

Emerging Risks



BTS GROUP HOLDINGS PUBLIC COMPANY LIMITED

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Emerging Risk 1	
Name of Emerging Risk	Risk from Changes in the Consumer Behaviours
Category	Societal and Technological Risk
Source	Macroeconomic Factors
Description	Changes in technology and reaction to new technology result in rapid changes in consumer behaviour. The COVID-19 pandemic outbreak has proven to be one of the accelerating factors, such as prompting an increase in remote access and working, online classes, online shopping, and online transactions. As such, part of the daily life, economic activities, and payment has shifted more towards digitalisation, whether through applications or the internet on the mobile phone, virtual conference platforms, or e-learning, which allows people to work, shop, and study from home, without traveling via the mass transit system, or allowing them to reduce their use of the mass transit system out of health and safety concerns.
Impacts	These changes in consumer behaviour may negatively impact the growth in ridership in the mass transit business, which may, in turn, affect our overall revenue and earnings performance.
Time Frame of Impact	Short term impact, approximately 0-2 years.
Magnitude of Impact	Possibility of a major impact from the decreased revenue and earnings performance due to the decreased ridership, thereby obliging the Company to adjust its strategy as a response to the potential changes.
Mitigating Actions	To manage this risk and handle the change in consumer demand and behaviour, the Company implements a strategy to expand and develop present businesses into other sectors, as can be seen from (1) the business expansion into other transport sectors, such as the development project of U-Tapao airport and the eastern aviation city, and the intercity motorway project; (2) the development of the online payment channels to provide more convenience and efficiency to consumers through mobile applications such as Rabbit LINE Pay; and (3) the improvement on the logistics business unit (Kerry Express Thailand) to make it more efficient in order to support the increasing demand on e-commerce. This diversification of risk will help support and cater to the changes in consumer behaviour and sustainably strengthen the growth of our revenue.

Emerging Risk 2	
Name of Emerging Risk	Risk from Thailand Becoming an Ageing Society
Category	Societal and Technological Risk
Source	Nature
Description	<p>With change in population structure into ageing societies being taken as an issue of priority in many countries, Thailand, is also an ageing society presently undergoing a transformation into an aged society. According to the National Statistical Office of Thailand, the country will become a completely aged society in 2021 (when people aged 60 and over account for at least 20 percent of the national population or when the people aged 65 and over account for more than 14 percent of the national population) and a super-aged society (when people aged 65 and over account for more than 20 percent of the national population) in 2031, with people aged 60 and over accounting for 28 percent of the national population.</p> <p>In most families in the current Thai society, adult family members or members of working age will spend most of their time on full-time jobs. As such, care of the household and arrangement of household goods and amenities become the responsibilities of the family's elder members. Transportation, therefore, has become vital for many of their activities, such as going shopping and attending medical appointments. One of the means of transportation preferred by the elderly is the mass rapid transit system, due to its speed, convenience, and coverage over various areas. To accommodate the needs of the elderly, a mass transit service provider must implement appropriate facilities, focusing on improving its venue of services and its facility standards, including providing personnel training on accessibility features and accessible services, as well as promoting good attitudes towards the elderly.</p> <p>Apart from the mass transit services, the Company also has various online services, such as Rabbit Line Pay which helps facilitate payment and transfer of funds for its users and Kerry Express Thailand, a logistic service provider. However, the services' current user interfaces may not be suitable for the elderly. To make them friendlier and appropriate to these older users, the Company has to consider making modifications to the systems.</p>
Impacts	<p>This change into an ageing society may negatively impact ridership in the mass transit business, as older commuters may prefer other means of transportation deemed faster and more convenient, such as taxi cabs. Failure to show these commuters how the mass rapid transit system is just as fast and convenient may result in a decrease in future ridership with the increasing number of the elderly, which may, in turn, affect the revenue from the mass transit business.</p> <p>In addition, the Company has to consider procuring accessibility features for the elderly at the mass rapid transit stations, such as passenger lifts, wheelchair ramps, handrails, at the adequate amount and which meet both the needs of the elderly and the requirements of the venue of services. The features include new technology to help them move or travel around more conveniently, such as automatic door sensors. To increase the convenience for the commuters, the Company may also have to expand its operations to include shuttle services for the elderly, between their homes and the stations.</p>
	<p>Moreover, there are societal changes which affect new technology, such as the possibility that Rabbit Line Pay and Kerry Express Thailand may not be suitable for the elderly due to their complicated user interfaces, and that language and literacy may cause certain groups of older users to have trouble understanding the services. The Company, therefore, needs to consider making these systems more appropriate and friendly for the elderly, for example, by making the screen larger to help improve visibility, using images in place of texts, or using voice and dictation to help with comprehensibility.</p> <p>These factors will increase the Group's operating costs, and if the additional accessibility features procured are not accepted or well-received by the commuters or older users, it may negatively affect the Group's revenue or earnings performance. In addition, such changes may require the Company to</p>

	consider establishing new departments to carry out the new development, which would entail the Company restructuring its organisation and may impact its other management aspects.
Time Frame of Impact	Long term impact, approximately 3-5 years.
Magnitude of Impact	Possibility of a major impact from the decreased mass transit system revenue and earnings performance due to the decreased ridership as a result of the older commuters potentially preferring more convenient means of mass transit, or from the decreased online service revenue due to the users preferring services provided by other companies. Procurement of the accessibility facilities and development of more elderly-friendly service systems will also incur additional expenses, thereby obliging the Company to adjust its strategy as a response to the potential changes.
Mitigating Actions	<p>To accommodate the transformation into an aged society, the Company has implemented a plan to procure additional accessibility features for the elderly at the mass rapid transit stations, such as passenger lifts, wheelchair ramps, handrails, as well as providing personnel training to encourage good understanding and service attitudes towards all elderly, and implemented a primary communication mechanism between passengers and the Company.</p> <p>In addition, under the strategy to expand improve the existing business units, the Company has developed a convenient and effective online payment channel for the customers in the form of a mobile application, such as Rabbit Line Pay, with a safe and friendly user interface, as well as making improvements on its logistics business unit, such as Kerry Express Thailand. These services will help facilitate purchases of goods and services by the elderly, and will also reduce their in-person traveling.</p> <p>The Company also develops its data analytics technology, which allows it to understand passenger behaviour and utilise the data to develop forms of services which appropriately and correctly accommodate the needs of each customer group. These diversification of risk will support the Company and its responses to the Thai society transforming into a super-ageing society, as well as reinforcing the Company's stable revenue growth on a sustainable basis.</p>

Emerging Risk 3	
Name of Emerging Risk	Risk from the Increasing Cybercrime and Ransomwares
Category	Societal and Technological Risk
Source	Macroeconomic Factors
Description	<p>With consumer behaviour being accelerated towards more reliance on the online systems, whether for work, study, online shopping, or carrying out electronic transactions, as a result of change in technology and responses thereto, as well as the pandemic which requires the society to adjust itself to the current circumstance, or the “New Normal” lifestyle, it is evident that the telecommunications system, whether in the form of the internet, digital systems, or various cyberspaces, has become an important part of the daily life. The Company’s operations also rely on technology and telecommunications systems for their services, including in its collection of data from the passengers who are also the mass transit rapid system’s traveling members, and the user data from the Rabbit cards, with usage of the Company’s online services has increased by 50 percent in the past year compared to 2017. Being the key element of business in the digital age, user’s personal data, such as real names, address, contact numbers, and credit card information, have become invaluable, and therefore, might be under threat or stolen, with one of the fastest growing cybercrimes, currently, being the use of ransomwares. Due to the advancement of technology, many hacker groups have emerged to capitalise on it by way of ransom, with any business and larger organisation potentially in their list of targets. Being able to infiltrate a company’s internal network and shut down the system, this kind of malware forces its victim to pay a large sum of money in exchange for the passcode, which would unlock the system and allow the company to resume its normal operations. These issues can affect the Company’s credibility and may incur a substantial amount of expenses for the recovery of the system or the data, or even for the resulting litigation or claims. As such, system security has become one of the factors prioritised by the Company.</p>
Impacts	<p>With the telecommunication systems being a vital part of the Company’s services, a cybercrime or an attack, such as the use of a ransomware to shut the system down and hold it for ransom, may directly affect the Company’s operations. Examples of potential cases where Kerry Express Thailand’s ordering system is being shut down when it is under attack, or where customers’ personal data, such as national ID numbers, credit card information, or bank account information, are stolen from the Company’s database, may negatively impact the Company’s credibility and the trust placed in the Company by the customers, joint investors, and other stakeholders.</p> <p>In addition, cybercrimes can also incur additional costs to the Company for handling the incident, such as the cost of recovery of the system or data, or even the costs incurred by the potential resulting litigation or claims by the damaged parties, all of which will certainly affect the Company’s revenue and earnings performance.</p>
Time Frame of Impact	Long term impact, approximately 3-5 years.

Magnitude of Impact	Possibility of a major impact from the additional costs incurred by the handling of cybercrime incidents or resolution thereof, as well as additional security measures to be implemented. In addition, if the customer's trust in the Company decreases, the resulting loss of ridership may also affect the Company's revenue and earnings performance.
Mitigating Actions	<p>Plans to prevent cybercrime against the Company have been implemented, consisting of (1) Modifying the Company's data management system so that the data can be stored in a central database platform, as opposed to separated and scattered storage. This helps centralise data management and allows for access, backup, and recovery from anywhere, including the cloud storage; (2) Implement plans to keep the antivirus software regularly updated, especially the ransomware detection system, and constantly carrying out system tests and updates on the malware database so that the antivirus software can always be ready to handle new malwares on a prompt basis.</p> <p>These preventative policies and measures will help the Company, customers, investors, and key stakeholders maintain confidence in the security system. They will also accommodate the change in the consumer behaviour, promoting trust in the Company's cybersecurity aspect, and reinforcing stability in the Company's sustainable revenue growth.</p>

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