

MEDIUM-SIZED ENTERPRISE ITALY

The risk story 4



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Medium-sized enterprise from Italy

Context of the Company and the Supply Chain

The company is a sanitary ceramic producer and seller that works within an industrial cluster with several other business organisations that take on different stages of the ceramic value chain. The company specialises in the design and production of sanitaryware. Unlike other similar organisations in the cluster manages the entire process from design, raw material acquisition, transformation, and logistics.

The context of the company is in general not intensively digitalised. Most organisations in the industry are family-owned SMEs that resort on traditional processes, or in some case outsource the manufacturing phase and just resell products manufactured by third parties, usually located abroad. Anyhow the entire cluster - as well as the company object of this story - depends on raw materials imported from abroad.

The company is quite advanced against the competitors in the cluster. The company has fully digitalised the administrative processes and intensively uses Industry 4.0 technologies for the manufacturing phase, including the design phase that is performed with CAD technologies.

Digitalization of SC

The value chain the company belongs to is in general traditionally organised. Most of the value chain activities involve the exchange of raw materials, by-products, and finished products. The value chain is hence not digital. However, the level of digitalisation significantly increased in the past, at least in some of the actors.

The value chain is digitalised from the point of view of administrative activities. All organisations make use of information systems to manage administrative activities, and digital exchange documents for the administrative processes through e-invoicing and e-procurement processes.

The second largest digitalisation impact on the value chain is on the manufacturing phase through the adoption of robotics, Internet of Things, traceability systems and other advanced digital technologies across the assembly line. The more innovative business organisations, including the company interviewed, resorted to national fiscal and financial incentives to innovate

assembly lines with Industry 4.0 technologies, increasing the level of digitalisation in the value chain.

Risk Management

The value chain has always been prone to both internal and external shocks. Being dependent on raw materials procured from foreign markets, the value chain is sensible to potential disruptions in the logistic processes, and to the influence of prices fluctuation due to shipping costs and exchange rates. Such value chain risks impact organisations of the value chain in different ways, depending on the presence or not of a manufacturing phase.

The adoption of digital technologies introduced cyber risks in the activities of the business organisations of the value chain.

Practice of Risk Management: To manage the risks related to potential interruption of assembly lines the organisation invested in two measures. First, they developed internal R&D capabilities to internally test and explore continuous improvement measures for the single phases of the assembly lines, or for the entire operational processes.

To manage the risks related to the fluctuation in material flow the company invested in long term relationships with suppliers of the assembly line.

Risks:

If we exclude the fluctuations in raw materials prices and availability, the main risks the company is subject to concerns the competition of low-cost producers and the potential interruption of assembly lines.

On unfair competition, the digitalisation of administrative processes facilitates the collaboration with foreign producers and makes it easy for other business organisations of the cluster to sell foreign manufactured products as made in Italy.

On the potential interruption of assembly lines, the main risk is connected to the rise of costs for the production, and on the potential possibility of not fulfilling customers' demand. The production process of the company works with a continuous cycle. The assembly line includes a baking phase with high-temperature oven that takes several days to reach the working temperature and to cool down. To manage these risks the company needs to optimise the flow of the production process and to keep a constant and continuous pace in the assembly line.

Such risk materialised with the Covid pandemic when the company was forced to stop the processes because of the restrictive measures issued by the government to contain the strain.

Since the assembly line is also digitalised, a potential issue with the digital technologies or with their control systems, can also create stop conditions and materialise the risk.