation, comprised 32.7 percent of Cambodia's GDP in 2019 (Knoema, n.d.).

Another prospect is the urban development plan and logistic network performances. The area and population of Phnom Penh have grown significantly. The land area of Phnom Penh nearly doubled in 2010 when 20 communes from different provinces were merged into the city. From roughly 2.00 million in 2018 to 2.87 million in 2035, the city's population is expected to grow gradually, which needs sustainable transportation systems, including public transit systems, airports, train stations, electric vehicles, ride-hailing services, ferry terminals, pipelines, and warehouses. In 2014, the Japan International Cooperation Agency (JICA) supported an urban transport plan for Phnom Penh, aiming for a balanced road, public, and traffic management system.

While digitalization is a requirement of each industry in Cambodia's economy, Nikolas Hatz, a Senior Lead Consultant in Tourism Development for the GIZ ICONE program, stresses the need for businesses to go digital to stay competitive. Customers expect companies to provide online solutions, like digital ordering, payment, and tracking, in today's digital world. Being online is crucial in tourism since modern travelers use the Internet for inspiration, planning, booking, and payments (Pazo, 2023).

In addition, our interviews with professionals (key informants) in the transportation sector reveal that legal provisions play a key role in making transportation services safer and more dependable. Internal rules within a company could target how things should be done, like how drivers should qualify and the standards vehicles must meet. In a competitive environment, laws ensure fair competition by eliminating monopolies or unfair practices that could harm customers or other businesses. The transport sector can attract investments to strengthen its infrastructure with effective laws and regulations and high investor confidence.

4.4 The Challenges Faced by Entrepreneurs in the Transportation Sector in Cambodia

With the technological advancements, entrepreneurs in the transportation sector have encountered several challenges. Our interviews with local transportation companies reveal their concerns, such as booking mistakes, emphasizing the importance of clear communication during online or offline ticket purchases. Besides, safety is a top priority for customers, with the quality of drivers being a significant concern. Customers seek drivers with solid technical and professional skills to ensure a secure journey. Another challenge is the prevention of vehicle breakdowns, as these incidents inconvenience customers and lead to negative reviews. Some behaviors like talking aggressively, ignoring customers, poor work performance, resisting change, and lack of responsibility can substantially reduce customer satisfaction.

The transport sector's broader challenges include poor infrastructure, a lack of good roads in provinces, and challenges with roads in rural areas. Cambodia's transportation services are hindered by poor road, river, and railroad maintenance, with 2.7 kilometers of roads per 1,000 inhabitants and one of the lowest road densities in Southeast Asia, affecting road and river maintenance and increasing travel duration, expense, and risks. The Economic Research Institute noted many issues in Cambodia's infrastructure, particularly transportation. For instance, in 2019, Cambodia had five domestic ports and airports. The neighboring country, Thailand, has 404 domestic ports and 31 airports. Thus, it is challenging for businesses to meet the increasing demand for transportation as they lose an advantage in this sector compared to other nations (ASEAN Stat, 2022). Further, there is a lack of adequate

infrastructure and facilities. Cambodia lacks enough international airports, deep-sea ports, or river ports to accommodate the country's expanding transportation needs. The lack of bridges over the Mekong River impedes cross-border trade and integration. Moreover, the high cost and difficulty of obtaining licenses also pose challenges. The transportation industry is heavily regulated, requiring multiple licenses, permits, and registrations from different agencies, including the Ministry of Economy and Finance, the Ministry of Public Works and Transport, the Ministry of Commerce, and municipal governments (ADB, 2019). The processes entail numerous fees and taxes and are frequently intricate, expensive, and time-consuming. Also, there remains a low level of innovation and technology adoption. Due to its heavy reliance on antiquated and ineffective machinery, systems, and vehicles, the transportation industry has incurred significant fuel consumption, emissions, and maintenance expenses. The industry does not use contemporary digital technologies that might improve consumer happiness, convenience, and service quality, such as GPS, e-commerce, e-ticketing, and e-payment (Endava, 2022).

These challenges require concerted efforts from the government, the private sector, and the development partners to address them and enhance the potential of the transport sector in Cambodia.

5. CONCLUSION AND RECOMMENDATIONS

The transportation sector in Cambodia plays a pivotal role in connecting various industries and driving economic growth. As the country strives to achieve upper-middle-income status by 2030, the sector emerges as a key player in this transformative journey. The sector's contribution to GDP, coupled with its influence on tourism, agriculture, and manufacturing, emphasizes its significance in the overall development of Cambodia. The study has highlighted the current and future trends in the transportation sector. The prospects for entrepreneurs in the transportation industry are substantial, with opportunities for business expansion and contributions to Cambodia's economic prosperity. There are also some potential challenges in the area of technology and infrastructure.

Digital transformation, new collaboration plans, skills development, strategic marketing, and investment promotions are needed to achieve further development in the transportation industry. The innovative measures can help Cambodia capitalize on the growth potential within the transportation sector. A holistic approach, combining technological advancement, infrastructure development, and sustainable practices, will propel economic progress and contribute to the sector's overall development. Cambodia's journey toward economic prosperity hinges on leveraging the strengths of its service sectors, with transportation at its core, to navigate the challenges and seize the opportunities that lie ahead.

The limitations of this qualitative study provide opportunities for further research. Our limitations in key informant interviews and the absence of field surveys provide scope for the future. Also, examining stronger connectivity between transportation and sectors such as the tourism industry, textile industry, and agriculture would offer new insights for policy decisions.

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