

# An analysis of logistics financing prospects in Singapore

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**Abstract:** Singapore is well-positioned as a global hub for logistics and supply chain management. Singapore's modern logistics industry has five main characteristics: high efficiency, robust technology, strong professionalism, high service concentration and strength. Singapore is a foreign trade-driven economic model. With the prosperity of cross-border trade, companies in the logistics industry in Singapore seek diversification and expansion of supply chain technology and logistics finance. This paper mainly analyses the advantages of Singapore's development of the logistics industry and the promotion effect of Singapore's growth in the financial field on logistics industry financing. Factors such as the Internet of Things, blockchain, intelligent management, talent cultivation and policy support are enormous drivers for developing logistics financing in Singapore. Among them, the most representative and promising is the blockchain platform, which provides technical support for the Internet of everything, improves the security of multi-agent cooperation, and expands the scope of credit transmission. Although there are still some risks in developing logistics financing in Singapore, as a potent combination of the financial and logistics industries, logistics financing has a bright prospect.

## 1 Introduction

### 1.1 Location of Singapore

Singapore is one of the most cosmopolitan countries in the world. It is strategically located in the southern part of the Straits of Malacca, making it an important transportation hub.

Because of Singapore's maritime solid and air networks connecting Asia and the rest of the world, more than 9,000 logistics companies use Singapore as a regional hub for transshipment and assembly.

### 1.2 Economic Conditions in Singapore

Singapore is a foreign trade-driven economy, with electronics, petrochemicals, finance, shipping and services as its primary industries. It highly depends on surrounding countries such as China, the US, Japan and Europe. The volume of foreign trade is three times that of domestic GDP. Due to its geographical location and policy advantages, Singapore becomes a world investment and financial centre, with the world's leading banks, second only to London, New York and Hong Kong, attracting S\$2.14 trillion in foreign direct investment by the end of

2020, or approximately US\$156 million. <sup>1</sup>Most of the assets are in the financial services and manufacturing sectors and the primary sources of direct investment are the US, Japan, the UK, China and Malaysia.

### 1.3 An overview of the development of the logistics industry in Singapore

The logistics industry is an essential part of Singapore's economy, accounting for about 8% of the total GDP. There are more than 8,000 logistics-related companies and 920,000 people employed in the logistics industry, accounting for 5% of the country's entire workforce. <sup>2</sup>The modern logistics industry has become one of the pillar industries of Singapore. Singapore's ports and airports are equipped with free trade zones or logistics parks, which are capable of generating economies of scale. The gardens are well equipped with many professional logistics providers in all aspects of transportation, warehousing and distribution, greatly facilitating customers. In Singapore, 200 shipping companies connect the country to 600 ports in 123 countries.<sup>3</sup> All this has made Singapore Mart a leading logistics and supply chain management centre in the Asia Pacific region.

Singapore's customs clearance process, NTP, combines

<sup>1</sup> Docin website, An analysis of the development of Singapore logistics industry, 2022

<sup>2</sup> Zhen Li, A comparative analysis of customs clearance facilitation between Shanghai and Singapore -- based on the "single window" <sup>a</sup>ssy200102@qq.com, <sup>b</sup>michelle.yangzixuan@outlook.com

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perspective [J]. Modern Business, 2018, (06):67-68.)

<sup>3</sup> Vynn Capital, Assessing the potential of Singapore's logistics market: Logistics market Overview and logistics technology prospects, 2021

the entire supply chain process to provide intelligent, integrated value-added services, including eight modules on market insight, buyer sourcing, document production, trade finance, transportation arrangements, customs declaration, cargo tracking, reporting and settlement. The Singapore government's use of NTP has enabled all customs clearance procedures to be completed online, making it paperless, speeding up customs clearance and improving efficiency. PSA Singapore handles more than 15 million containers annually, making it the world's largest single-container terminal operator.

The favourable development environment has attracted several internationally renowned logistics companies to set up their Asian headquarters in Singapore, such as United Parcel Service (UPS) and FedEx. These companies have also contributed to developing local logistics companies in Singapore as they explore the Singapore market.

## 2 Supply Chain Finance

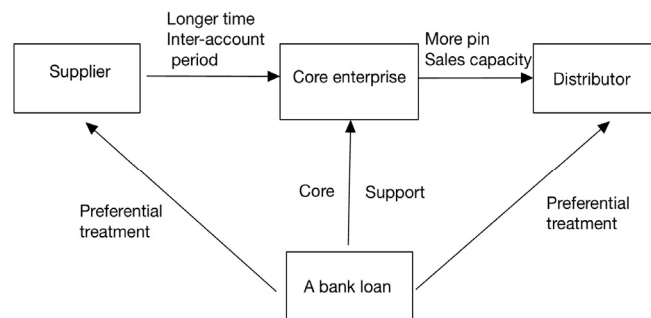
### 2.1 Basic concepts of logistics financing

Logistics financing is a comprehensive service business in which an enterprise's products in normal trade flow are pledged to a bank as a condition of credit, and financing is obtained through a logistics information management system.

### 2.2 The relationship between banks and supply chain members in the supply chain financing model

The essence of supply chain finance is to grasp the structural characteristics of the supply chain and the details of transactions and to link the core and upstream and downstream enterprises together to provide flexible use of financial products and services as a financing model. It also means that the capital is used as a solvent of the supply chain to increase its liquidity.

Supply chain finance promotes the development of the supply chain in two aspects: on the one hand, it solves the problem of the relatively weak upstream and downstream supporting SMEs' difficulty in financing and the imbalance in the status of the supply chain; on the other hand, it integrates bank credit into the upstream, and downstream supporting enterprises to realise their commercial credit enhancement and promotes the supporting enterprises to establish a long-term strategic synergy with the core enterprises, thus enhancing the whole supply chains. The bank's credit can be integrated into the upstream and downstream supporting enterprises to achieve their commercial credit enhancement and promote the establishment of long-term strategic synergy between the supporting enterprises and the core enterprises, thus enhancing the competitiveness of the whole supply chain.

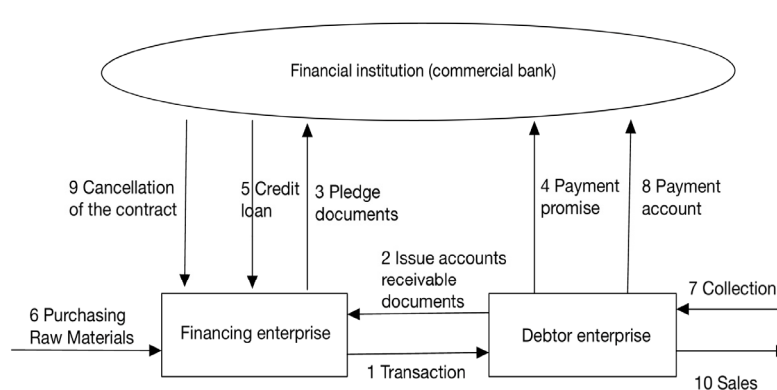


**Figure 1** The relationship between banks and supply chain members in supply chain financing mode

### 2.3 Three modes of supply chain finance development

#### 2.3.1 Accounts Receivable Financing

The act of financing from financial institutions with unexpired accounts receivable is called accounts receivable financing. This mode enables enterprises to obtain short-term financing from institutions promptly and accelerate the healthy and stable development.



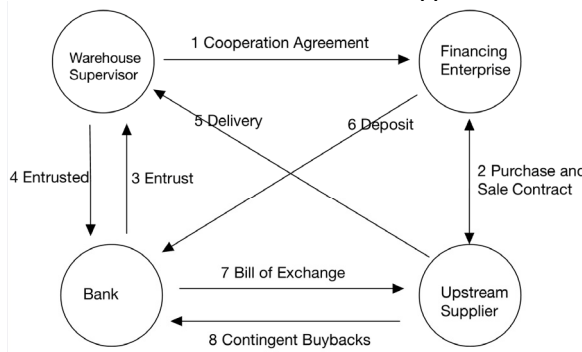
**Figure 2** Accounts receivable financing mode

### 2.3.2 Future Right of Lading Financing

Future right of delivery financing (also known as affirmative warehouse financing) is a financing model in which downstream purchasers apply for loans from the platform to pay upstream core suppliers for the delivery of goods within a certain period in the future. In contrast, the suppliers undertake to repurchase the undrawn goods and

hand over the right of delivery to financial institutions for control.

The financing enterprise obtains the right to pay for the goods in instalments and withdraw the goods in instalments through the confirmatory warehouse business, thus not having to pay the total amount of the goods at once, effectively relieving the short-term financial pressure on the enterprise and realising the leveraged procurement of the financing enterprise and the bulk sales of the supplier.

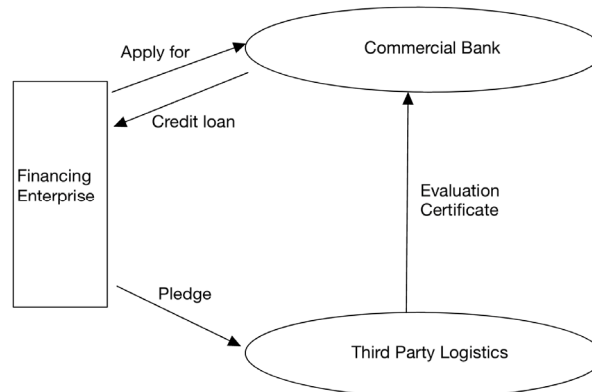


**Figure 3** Confirmed position financing mode

### 2.3.3 Financing through the warehouse

The so-called liquidated warehouse, i.e. inventory financing, is the act of enterprises using inventory as a pledge to financial institutions for financing business.

Therefore, the financing warehouse service can not only provide a high level of logistics service for enterprises but also solve the financing problem for small and medium-sized enterprises and solve the capital gap of cash flow in the operation of enterprises, to improve the overall performance of the supply chain.



**Figure 4** The basic process of financing warehouse business

## 2.4 Four trends in the development of supply chain finance

### 2.4.1 The trend of going online

With the advancement of Internet technology, the traditional "1+N" model has been transplanted online to turn traditional finance led by banks into inclusive finance with the participation of all people. It also connects the upstream and downstream of the supply chain and all parties involved through technical means, including core enterprises, upstream and downstream SMEs, banks and other fund providers, logistics service providers, etc. It puts the business flow, logistics, capital flow and

information flow in the supply chain online. It grasps the business situation of enterprises in the supply chain in real-time to control the risk of financing and lending.

### 2.4.2 Verticalisation and segmentation

Verticalisation and segmentation are the inevitable trends of supply chain finance, as the supply chain model, profit model, strength of capital demand, and cycle are different for each industry, the application of supply chain finance to various sectors will inevitably give rise to other industry characteristics.

It's foreseeable that each supply chain finance participant can only provide personalised supply chain finance products and services to enterprises in each vertical segmented supply chain by continuously

cultivating one or several industrial chains operated by them, fully understanding the attributes and characteristics of the industry and combining their professional analysis and judgment capabilities.

### 2.4.3 Application of big data

The application of big data in the future mainly lies in improving the risk control system.

Theoretically, through the effective monitoring of "logistics", "commercial flow", "capital flow", and "information flow" in the supply chain system, a set of risk control systems can be established. "This set of theoretical ideas is feasible, but the combination of the data model and objective and standardised data collection is still a matter of opinion, and the core of independence, objectivity, impartiality and standardisation is still in the perfection and development period.

The application of big data in supply chain finance is more in the process of theoretical deduction and preliminary experimentation, which is still a certain distance away from the market expectation, not to mention changing the whole industry.

### 2.4.4 Promote closer integration between industry and finance

The degree of integration between industry and finance is an essential indicator for the evaluation of the activity of an economy, and the flow of capital blood to the real sector with low cost and precision can only promote the healthy development of the economy.

The specific mode of operation is to create a financial ecosystem through the business ecology linked by the supply chain finance platform, based on Internet information transfer and data support, so that finance can genuinely serve all kinds of subjects in the entire supply chain and promote the development of the business ecology.

## 2.5 Factors influencing logistics financing

Logistics financing is influenced by many factors, which we will cover in four areas.

### 2.5.1 Internet of Things (IoT)

The Internet of Things is defined as a network that connects any object to the Internet for information exchange and communication through information sensing devices such as radio frequency identification, infrared sensors, global positioning systems, laser scanners, etc., according to an agreed protocol, to achieve intelligent identification, positioning, tracking, monitoring and management of the object.

Logistics is the basis for the development of the Internet of Things. As an ancient economic activity, logistics emerged with the emergence of commodity production and developed with the development of commodity production. Many modern logistics systems already have advanced technical features such as

informatisation, digitalisation and networking.

#### 2.5.1.1 IoT applications in logistics goods storage

In traditional warehousing, it is always necessary to manually scan the goods and obtain data, which is relatively inefficient. Additionally, the storage space can be poorly divided, resulting in a chaotic stacking situation and a lack of real-time tracking.

The application of IOT technology in traditional warehousing, the formation of an intelligent warehouse management system, can improve the efficiency of goods in and out, expand the capacity of storage, reduce the labour intensity and cost of labour, but also real-time monitoring of incoming and outgoing goods, improve the accuracy of delivery, complete the receipt of goods into the warehouse, inventory allocation, picking out of the warehouse and the entire system of data query, backup, statistics, report production and report management, etc. Tasks.

#### 2.5.1.2 Logistics network applications in logistics transport monitoring

The system management of logistics vehicles allows real-time tracking and monitoring of lorries and goods, as well as monitoring the temperature and humidity of the goods. In transporting goods in the truck, the speed, fuel consumption, tyre temperature and other driving behaviour of the vehicle are monitored in real-time. This improves transport efficiency, reduces transport costs, lowers cargo losses and gives a clear picture of the situation during transport.

### 2.5.2 Connected Trade Platform

The development of the Internet trade platform and logistics industry is complementary.

The Connected Trade Platform provides a solid foundation for Singapore to become world-class in trade, trade finance and supply chain.

It replaces the traditional TradeNet and TradeXchange platforms to create a national trade information ecosystem. This complete system is intended to be a one-stop trade information management system that is interconnected with other platforms and provides a wide range of trade-related services to customers. At the same time, new insights and service types can be analysed through cross-industry data. A digital documentation centre can be created to reuse data, reducing costs and streamlining processes.

### 2.5.3 In general on public chains

The logistics industry has used blockchain technology to carry out reforms involving technological and industrial development.

The global blockchain industry attracted US\$14.8 billion (S\$20.5 billion) worth of start-up investment last year, a 600 per cent jump from US\$2.111 billion the year before, and the blockchain software and services market is

worth US\$4 billion in 2020 and is expected to reach a staggering US\$199 billion by 2030 to reach a staggering \$199 billion in size.<sup>4</sup>

Blockchains are usually divided into the following three categories: public chains, private chains and federated chains. Public chains are the most widely used blockchains.

In terms of scale, public chains can already use tens of thousands of nodes simultaneously to maintain a distributed ledger jointly. Its security, reliability and decentralisation have been tested over time.

In terms of performance, the most advanced public chains can achieve throughput rates of over 5,000 transactions per second and transaction confirmation latency of fewer than 30 seconds without sacrificing security and decentralisation. This is already comparable to the performance of the centralised Visa system. It is expected that shortly, the performance of public chains will exceed throughput rates of tens of thousands or even over 100,000 transactions per second.<sup>5</sup>

In terms of applications, blockchain already supports smart contracts and can complete arbitrarily complex application logic. Many scenarios have been identified for blockchain applications, including supply chain management, e-government systems, construction and manufacturing management, and housing rental management, to name a few. These scenarios all have complex multi-party cooperation and data-sharing needs, where trust issues are critical to the efficiency and cost of the application.

### **2.5.3.1 Blockchain helps upgrade supply chain finance**

Supply chain finance is a natural fit with blockchain technology.

As a type of financing, traditional supply chain finance has high costs in all aspects with the characteristics of multi-entity participation, information asymmetry, imperfect credit mechanism and non-standardization of the credit subject scenario.

The core of finance is credit building. The efficient and accurate transmission of credit between multiple entities is the core of the rapid development of supply chain finance. In the development of the real economy, small and medium-sized enterprises generally face the problem of expensive and difficult financing. The key point to solving this problem is to break the barriers to credit flow.

Blockchain is the basis for the interconnection of all things. Primarily, financial services are carried out around the whole supply chain of product production, starting from the core enterprises and providing credit to enterprises in the entire supply chain based on the transaction information between upstream and downstream and the core enterprises, such as bills, receivables and payables, etc. All information is recorded on the blockchain by the relevant enterprises, using the characteristics of blockchain to enhance the authenticity

and credibility of data. Moreover, it can also increase inclusiveness and benefit the underprivileged more unilaterally.

However, this may vulnerate the financial system and thus create systemic risk. In particular, when a problem occurs in one upstream firm, it may affect many firms in the middle and lower reaches and become more contagious.

### **2.5.3.2 Multi-entity cooperation**

Supply chain finance is centred on some large enterprises and covers their upstream and downstream MSMEs. The financing process involves the participation of three parties: the supply of the capital side by banks, financial technology services, etc.; the involvement of logistics, warehousing and other enterprises; and the support of corporate IT services, financial technology services, etc.

In a multi-entity environment, what matters is trust and the proper distribution of benefits.

Blockchain technology acts as a distributed ledger, providing a platform for all parties to collaborate on an equal footing, reducing the risk and cost of inter-institutional credit collaboration. Information on the blockchain is traceable but cannot be tampered with unilaterally, so it can be synchronised and reconciled in real time between multiple institutions.

### **2.5.3.3 Multi-layered credit delivery**

Supply chains often involve layers of supply and pi layers of sales. However, in the case of supply chain finance, the credit of the core enterprise can often only benefit the first-tier upstream and downstream enterprises with which it has direct trade dealings. It cannot be effectively passed on to the SMEs at the distribution and supply endpoints with a greater need for financial services.

The blockchain platform has been built to open up the transaction relationships between the layers, extending the scope of supply chain finance services by providing more comprehensive credit delivery to foreign companies.

### **2.5.3.4 Digitization of assets**

The registration function on the blockchain platform digitises these assets. It makes it easy to split and share them, facilitating the transfer or collateralisation of enterprises to obtain financial support according to their needs.

### **2.5.3.5 Process Intelligence**

Smart contracts established on the blockchain can control the supply chain process and improve efficiency; they can also settle payments themselves and reduce operational risks.

Analysis of participant interests.

<sup>4</sup> China Council for The Promotion of International Trade (August 2022), Report: Global blockchain venture capital increased by 600% last year to about 20.5 billion yuan.

<sup>5</sup> Ming WU, The Paper, Five Questions about New Trends in Science and Technology | Blockchain.

Core enterprises: Solve the financing problems of upstream and downstream suppliers and distributors, strengthen the financial function, optimise the overall effect of the supply chain and enhance the core competitiveness of enterprises.

Upstream and downstream enterprises: MSMEs whose business revolves around core enterprises can optimise cash flow, improve the efficiency of capital turnover and enjoy low-cost financial services by relying on the credit of core enterprises.

Financial institutions: commercial banks, factoring companies, microfinance companies, P2P companies, etc., can access more quality assets with transparent information and controlled risks to enhance their returns.

Other information/technology service providers: logistics, warehousing, ERP for enterprise information systems, financial technology companies, etc., can expand their business with their own data resources or technical advantages.

#### 2.5.4 Digital and intelligent transformation

Traditional supply chain finance has a single coordination capacity, relying on core enterprises that can no longer meet the diversification process. The risks of asymmetry, non-disclosure, forgery and tampering with the information therein are already in sight. Blockchain, big data, artificial intelligence, the Internet of Things and other new-generation information technology promote the digitisation and intelligence of supply chain finance, better integrate and analyse information flow, capital flow and logistics, and establish a dynamic credit evaluation mechanism, to ensure the quality and efficiency of the invested funds.

Supply chain finance will eventually move towards a digital form, O2O model, and intelligent approach and rely on the excellent blockchain paradigm to assist the future industrial ecology.

### 2.6 Singapore's Advantageous Industrial Base

In 2022, Singapore's GDP (USD current prices) was US\$424,431 million, and Singapore's population is 5,962,524, with a GDP per capita of US\$79,575. Of the major industries, services account for about 75.3% and industries 25.8%. Singapore has the most extensive network of free trade zones in Asia, accounting for 60% of the world's GDP and providing business connectivity. According to the Global Logistics Performance Index published by the World Bank, Singapore has consistently topped the list in Asia since 2007.<sup>6</sup>

#### 2.6.1 Logistics and related industries

Singapore's logistics sector encompasses more than 12,000 companies and contributed 1.5 per cent of Singapore's GDP last year. The government expects the

value added to the logistics sector to grow by 2% annually, reaching \$6.9 billion in 2025 and adding 2,000 new job vacancies.<sup>7</sup>

The Trade Network, the Port Network, the Jurong Port Network, the Maritime Network, and the Air Cargo Community Network are all connected. The five networks share information resources and emphasise the combination of multiple modes of transport, effectively integrating traditionally scattered, independent road and waterway transport resources into an organically linked system to improve supply chain management for enterprises, saving workforce and financial resources for businesses and improving the efficiency of government operations.

#### 2.6.2 Finance

Singapore is Asia's premier international financial centre, foreign exchange market and wealth management centre. The financial sector has grown to become the third-largest international financial centre in the world and the largest in Asia by 2022, surpassing other competitors in the region.

Singapore is one of Asia's business hubs. It is the gateway to the Southeast Asian market and the Asia-Pacific region for many multinational companies, with over 3,500 regional headquarters in Singapore.

#### 2.6.3 Excellent infrastructure

Singapore's excellent infrastructure includes a rule of law environment, a vibrant financial sector and a highly skilled workforce. The Singapore government is committed to attracting new investment and revamping warehouse operations, creating quality jobs, digitising the industry to drive productivity and assisting local logistics companies in internationalising.

#### 2.6.4 Policy support

The government has provided tax incentives, research grants and various on-the-job for the development of the logistics industry. The liberal policy environment, with no restrictions in logistics services, has attracted many internationally renowned companies to set up their logistics operations in Singapore.

#### 2.6.5 Singapore Logistics and Freight Forwarders Association Singapore Logistics Association (SLA)

Established in 1973, SLA represents more than 600 logistics companies and is actively involved in the development of the industry and the expansion of domestic and international logistics cooperation. SLA cares about the product of domestic logistics companies and helps them to transform and improve their business with forward-looking initiatives.

<sup>6</sup> A Singapore Government Agency Website

<sup>7</sup> Industrial Bank (December 21, 2022), Union Morning Paper, the benefits of Asia's leading industrial real estate trust shares in Singapore's logistics sector.

### 2.6.6 Talent Education and Training

Singapore places extra emphasis on talent cultivation.

The Singapore government has conducted numerous lectures on logistics-related content to the public and enterprises, and has launched several training programmes such as government-university cooperation and international exchange. For example, the National University of Singapore has joined hands with the Georgia Institute of Technology in the United States, which is renowned for its industrial and manufacturing engineering, to establish the Logistics Institute, which is funded by various public bodies and private companies for its development. With the support of the government and private enterprises in Singapore, and the close communication between them, students from such schools are skilled in logistics, highly professional, good service, and strong, and can start work immediately after graduation.

### 2.6.7 Information Network Technology

High technology, one of the pillars of Singapore's logistics industry, is even more critical in developing web-based technologies.

Singapore logistics companies have their computerised technology platforms, which allow customers to not only make business contacts but also to keep track of the space, the delivery chain and the estimated delivery time of the consignment.

Modern technology ensures the safety of goods and the accuracy of the logistics process. The use of bar codes and wireless scanners, for example, enables tens of millions of shipments to be delivered each day with an accuracy rate of over 99.99%.

Automated, digitally labour-intensive processes can also address the logistics industry's issues regarding labour dependency. For example, technology is used to predict supply chain disruptions. Ninja Van uses big data algorithms to optimise delivery routes, save on fuel costs and reduce delivery times.

## 2.7 Current Status of Logistics Finance in Singapore

Today, Singapore is a regional hub for global companies and a preferred location for large logistics companies. Twenty-five top global companies are operating in Singapore. Most logistics companies, such as DHL, Schenker and DB Schenker, have regional or global headquarters in Singapore and use Singapore for their large logistics and supply chain operations.

In addition to logistics companies, leading manufacturing companies such as Henkel and Infineon have set up supply chain control towers and distribution centres in Singapore to coordinate regional and global supply chains. These companies benefit from a robust ecosystem of Singapore's leading shippers and third-party logistics providers (3PLs), many of whom have also established innovation centres.

### 2.7.1 Locad

Locad's platform is understood to synchronise inventory across sales channels such as Shopify, Lazada, Shopee and Tik Tok Shop and enables brands to store, pack, ship and track orders in a distributed, end-to-end supply chain-as-a-service approach.

January 16, 2023 - Singapore logistics startup Locad has secured US\$11 million in Series A funding. The round will be used to expand its supply chain platform and locate plans to build what it describes as "the region's largest logistics network" over the next five years, with next-day delivery in Tier 1 to Tier 3 cities.

### 2.7.2 Ninja Van

Founded in Singapore in 2014, Ninja Van operates in Singapore, Malaysia, Indonesia, Indonesia Philippines, Thailand and Vietnam. Ninja Van's strength is using algorithms to provide the best logistics routes, allowing logistics staff to deliver goods to recipients quickly. Ninja van is currently working with major local brands such as e-commerce sites Lazada, Zalora, Qoo10, and retailers Charles&Keith Watsons and Guardian.

26 September 2021 - Singapore-based e-commerce logistics company Ninja Van has announced that it has raised US\$578 million in a late-stage funding round. As part of their partnership, Ninja Van accessed GrabPay on its platform, and Grab integrated Ninja Van's services into Grab Express, Grab's courier business.

### 2.7.3 Janio

Established in 2018 and headquartered in Singapore, Janio is a cross-border platform that provides integrated end-to-end logistics handling solutions in Southeast Asia. In July 2021, Janio received \$8 million in funding. Financial technology company Choco Up led the funding.

With the new financing, Janio is understood to be ready to expand its services to new markets. Also, the investment will also allow Janio to grow its working capital, allowing the company to pursue expansion plans and open up new markets and customers without dealing with cash flow issues.

## 2.8 Logistics Financing Prospects in Singapore

The supply chain is inherently multi-party and non-centralized. The supply chain is only centralised in terms of the strength of commercial supply and demand, but it has its ledger regarding information, transactions and settlement. It will significantly improve decryption, authentication, anti-tearing and information collaboration in supply chain finance.

The logistics industry also grappled with persistent business pressures to improve efficiency to meet tight procure-to-deliver cycles and maintain accuracy in dock-to-stock processes while managing operational resources. The industry is optimistic that their business will be in a better position as companies drive digital solution integration across supply chain functions supported by an

agile workforce and with an intelligent IoT operating system covering logistics warehousing, information entry and other areas used to drive business growth.

As one of the pillar industries of the Singapore economy, the need for domestic and international trade is high due to its well-developed global connectivity and highly specialised value-added logistics services; the deployment of information technology systems and the development of secondary and tertiary industry linkages have enhanced the prosperity of the logistics industry, and the revenue outlook for logistics financing is promising.

## **2.9 Development risks**

### **2.9.1 Supplier risk**

#### *2.9.1.1 Risks in the procurement process*

On the one hand, there are risks associated with contractual terms, which refer to the inability of companies to effectively defend their interests in pricing and setting other contractual terms due to a lack of relevant and reliable information.

On the other hand, the purchase channel also affects the procurement process, and if the risk of default by upstream companies increases, the timing and quality of purchases are involved.

#### *2.9.1.2 Risks in the production chain*

Productivity is an essential factor affecting production, especially in a highly competitive environment where a company's failure to produce reasonably priced and high-quality products efficiently can threaten the successful fulfilment of orders.

#### *2.9.1.3 Risks in the collection of payment for goods*

The payback period is an essential factor in generating risk, and generally, the longer the payback period, the greater the trouble caused by the uncertainty of repayment from downstream vendors.

### **2.9.2 Purchaser risk**

#### *2.9.2.1 Credit risk*

The creditworthiness of the purchaser, including some fundamental indicators such as financial position, capital strength, quality of corporate management leaders and cash flow position, etc., will to some extent, affect the realisation of the order and thus pose a risk to the financier of the order financing business.

Order financing is a loan to high-quality companies with a factual trade background. The requirements for both sides of the transaction are relatively high, so banks must monitor the flow of funds between companies for risk.

### **2.9.3 Bank risk**

#### *2.9.3.1 Order concentration risk*

In general, the more concentrated the orders financed by banks, i.e. the more orders funded in the same industry, in the same supply chain and on the same companies, the greater the concentration risk faced. With the continuous development of the logistics industry in Singapore, it is indeed impossible to have only one logistics company. There will be many companies. A company needs a lot of capital to develop to a certain extent, and bank loans are an excellent way to obtain money. However, if the bank's loan business is repeated in the same chain, it aggravates its horizontal risk. So it is likely that in the later stage, banks will refuse to approve loans to enterprises in the logistics industry, which will have a particular impact on the development of the logistics industry.

#### *2.9.3.2 Operational risk caused by personnel operational risk and inadequate internal control mechanisms of the bank.*

We should strengthen the supervision of bank staff and avoid malpractices for personal gain and dereliction of duty. We should also enhance the training of the professional quality of the bank staff so that the lack of professional knowledge of the team will not cause the risk of loss or adverse impact on the bank.

#### *2.9.3.3 Credit capture risk.*

At the time of the loan, the bank is a third party with insufficient information. Even if sufficient investigation has been made in the early stage, it is likely to be concealed by the enterprise, resulting in incomplete data. The bank's customer manager did not fully grasp the credit status of the buyer and the seller, and the buyer colluded with the seller to obtain low-cost funds from the bank, resulting in the bank taking risks.

## **3 Conclusion**

Singapore's logistics financing is based on advantageous geographical conditions, economic models and industry development. In the sea, air two fields (specially developed ports) under the convenient conditions to build a broad transportation network; Foreign trade-driven economy combined with national policy advantages to forming foreign trade dependence.

As one of the world's major financial centres, Singapore has excellent infrastructure, which lays the foundation for the development of logistics financing. The government provides active policy support, which strengthens the training of senior talents and internal personnel in the industry to inject new vitality into the logistics industry. With the rise of global technology, Singapore has made a new round of information technology leap forward. The Internet of Things, the Internet of trade platform, blockchain... These new information technologies are respectively applied in the



warehousing, transportation, cargo information, client, employee and other aspects of the logistics industry, promoting the digitalisation and intelligent transformation of the logistics industry and responding to the vast information reserve, transformation and processing requirements of the logistics industry with more refined, precise and precise technology.

Logistics financing is based on this mature industry with rapid development and broad prospects. There are roughly four stages. The first stage is the financing stage of enterprises. Enterprise development needs funds and proposes intentions to the bank. The bank searches and analyses the data of the enterprise and the industrial chain, funds and reputation of all enterprises in the upstream, midstream and downstream of the enterprise and guarantees the authenticity and security of the information through the blockchain to connect all enterprises, so that the bank is insured and willing to lend. Enterprises can also store data through blockchain to ensure the excellent reputation of upstream and downstream enterprises and reduce the occurrence of risks. The second stage is the trade stage. Through the Internet trading platform, businesses can contact buyers worldwide and sell products, with analyzing different industries and products through big data so that Singapore manufacturers can grasp customers' preferences and update products at any time to promote the external sales of goods. The third stage is the warehousing stage. In this stage, Singapore uses intelligent equipment such as big data to make the work fast and efficient. The fourth stage is the delivery stage.

In the future, a significant trend of logistics supply chain finance is to make a multi-win ecosystem combining industry and finance.

Logistics finance is a financial business that provides capital financing, settlement, insurance and other services for the logistics industry, and it arises along with the development of the logistics industry. Logistics finance involves three main actors: logistics enterprises, customers and financial institutions. Logistics enterprises and financial institutions join forces to provide financing for enterprises needing funds. The close integration of logistics and finance can strongly support the circulation of social goods and facilitate the smooth reform of the circulation system.

As an important new financial innovation, logistics finance is mainly based on the guarantee of movable assets in the supply chain, providing financing services to the supply chain and improving the overall operational efficiency of the supply chain, unblocking the upstream and downstream business, thus revitalising the whole industrial chain, and making many long-tail customers who were initially shielded from the scope of traditional credit services of banks to obtain bank loan funds. The most significant benefit of this approach is that it not only enables banks to reduce the risk of lending effectively but also becomes a new profit growth point, which can be described as an "all-win".

The potential of the logistics finance market is vast. As a commercial bank, logistics finance is a new channel to open up the world of financing for SMEs; as a logistics enterprise, whoever can provide financial products and services can become the dominant player in the market.

Logistics finance has become an essential means to obtain customer and monopoly resources. Therefore, outstanding financial and logistics companies should pay more attention to the research of the logistics finance industry market, especially the in-depth study of the industry development environment and the changing trend of customer demand. The future of logistics supply chain finance needs to solve the problem of organically combining industries to achieve cross-border integration.

In short, the era of supply chain finance has opened. In the future, the field of logistics supply chain finance will certainly produce diversified development models and innovative types of services with an extensive development prospect.

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## Another Contributions

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