

## Bill's Building Blocks

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### When the Trains Run On-Time

On days that I teach at the NYU Tandon School of Engineering in Brooklyn, I ride the NJ Transit Morris & Essex rail line into Penn Station New York. As some of you know, on-time rail performance had become a crapshoot. Amtrak scheduled train priorities over NJ Transit since they own the tunnel rails. Tunnel power issues and signaling problems were traced back to salt water corrosion from Hurricane Sandy. And a major switch derailment occurred within Penn Station. NJ Transit and Amtrak came under intense customer pressure to “just fix the problem”. NJ Transit decided to divert Morris & Essex trains to Hoboken during a July and August modified service plan in order that the complex and deteriorating switching infrastructure at Penn Station could be repaired. The full resumption of service was announced by NJ Transit as promised on September 2nd. Alternate travel options, discounted fares, and cross-honoring were concluded. Morning peak-period express buses to the Port Authority Bus Terminal and cross-honoring with private bus carriers, PATH, and NY Waterway ferries were ended.

Service supply chains offer an intangible product, i.e. there is no physical product. The customer is paying for service labor and sometimes intellectual property. There is a wide range of services based on labor such as healthcare, entertainment, transportation, insurance, and vehicle repair. Consulting services, financial services, and educational services are examples of a service based on intellectual property. Service cannot be produced ahead of time or stored in inventory. While the service is intangible, it may involve working on a tangible item. For example, you contract an installation service to install a machine that you own.

In the case of NJ Transit, the customer expected and trusted that a scheduled rail connection between two locations was available at a fixed price and a known transit time. The connection did not have to be perfect, but it had to be predictable and reliable. The customer's livelihood depended on it. This particular service supply chain is a complex arrangement of diverse trading partners including the Port Authority of New York and New Jersey and unionized labor owning or controlling the rights of way, the rolling stock, the tunnel access, the information management systems, the station properties, and the labor force. Pricing concessions and alternative bus and ferry routings were given to the Morris & Essex passengers to offset this massive public disruption. At the same time, immediate capital funding and customized material for the switches had to be found to fit the scheduled work at Penn Station New York.

This was a classic example of a service supply chain gone awry. It had all the customer service, political, financial, and environmental trappings. Its solution required customer trust, inter-organizational cooperation, political capital, creative financing, seasoned management, and a long term versus a band aided perspective. Agility in upgrading the Penn Station infrastructure took great collaboration, cooperation, and coordination.

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