Digitising the Movement of Goods: What Does It Take?

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Deeshraf Elias:
According to Deloitte’s 2019 Innovation Report, the Southeast Asian digital economy is expected to exceed US$300 billion by 2025, with e-commerce in particular showing strong and persistent growth. Besides the convenience of e-commerce, consumers today also have high expectations and expect instant access to products.

With the demands expected to continue growing, more effort is required to optimise service levels for efficient deliveries. How then can organisations responsible for the mobility of goods keep up with innovations and new ways of working, especially with the COVID-19 pandemic? Today we discuss the state of the mobility of goods and the steps organisations are taking to future proof themselves.

Hi everyone! Welcome to another edition of our Future of Mobility series, bringing you the top voices from the sector - decision-makers, innovators and shapers pushing the envelope on future ideas for transportation and beyond. I am your host, Deeshraf and today, we are joined by Audrey Cheong, Managing Director of Operations at FedEx Express and Dr Kevin Lv, Head of Asia Pacific at JD.com. Audrey, Kevin, welcome!

Audrey Cheong:
Thank you for having me Deeshraf.

Dr Kevin Lv:
Thank you.

Deeshraf Elias:
That’s great, now Audrey I’d like to start off with you. FedEx is a global transport e-commerce business that leverages data analytics to improve logistics efficiency, for example, through real time tracking of deliveries. As the Managing Director of Operations at FedEx Express and having worked in China and Singapore, I wanted to hear from you what are some differences in the maturity of digital and technology solutions that are implemented across the movement of goods between both countries?
Audrey Cheong:
Sure. Now if we look at both Singapore and China, they are actively adopting technology solutions to facilitate cross-border deliveries specific to market demands. Now both countries are hubs in their own rights, China for (instance, is the hub for) Asia Pacific, especially with the Belt and Road initiative. Well, some might argue for East Asia and Europe too, and Singapore is the hub for Southeast Asia. Now both markets have a rich history of innovation and entrepreneurship that rendered them leaders when it comes to picking up modern tech solutions, such as IoT, the Internet of Things and robotics to expand the possibilities in the logistics sector. Now, if we look at Singapore, Asia’s most digitally competitive country, she has built a rich innovation and technological ecosystem of which SMEs that are primed to accelerate that digitalisation efforts stand to benefit the most. Within the logistics industry, the Singapore government introduced an enhanced industry plan for the sector, which sets up digital solutions for SMEs at different stages of growth, providing an online self-assessment checklist that identifies opportunities for improvement. Over 86,000 workers in the logistics sector are expected to benefit from this initiative. Now looking at China, China has similarly invested heavily in logistics, leading the world in the use of industrial robots and representing more than 30% of the market. For example, the Cainiao smart logistics network plans to speed up the digitisation of China’s shipping sector, and work with partners to generate RMB 50 billion in value for the industry over the next three years.

Deeshraf Elias:
That’s great, Audrey, thanks for that introduction. And we’ll come back to the points that you mentioned. Now speaking of China as well, Kevin, we understand that JD.com is the country’s largest retailer, and the world’s third largest internet company by revenue. So while we understand that JD.com is thriving in China, can you share with us if there are any expansion plans to support the increasing demands of goods in Southeast Asia?

Dr Kevin Lv:
Yes, you’re right. JD.com is the largest e-commerce (company) in China, and almost the biggest logistics provider in China as well. And at the same time, JD.com has also been working on the business (developments) in Southeast Asia. In the year 2014, JD.com established a joint venture in Indonesia to provide e-commerce and logistics (services) to the local customers. Till now, they have more than 1 million SKUs, 20 million customers, 10 warehouses located on seven islands, and have already covered more than 400, near 500 cities, in more than 6000 countries. And at the same time we also established the e-commerce website in Thailand as well, we call it JD on China (is) a joint venture partnership with (Thailand’s) Central Group. This website (was also) established in the year 2018. This is the first key model e-commerce website, where we carry hundred percent authorised products, and (we) also provide in-house logistics. Currently, we (fulfill) 85% orders in Bangkok, (and) we have (them) delivered within 24 hours. Besides these two countries, actually, we have developed the global logistics network across the world. And in Southeast Asia, the logistics networks cover Indonesia, Thailand, Malaysia, Penang and (we) will (continue) developing (in) Philippines during the year end.

Deeshraf Elias:
Thanks, Kevin, that’s really exciting to hear all the plans to expand within Southeast Asia itself. Now speaking about what both of you have just mentioned, as we move into the new decade, industrialisation will see the acceleration of new forms of technologies being introduced for the movement of goods. So I wanted to ask the both of you, what are some technologies or innovations that we can expect over the next 5 to 10 years? Audrey, maybe we’ll get you to weigh in on this first.

Audrey Cheong:
Sure, Deeshraf. So like what Dr. Kevin has observed, the growth of e-commerce is robust. In fact, it is soaring amidst the COVID-19 pandemic, and with that we anticipate an increased focus and reliance on new innovations and accelerated digitalisation, as companies strive to overcome challenges and meet increasing demands. So technologies like integration of robotics, sensors, and IoT, they are critical in the pursuit of operational efficiencies, and also increased transparency. So in line with this, FedEx is working towards adopting a range of technologies to prepare for the future. In Singapore, earlier this year, we launched (the) self-collect services for FedEx packages. Now using the FedEx Delivery Manager platform and Robotic Process Automation (RPA), customers are pegged to the nearest retail collection points or lockers to collect their packages, offering flexibility and also reducing physical touch points for enhanced safety. Number two, we have Roxo, it is the FedEx same day bot that is currently in pilot testing (and) it aims to help retailers make same day last mile deliveries. Roxo is currently being tested in some US cities, utilising pedestrian safe (robots), machine-learning algorithms and technologies such as LiDAR. FedEx has also implemented SenseAware, a sensory device that travels with a shipment, enabling round the clock updates on a delivery package. Now (for) cold chain logistics, technologies such as sensors help monitor variables like shipment location, temperature and conditions for the contents. (This) offers customers unparalleled round the clock visibility of the shipment. In May 2020 this year, we also announced FedEx Surround, which is a collaboration with Microsoft that allows any business to enhance visibility in its supply chain to drive more precise logistics and inventory management. Now, while most carriers are reactive to global logistics dynamics with limited visibility options built in a package journey, this will provide near (and) real-time insights down to the granular level of a zip code. We will continue to introduce new innovations and
develops the automation and even augmented equipment. (Additionally), we developed a lot of delivery drones, (to) deliver products in China (daily). Also, for these drones, they have received the first Government approval, (more specifically), from (the) Indonesian Government. We used drones to deliver parcels to the end customers officially in year 2019. Besides drones, we also developed an augmented warehouse and automatic sorting centre.

**Deeshraf Elias:**
Thanks a lot, Kevin, that’s really helpful to know what JD.com is looking to implement in terms of technology and innovations that we can expect over the next 5 to 10 years. I wanted to build on the points that you mentioned, we understand organisations in China have been at the forefront of technologies and innovations. And as you mentioned earlier as well, JD.com is one of the first e-commerce company in the world to utilise drone technology for commercial purposes. So I wanted to build on that point and ask you to share with us some of the key learnings from China that can be implemented across the movement of goods in Southeast Asia?

**Dr Kevin Lv:**
Okay, I think there are a lot of knowledge (that China) can share with the Southeast Asia market. Several major things I want to emphasise. Number one is customer experience orientation. I think this is very important, we always focus on customer experience. This is a major achievement; we design all the process. So I think this is the first thing I want to emphasise, and the second is the system’s ability. As you all know, logistics is a very traditional industry. But currently a lot of digital technologies have been introduced into this industry. So JD.com, (as an) internet-based retailer, they also have the strongest R&D team in China. For the logistics system (alone), the R&D teams have more than 3000 engineers working on it. So (the key learning is) to continue to improve and optimise the systems. We believe (that) these systems will really empower Asia Pacific’s logistics and also, we can use SaaS method to get the system to be more light and convenient.

**Deeshraf Elias:**
Right, thanks a lot Kevin. And now I’d like to move the conversation to Audrey and circling back to some of the points that you mentioned earlier, Audrey, according to Deloitte’s 2019 Innovation Study, the land in Southeast Asia are generally fragmented and this results in inefficiency for last mile deliveries, right? For example, Indonesia alone has over 17,000 islands scattered all around. So I wanted to ask you, Audrey, how does emerging technologies such as 5G, IoT, and drones, and even robots help to optimise service levels and address inefficiency for deliveries?

**Audrey Cheong:**
Sure, I’ll start with IoT. So IoT technologies enable more accurate forecasting, faster response time, and also bolster customers’ ability to recognise shipping patterns (and) to plan ahead for potential risks. It also introduces efficiencies in their supply chain, and increase cost savings towards low to zero waste operations, so that relates to the efficiency part that Dr. Kevin has mentioned just now. Now, next on 5G, 5G takes connectivity to the next level. What do I mean by that? With low latency, (we can access) real-time tracking of goods, and it is especially critical in a healthcare sector with the delivery of essential, time sensitive medical supplies.

Whole chain logistics solutions, like what I just mentioned, SenseAware, it allows customers to track their shipments inside and out in real time, from monitoring the temperatures, or shock detection (to) sharing visibility into the conditions (when) the package is shipped and it is especially critical in a healthcare sector with the delivery of essential, time sensitive medical supplies.

Innovation Study, the land in Southeast Asia are generally fragmented and this results in inefficiency for last mile deliveries, right? For example, Indonesia alone has over 17,000 islands scattered all around. So I wanted to ask you, Audrey, how does emerging technologies such as 5G, IoT, and drones, and even robots help to optimise service levels and address inefficiency for deliveries?
between (the) delivery person and customers. And last but not least, at FedEx, wing drone deliveries are in (its) trial phase in the US for the last mile delivery of residential packages.

Deeshraf Elias:
That's great. Thanks a lot, Audrey. And Kevin, I wanted to expand on what Audrey just shared, we understand that JD.com can fulfil up to 90% of orders for both same day and next day deliveries, especially with the help of your smart logistics infrastructures. So can you bring us through how your organisation leverages on technology, as well as the infrastructures to support the growing e-commerce market?

Dr Kevin Lv:
Yeah, actually, good customer experience (requires) a lot of ability behind that. Through JD.com, I've seen several major abilities that have continued to improve and develop. One is the system's ability for sure, just (to) share some information, a few years ago, we totally restructured the information system. We built the platform and modularised all of the systems. We spent millions of engineering manpower to restructure (the platform), so that (it) can support the business (and its developments) for (the next) 10 years. And another major ability is AI. We have introduced (the) AI ability and utilised this (in) almost all the systems (that) lack supply chain (coordination). (It is also used) for marketing, advertisement and (for managing) the platform. So we introduced AI to all these scenarios, (to) help the employees, customers and suppliers to improve their efficiency and (to) also improve the customer's experience. For the hardware, I think I have mentioned (before), (at) JD.com, they have really huge warehouse setups in China. The (warehouse) is more than 20 million square meters and the daily orders are more than 20 million. And (at the) same time we try to find ways to improve the speed as well. So we try to use LBS technology knowledge (while also utilising) local inventories; the panel lists all the convenience stores and chain stores. We can (then) utilise all their inventories (and) provide (products) to (the) end customers, so that they can get the products more easily and faster.

Deeshraf Elias:
Thanks a lot, Kevin, and I wanted to move the conversation a little bit away from technology. We've been discussing, you know, both of you have mentioned about, new technologies, innovations, and we know that as the e-commerce market continues to grow, so will the customer's expectations towards receiving immediate access to goods and services. Audrey, I wanted to ask you, aside from new technologies, how does FedEx leverage on its ecosystem to support the increasing demands for e-commerce deliveries?

Audrey Cheong:
So first, I’ll talk about how FedEx supports the SMEs. By 2022, Singapore's e-commerce market is expected to increase by 48% to $7 billion dollars, which could pose a challenge for SMEs who are not armed with the right tools to tackle the unprecedented demands. So, in that respect, we seek to support vulnerable SMEs by providing solutions that include digital tools and services that add convenience and also help streamline their operations. Now, e-merchants can make use of integrated digital tools to customise deliveries and tracking for shipments such as the FedEx Delivery Manager. Now the second part that I want to touch on is how we are expanding our operational capacity to tackle the 2020 peak season, in view of the e-commerce growth. First, increasing the cargo capacity. With e-commerce demands expected to be (at) an all-time high during the 2020 holiday season, which is around the corner, FedEx is ahead of the curve by operating our own cargo fleets that have empowered us with the flexibility (to) meet the increased demand. We also increased our flight operations to and from our Asia Pacific hub in Guangzhou, North Pacific hub in Osaka and South Pacific hub in Singapore. So internationally, flight operations between Asia and Europe increased by almost 50% from April this year. Now on that point, we are also expanding our workforce to meet consumers' demands. Our ecosystem will continue expanding as we grow our global workforce to meet increased seasonal demands, while (we) continue to protect the health and safety for all our team members and our customers around the globe. So we are approaching the peak season soon, and we are expecting online shopping and shipping volumes to break records across the industry. So in order to handle this capacity, FedEx has 70,000 new seasonal team members trained to handle the demands and to ensure the best possible service to our customers. We are also working with merchants to ensure that they are ready to deliver items during this anticipated increase in shipping volumes.

Deeshraf Elias:
All right Audrey and thanks for that. On that note, I wanted to ask you and expand on the question I just asked as well. Do you think collaborations will be the new business models for organisations like FedEx to future proof yourself?

Audrey Cheong:
Sure, collaboration is critical. And it is critical in the logistics industry to leverage different fields of expertise and networks to elevate a company’s own playing field, to meet the needs of today’s customers. So let me give you a few examples. In March this year, FedEx Singapore, we announced collaborations with bluPort and parcel centre lockers (including) Park N Parcel retail collection points to launch its self-collection service, which allows FedEx customers to have greater flexibility in collecting their shipped goods. Now, another collaboration (is) with Microsoft, FedEx Surround, which I mentioned earlier. So in May this year, FedEx announced a multi-year...
global collaboration with Microsoft. So FedEx’s networks link more than 99% of the world’s GDP across 220 countries and territories, while Microsoft Azure is trusted by more than 95% of Fortune 500 companies. So FedEx SURROUND, as a result of this collaboration, we leverage data to provide near real time analytics for more precise logistics and inventory management. I (also) talked about the wing drone deliveries, so let me give you more information. We (have) continued to push the boundaries of technology with wing drone delivery partnerships that are piloting in the US for the last mile delivery of residential packages. Now on artificial intelligence, FedEx pioneered Roxo, the FedEx same-day bot designed to help retailers make same day and last mile deliveries (while) utilising pedestrian safe (robots), machine-learning algorithms and technologies such as LiDAR. These zero emissions, battery powered bot can carry out safe and (effective) last mile deliveries. Now Roxo is not yet available in Singapore as (we) are currently piloting the service in selected markets. Now, I (also) want to talk about collaborations from a non-business standpoint. Leveraging the strength of our operations, we have also worked closely with various Government and non-Government agencies to provide aid to communities that need them most. To give you an example, close cooperation with the local regulatory agencies have also enabled FedEx Singapore to facilitate the smooth export clearance of an increased volume of intra and inter-regional medical equipment shipments. We have moved more than 4 million masks and 4 million COVID-19 test swabs to impacted areas since January this year.

**Deeshraf Elias:**

And Kevin, moving the conversation over to you. According to an interview that you did for JD.com, you mentioned that one of the many difficulties faced in e-commerce across Southeast Asia is logistics management. So if given the opportunity, what will be your ask to the public sector to help accelerate the development of technologies to meet the increasing e-commerce demands in the region?

**Dr Kevin Lv:**

Yes, sure. Let me explain the business in Southeast Asia and (the) local challenges. Especially when they introduce more and more business from China to Southeast Asia, we (have) meet the regulations and the requirements from (the) Governments. At JD.com, maybe, we did not really match to (the) requirements from (the) Governments. At JD.com, maybe, we did not really match to (the) demands of the business, (such as) the data requirements, the payment (systems), the licensing, and also the customers’ regulations, but (within) every country, the regulations are there, and hence we try to work with each public department to try to understand the policies. From there, we try to adopt the policy to design the business model with each Government department. From my point of view, some of the regulations and policies can continue to improve. One of it is the payment regulations. Currently, if we really look at the Southeast Asia market, we find that half of the customers, actually, they still find the need to use cash, and in some countries, 5% of customers don’t have credit cards, so there is a big barrier to develop the digital business and e-commerce business. And (for) intra-country trades to occur, each public department can consider making the regulations more flexible, so that they can adopt cross-border logistics. The third one is automation. When they talk about automation, there’s a lot of investments and the facilities need to get bigger so that it can contain all the functions (within) one facility. But most of the countries, they have different regulations for the sizes of the facilities, so this is a big barrier in automation investment. This is another challenge faced at the workplace, (that) the public departments need to understand and to aid developments.

**Deeshraf Elias:**

Now I wanted to move the topic to something that’s very relevant today. And that’s the COVID-19 pandemic. We’ve touched on it a little bit just now, but now I want to bring it up and speak about it. Much has been discussed about the COVID-19 pandemic, but with it comes new opportunities where we see many organisations adapting quickly to the introduction of technologies and innovative ways of working. With that, I wanted to ask the both of you, how has the COVID-19 pandemic influenced the way your organisations facilitate the movement of goods? Audrey, maybe we’ll start off with you first.

**Audrey Cheong:**

At the peak of the COVID-19 outbreak, with widespread lockdowns worldwide, it has significantly restricted movement and the flow of commerce within and outside of Singapore. So FedEx, as an essential business, has helped in keeping commerce and goods moving, and delivering critical relief during this pandemic. So we are continuing to deliver as applicable regulations allow, despite local restrictions in various parts of the world. Now as the Southeast Asia hub, FedEx Singapore continues the delivery of essential critical lab supplies in the region. These include the PPE, test kits and ventilators that are crucial for frontline operations in the fight against COVID-19. Now, let me share with you more about these deliveries. We expedited wide impact and timely shipments of masks produced by Razer out of Singapore, which would be distributed to communities in Southeast Asia to help prevent the further spread of the pandemic. We are also working closely with local regulatory agencies across our offices in different countries to coordinate and facilitate this to move export clearance, of more than 42,000 masks for customers in China, Italy and US.

Now FedEx also provided expedited shipping as part of our FedEx Cares, the "Delivering for Good" initiative. We collaborated with Direct Relief to move 375,000 surgical masks from China to Mexico, Ecuador as well as Peru. So what are we going to do in the immediate term? Our immediate term is to ensure the well-being of employees and communities. Our FedEx efforts have largely been focused on delivering relief shipments in the fight against the pandemic. We concurrently ensure that support for customers and the safety of our team members will maintain. Now, safety and well-being of our employees is our top priority, especially in these difficult times. In the medium term, (it) is about shifting our business priorities to uplift small businesses. During these uncertain times, our business priorities are focused on driving positive change, and supporting our customers in sectors including healthcare, in particular, our SME customers, while continuing to facilitate the inter and intra-Asia trade. Now in the longer term, (there will be) greater focus on post pandemic operations. So the pandemic has also seen us step up as the hub for driving regional relief efforts to prevent the spread of COVID-19 globally. This
also shows FedEx commitment to ensure the unhindered movement of goods, especially essential goods through these unpredictable times. So at this point in the year, we are preparing for a second peak with COVID-19 vaccine deliveries (and we) recognise that shipping vaccines is complex and critical. Well, FedEx is also continuing to support businesses post COVID-19 with sources such as the Small Business Center with (their) road to recovery, which will be very different in every country. I hope Deeshraf, this is not too long a response for your question.

Deeshraf Elias:
Audrey, I think that’s really helpful to know, you know how (COVID-19) is actually influencing the way your organisation facilitates the movement of goods. Now, Kevin, I wanted to move on to you as well. How does JD.com look to facilitate the movement of goods amidst this pandemic?

Dr Kevin Lv:
Yes, for sure. During this pandemic, JD.com is the best platform in China, and even in the whole world. (It has helped) to support people’s lives. JD.com logistics benefit from smart supply chains and technological advantages to ensure the efficient delivery for medical materials and PPE to the emergency market. And during this period, the made-in-China PPE product demands are really strong, but we try to use our smart logistics network to (accelerate) the deliveries. (Base on) our monitoring, deliveries are almost not affected by the pandemic, and some of these customers still (receive their) products from overseas within the same time duration. For example, one of the customers, they feedback that they placed (an) order from (the) states, (and) eight days later, he (received) the masks from China by JD.com logistics delivery. And as you know, we also have a website in Indonesia and in Thailand. The challenge of the pandemic at that time, (during) the city’s lockdown, we worked with (the) Government (to) get their approval to recognise JD.com as the essential products provider, and (then) we try to (deliver) all the food (and) fresh products (to) our customers.

Deeshraf Elias:
Alright, thanks a lot, Kevin. Now it’s been great fun learning about new insights on the movement of goods for both FedEx as well as JD.com, and I’d like to wrap up the discussion for today and ask the both of you something a bit more personal. And Kevin, I’ll start off with you first, what are you most excited about when it comes to the movement of goods in the near future?

Dr Kevin Lv:
The future (of) logistics, I think (it) will be an intensive system. (This boils down to) Southeast Asia’s characteristics (when) improving logistics efficiency and (the need to) adopt the geographic characteristics of the islands. The characteristics of the labour force population and (the) flexibility (in) employment (makes it) suitable for the diversified (logistics) platform. As Southeast Asia is an offline-oriented society, it needs to combine online and offline activities, using diversified solutions. Another (thing I am excited about) is automation, and online is still the direction to develop, I believe. And the third one, for the e-commerce scene, Southeast Asia will continue to develop very fast even though (it started) developing late but considering that it will directly go to the mobile age, I believe the mobilised systems and mobilised business models will be (the) future direction. The last one I think, decentralisation will (also be the) (future) direction. Since (there are) currently more and more (people) trying to find new ways to meet (others), to have conversations, and also try to purchase (across) new channels, so I believe decentralisation is also a direction (headed for the future).

Deeshraf Elias:
Okay, thanks a lot, Kevin. And Audrey, what about you? What are you most excited about when it comes to the movement of goods in the near future?

Audrey Cheong:
Right, the logistics industry in ASEAN is projected to exceed $240 billion by 2025, so that is exciting, because it presents FedEx with many opportunities to serve current and potential customers. Additionally, the RCEP that was signed last week, it signals major trade benefits for countries within Asia Pacific they are part of the agreement once ratified. Now when that happens, it will enable a bigger marketplace between the ASEAN members, plus Australia, China, Japan, New Zealand, and South Korea. So we are excited for this means for the logistics industry, as it could facilitate further ease in customs procedures and trade facilitations. And in addition to the benefits for e-commerce firms and SMEs, who rely on the movement of goods to boost their bottom line. Now beyond the RCEP, we are already seeing that opportunities for SMEs are plentiful as driven by e-commerce. Now in the first six months of 2020, 30% of consumers in Southeast Asia increased their online purchases, especially shopping for essentials. Now online shopping platforms in the region have seen the inflow of new sellers double during the COVID-19. So we are heavily committed to helping SMEs pivot their businesses to explore new opportunities for growth. As SMEs digitise, they’re very close to our heart, FedEx seeks to offer solutions that aid SMEs to dedicate more time for strategic thinking, planning and innovation.

Deeshraf Elias:
I want to thank both Audrey and Kevin for their valuable insights regarding digitisation and the future of movement and goods in Asia. I’m afraid that’s all the time we have for today. In the meantime, if you want to comment on this podcast or the topics covered, you can send us an email at seapodcast@deloitte.com. That’s spelt S-E-A podcast @ deloitte.com. Also, don’t forget to subscribe to our podcast to get the latest episodes – we are available on Apple Podcast, Google Podcast, Spotify, Soundcloud and Stitcher. I am Deeshraf and until next time.