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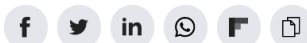
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CONTRIBUTOR OPINIONS

Drones and algorithms are disrupting the evolving and competitive food delivery business



Ong Kai Kiat
16 Oct, 2017



The food delivery market is a sticky market where most consumers stick to the same platform provider



Food delivery is the combination of an old business idea with new technology. Consumers and restaurants are starting to embrace food delivery as technology opened more choices for easy selection and as consumers extend their e-commerce habit to food delivery. This is not only happening in Singapore but also globally in the Americas, Europe, Middle East and Asia according to the renowned consultancy firm [McKinsey](#).

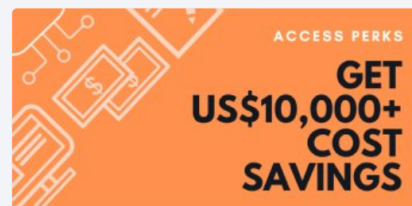
Based on their survey, we know that the global food delivery market is worth 83 billion euros at only 1% of the global food market with strong growth potential. There are 5 global food delivery companies that had reached unicorn status and locally, McKinsey sees 1 to 2 dominant local champions vying for a share of the pie.

Online food delivery is expected to grow at a compounded annual rate of 25% from 2015 to 2018 while the traditional offline (phone) delivery market will shrink 6.9% in the same period. The new age of food delivery will bring about significant shift in consumption patterns and it is worth looking at how these changes will shape up in the coming decade.

Evolution: Phone to Online to Delivery Solution

The old style of food delivery works on the phone aggregator model where the agent will receive a call from the consumer and place their order with a variety of restaurant owners in their network. The phone aggregator charges a fixed fee from the restaurant for each order and the restaurant owners arrange for their own delivery to the client.

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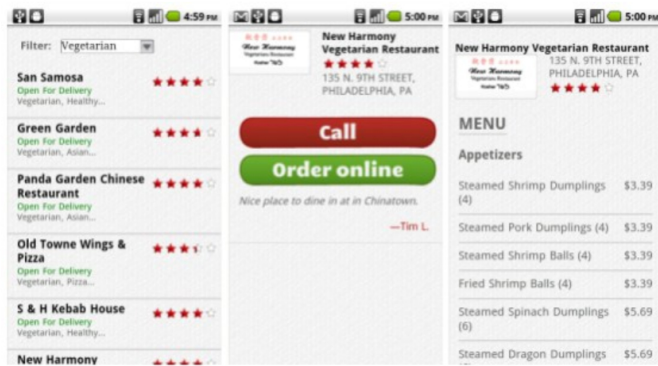
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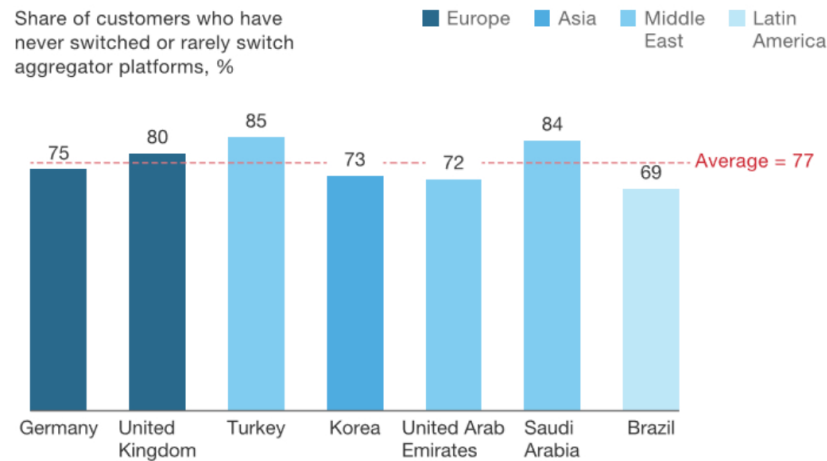
Source: [Mobiputing](#)

In the new style, the aggregators have moved their entire roster of restaurants online for easy comparison as seen above for GrubHub which is one of the global leaders worth \$2.9 billion euros. Beyond the aggregators, there is another group of players who brings their own logistics service for restaurants which McKinsey calls 'New Delivery'. Armed with their own fleet of drivers and vehicles, they provide a comprehensive solution which is useful for smaller restaurants.

Winner Takes All + Time

The food delivery market is a sticky market where most consumers stick to the same platform provider. This incentivises the fast mover which can enter the market quickly and sign on as many new customers as possible. The player can be an aggregator or new delivery (which includes delivery) but it wouldn't matter to the consumers as long as they can get their food on time.

New-delivery platforms have a proven track record of retaining customers.



McKinsey&Company | Source: McKinsey consumer research (n = 10,000), Sept 2015

Source: [McKinsey](#)

For these entrenched players, the speed of delivery to the clients are crucial and most clients won't wait for more than 1 hour for an immediate order of food. 82% of clients' order food delivery were for home meals and 16% for office meals with high volumes for Friday, Saturday and Sunday.

For these weekends, home deliveries are for parties as work ends so friends and family are available for gatherings. For small gatherings, it would be economical and time saving to use one of the food delivery companies. For larger parties with 30 or more people, it would be more economical to go direct to a catering company in advance. An experienced caterer can bring a complete life with a wide variety of choices from American breakfast to International

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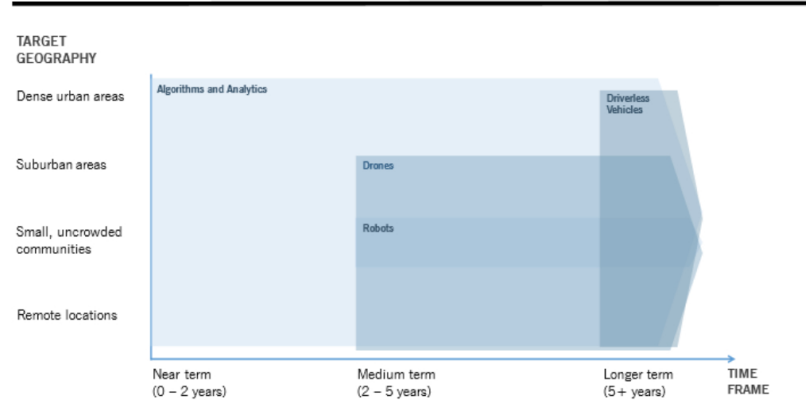
bring a party to life with a wide variety of choices from [American breakfast to international buffet](#).

Also read: [How to be hired in a food delivery company: leaks from industry insiders](#)

New Delivery Methods

For the successful food delivery company, fast and efficient delivery is fast shaping to the competitive advantage. There are a variety of technology enabled delivery methods from algorithms to drones and autonomous vehicles. These technologies are in various stages of development and it is only a matter of time before they become ubiquitous.

Figure 3 - Delivery technologies: main geographies and projected timeline for adoption



Source: [Stanford University \(Graduate School of Business\)](#)

Currently, the cutting-edge delivery companies are already using algorithms and analytics to calculate the best route for efficient delivery. According to Stanford, these algorithms would require integrated inventory management when merchants hold foods at different locations to find the right location based on availability. The algorithm will then find the best couriers at the right location to deliver the food and determine the best dynamic route to deliver them.

For example, if the consumer ordered food from Chain A's Restaurant A which is 2 kilometres from his location but that location is filled with orders for the next hour. The algorithm will redirect it to Chain A's Restaurant B which is 5 kilometres away and relatively free.

Drones are currently being tested for delivery and they have the advantage of flying over inaccessible areas such as lakes and swamps. They can reach the clients on a shorter period but they are still under development after 12 years of experiment. Cyber security will be an important issue in the wake of increasing cyberattacks and drone developers will have to overcome the issue of the global lack of cybersecurity analysts according to [IT Solution Systems](#).

Table 1 - Evolution of delivery drones

TIME FRAME	MILESTONE
2005 – present	Experimental delivery drones. Companies such as Amazon, Google, UPS, DHL, and others have tested drone delivery for years, some since 2005.
2014 – present	Commercial delivery drone pilots. DHL launched its first commercial drone delivery for the German island of Juist in 2014. Matternet has been running drone deliveries in Switzerland, Haiti, and the Dominican Republic. Flirtey ran the first legal drone delivery for bottled water, food, and a first-aid kit in the United States on July 17, 2015. Amazon received FAA approval for research and development for drone delivery in 2015.
2018	Widely permitted commercial delivery drones. The FAA estimates that as many as 7,500 commercial drones may obtain drone permits from the FAA by 2018, provided that necessary regulations are in place.

Source: [Stanford University \(Graduate School of Business\)](#)

They are expected to be operational in the US by 2018 and these drone technologies will slowly diffuse to the rest of the world. The last frontier for delivery would be autonomous vehicle which still requires a standby driver in case of emergencies. There will be specialized

compartments so that the consumers will only get exactly what they ordered.

Also read: [JD is using drones to help rural e-commerce take off](#)

Disruption Is the Norm

A lot of ink has been spilt about how e-commerce had changed the face of retail and how retailers must adapt to new consumer spending habits. The same would apply to the food industry and how new technology will shift delivery methods and disrupt the food delivery companies. These companies would also disrupt how restaurants do their business in the new digital age.



Written by
Ong Kai Kiat



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