SAFEGUARDING VALUE IN SOURCING: PREVENTING FRAUDULENCY

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The damage done:

In 2017, Kobe Steel admitted to falsifying data for their product specification of steel, copper and aluminum. This sent panic-ripples across various affected industries. Kobe's key clients included, Toyota Motor Corp., Ford Motor Corp., General Motors, Honda and Hitachi. According to *reports*, 500 companies across the globe are part of the supply chain affected by the faulty material. The full extent of damages is still to be uncovered. However, there have been no reports on safety concerns due to faulty products from buyers as yet.

The pattern:

The news, despite being shocking, sounds familiar. The past few years have seen such announcements from Takata, Toyo Tire & Rubber Co., Volkswagen and General Motors to name a few. In total, United States alone, witnessed a steep rise in *recalls* in the past 3 years across industries: Food & Beverage (up by 82%), Medical Devices (up by 38%), Pharmaceutical (up by 35%), Automotive (up by 40%) and Consumer Products (up by 8%). In the US, industry-wide recall in the medical devices industry was primarily driven by quality issues and specification mismatch.

The bigger question:

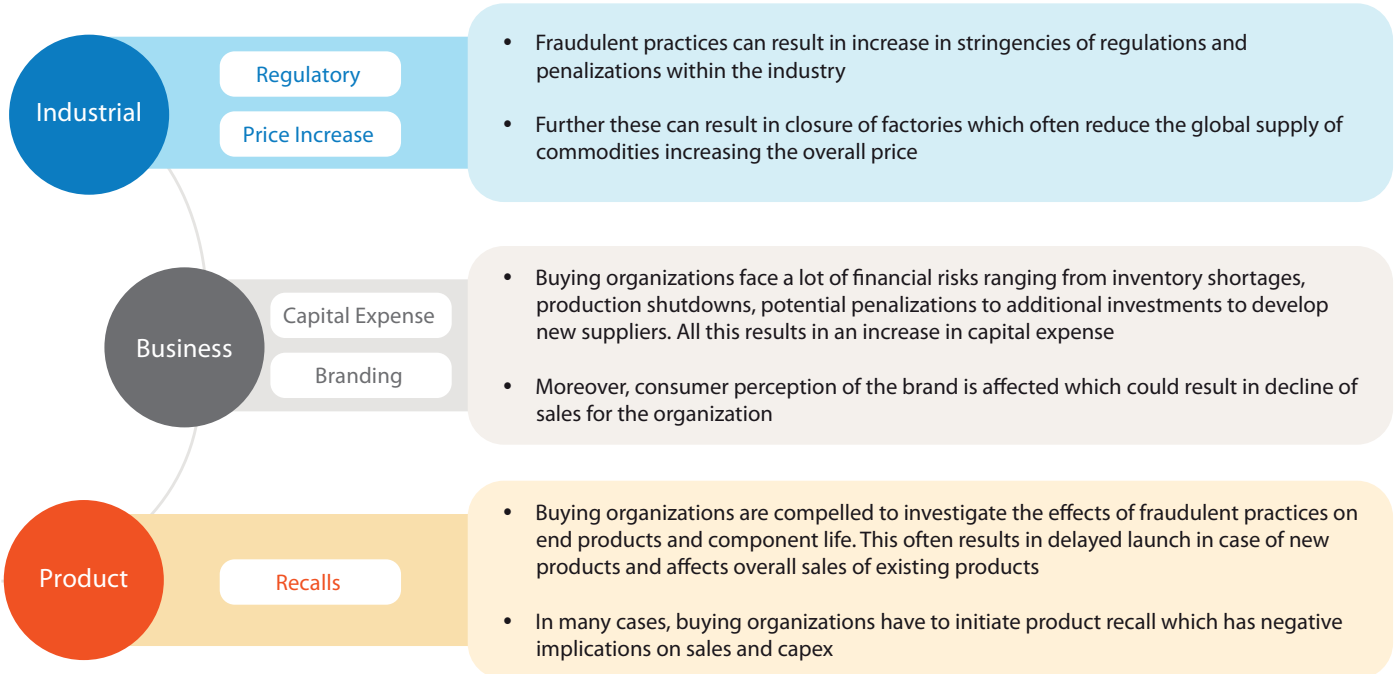
How many such incidents by suppliers go unnoticed across various industries and supply chains? All these industries are part of an ecosystem that have stringent tests and policies to ensure product integrity. However, these checks and balances are often missing key-points to capture fraudulent practices. For instance, it is speculated that Kobe Steel supplied the faulty material for a decade in some cases, but this was never discovered. This suggests that tests are executed by buyers on the final product to check the safety in various quality-control labs rather than compliance of the materials purchased. Further, the scenarios carried out for various safety tests are limited by the accuracy to replicate real world conditions. Hence, the true impact of faulty materials is difficult to estimate. Hence, it is imperative for buying organizations to identify and mitigate any risks associated with data fraudulency.

Supplier fraudulency – Identify, mitigate:

Economic impact of data fabrication is high, with potential implications on lives; penalization from governing bodies, negative perception of brand and product recalls resulting in USD billions in financial and social setback.

Buying organizations increasingly rely on a global network of suppliers, making it challenging to track and monitor their activities across the vast supplier networks. Technology progress has enabled various functions to be controlled centrally, for instance, ERP tools for core processes, e-procurement platforms for purchasing and various PLM (Product Lifecycle Management) tools to name a few.

However, critical functions like quality control, auditing and certifications largely remain manual in nature with little sophistication in information sharing and security. This leaves room for fraudulent practices to creep into the supply chain.



There are 3 major reasons why such events reoccur:

1. Lack of timely upgradation of product-specification certifications from 3rd parties
2. Forging or tampering of certifications (inspection, quality)
3. Lack of stringent quality-control systems across the supply chain

What are the preventives?

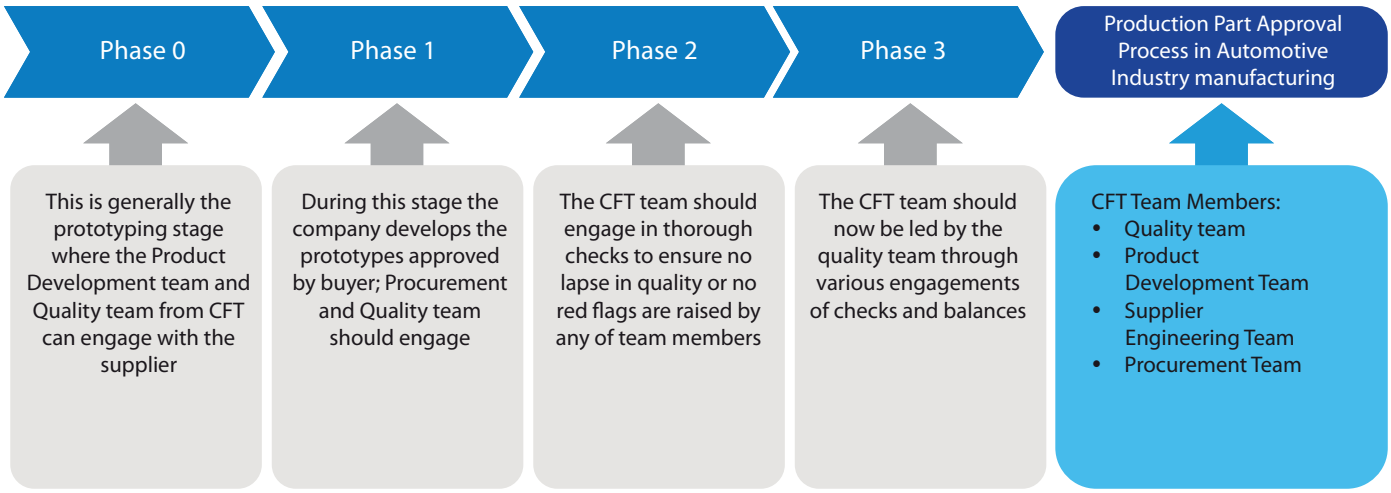
Various models can be developed for an early detection system to prevent similar situations in future:

1. **Blockchain in Supply Chain:** Since blockchain enables distribution of information in encrypted blocks that cannot be replicated or corrupted, it can be leveraged to capture various material/product-specific data-points like certifications and specifications. This prevents any tampering or alteration of data. Further, any deviation that buyers face with any supplier can be also updated on blockchain which is available for all buyers across all industries to view. Such level of transparency will drive suppliers to ensure integrity of product/service delivery.

   Blockchain is a developing technology and is currently being utilized by many large organizations to run pilot projects. Companies like Walmart and Air France are developing various blockchain systems that can be used across the supply chain. Further, 'Trusted IoT Alliance' a consortium of key technology companies including Bosch, Cisco and Gemalto are developing standards which is expected to boost the adoption of blockchain across various industries. The key challenge currently is the limited technology know-how in the market, limiting market penetration.

2. **Process Improvement through Internal Cross Functional Teams (CFT):** In the buying process, generally procurement and supplier part inspection/engineering teams are involved. Their roles are generally limited to inspecting the certification and the manufacturing processes. It is hence advisable to expand the role and members of the team across functions such as quality, production and product development team members.

   For example, in the automotive manufacturing industry, supplier approval is done through PPAP (Production Part Approval Process). This process has 4 stages: Phase 0, Phase 1, Phase 2 and Phase 3. The diagram below illustrates the various stages where the CFT team conducts inspections and audits for various suppliers. A similar approach can be used by various other industries.



3. **Implementing Cloud based data-collection across the Supply-Chain:** Currently, cloud based systems for data collection on the product quality is limited to few organizations like Tier I and original equipment manufacturers (OEMs). The systems have to be implemented further down the supply chain.

   Implementing a centralized storage system for lab analysis data across the supply chain with limited access can prevent and even eliminate any forgery or manipulation of certification. These systems would require digitalization of critical information like product specifications and certifications. In a connected ecosystem, this information would be captured during the production stage itself, eliminating any scope for data manipulation or falsification.

   Further, automated systems can enable timely deployment of material/component/product testing for critical products across the supply chain. This system would also enable anyone to view the quality and inspection of any product across various manufacturing locations. Current software/hardware technology enables these kind of systems.

4 **Initiative of a quality-assessment consortium among buyers:**
Buyers of a particular industry can form consortiums which hire and form a network of product inspection and testing teams to perform audits on various suppliers. The suppliers who clear audits conducted, become eligible to supply to the consortium members. These consortiums would help in reducing the cost of conducting audits and help companies assess damages in case of any mishaps.

Such consortiums have been established in a few industries, for instance, the Avoca Quality Consortium (AQC) is a member-based pre-competitive collaborative comprised of clinical operations, quality, and outsourcing professionals from pharma, biotech, CROs, and clinical service providers. The consortium has developed a pre-qualification platform for identifying and evaluating clinical service providers for its members.

5 **Leadership involvement in quality audits:**
Involvement of company leadership in quality process is vital for a cultural change in attitude towards product quality and integrity in an organization. Companies can engage with independent 3rd party inspection, testing and certification companies to assess their products across the various manufacturing locations. The final assessment of the inspection should be shared on an annual/bi-annual basis with the board members.

The Way Ahead:

Driven by cost saving-activities, manufacturers across various industries have left gaps in the supply chain which are giving room for fraudulent practices among suppliers. The way to eliminate this lies in the opportunity for companies to engage with independent inspection and service companies, which would ultimately lead to product and process improvement. These practices can start at an early stage of supplier identification from procurement teams. Consortiums among buyers will help reduce cost pressures. Further, digitization and cloud based solutions, including emerging technologies like blockchain, can eliminate any scope for data manipulation across the supply chain.

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