Models, Logistics and IT - an example of Food.

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Models

- There is so much focus on physical SC models and optimizations models that sometimes realities get lost.

- This was the case in food
The Food Problem

- The pressure to reduce stocks whilst maintaining product availability to the customer is a constant theme right across the grocery and food retail industries.

- For years, companies have implemented eBusiness enabled supply chain approaches to achieve a harmonised order management and effective inventory replenishment.

- Retailers minimise their stock levels in order to cut storage and inventory costs through sourcing supplies in small quantities at frequent intervals – the less buffer required is considered as the better approach, a confirmed approach used by Australian groceries retailers.

- Even a short delay in supplies can have an impact – the high throughput of products in a supermarket means a delivery that is just two hours late can lead to temporarily empty shelves for particular product lines.
Current solutions

- The most obvious strategy to achieve this ‘stockless practice’ is the “Quick Response Partnership” which is aimed to reduce lead times and have more frequent order reviews (i.e. Just-in-time approach in the grocery sector).

- As firms throughout the supply chain have increasingly adopted Just-In-Time (JIT) principles of operation, major retailers minimise stock levels in order to cut storage and inventory costs.

- This quick response or JIT approach has been used in the past years as best practice in the food and grocery retailers in Australia.
Current solutions

- A study in Britain (Defra, 2006) has also provided further evidence that JIT and the drive for efficiency have reduced the role of stocks and ‘contingent capacity’, and so risks have shifted towards transport-related disruptions. This means that if deliveries are blocked for some reason, shelves are likely to go empty, and panic buying can exacerbate this, which has been suggested to be the case in the event of a pandemic (Peck, 2006).

- IT approach has been used in the past years as best practice in the food and grocery retailers in Australia.
Problem Domain

- Food Resilience and disasters
Better Solutions

- Determining the assumptions in the ‘new’ environment: oligopolies, marginal cost V marginal benefit, economic efficiencies, information integrity, interoperational systems.
- Modelling based on the assumptions.
- Study in Malaysia, Thailand, Australia and Britain with Assoc Professor Caroline Chan, Deakin and Dr Syed Nasirin, Brunel University (UK)
The Food Problem

- This minimal and no stock holding capacity may become an issue in future emergency situations. The 'no stock holding' practice have shifted the risks towards transport-related functions and consumers.

- In Australia, we have not yet experienced a shortage of food supply since the WWII. The closest experience we have was the panic buying preceding the Y2K where retailers reported that they were running out of bottled water.

- We do however have a few localised emergency events such as flood and bushfires, which have a localised impact on the food and grocery supplies.