

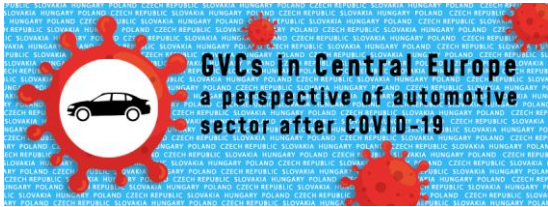
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UPGRADING BY DOMESTIC-OWNED AUTOMOTIVE COMPANIES: THE ROLE OF BUSINESS DEVELOPMENT AND QUALITY CERTIFICATES – THE CASE OF TOM-FERR PLC.

A case study by Andrea Szalavetz

The case was developed with support of the Centre of Economic and Regional studies (CERS), Budapest, Hungary and by the Visegrad Fund in 2021. It is intended to be used as a base for discussion in courses focusing on Global Value Chains, International Business and Marketing.

The project is co-financed by the Governments of Czechia, Hungary, Poland and Slovakia through Visegrad Grants from International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe.



Research on global value chains, discussing the concept of upgrading¹ on the example of middle-income, dependent market economies suggests that upgrading is predominantly process upgrading. It is the outcome of local manufacturing subsidiaries' implementing new production technologies, absorbing and mastering production processes, which enables them to increase productivity and operational excellence. Subsidiaries that can demonstrate their production capabilities are gradually delegated higher-level assignments by parent companies, for instance design, testing, and specific R&D tasks, whereby they also undergo functional upgrading and increase the local value added of their activities. Gradual upgrading ensures a good position to these subsidiaries in the ongoing inter-subsidiary competition for new, future-oriented products.² If they are chosen by the headquarters as the manufacturing site, where the new products are produced, this decision entails product upgrading for the subsidiary.

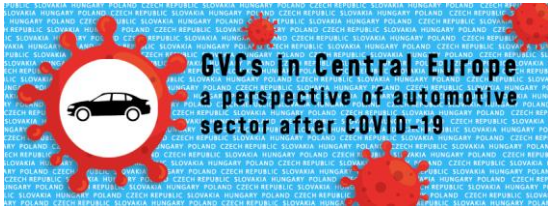
By contrast, domestic-owned companies follow a completely different upgrading trajectory. In their case, business development and innovation are the key drivers of upgrading: it is new business opportunities that entail product and process upgrading – and sometimes chain upgrading as well.

This latter trajectory is exemplified by the development of Tom-Ferr Plc., a family owned Tier2 automotive supplier. Tom-Ferr, founded in 1994, is specialised in the manufacturing and wholesale of seamless and welded precision steel tubes and other steel products.

Over the 1990s and the 2000s, due to the foreign direct investment-driven massive expansion of the automotive industry in Hungary, Tom-Ferr had more and more automotive customers. From the point of view of safety, high-strength precision steel tubes are key components in a

¹ The concept of upgrading concerns the ways countries, regions and firms increase the value added of their activities to improve their positions within global value chains (Fernandez-Stark and Gereffi, 2019; Gereffi, 1999). Humphrey and Schmitz (2002) identified four types of upgrading at the firm level. These include product upgrading (moving to higher-value products); process upgrading (improving the efficiency of the production process by introducing process innovations); functional upgrading (moving to or diversifying the activity mix with activities the value added content of which is higher than previously); and chain upgrading (moving to new industries and/or entry in new value chains).

² For example, a local manufacturing subsidiary specialised in manufacturing steering wheel components reported (to the author of this case study) that as a result of decade long efforts to demonstrate its production capabilities and technological capabilities the subsidiary could co-evolve with the parent company regarding the ongoing advances in steering technology. Starting with the manufacture of mechanical and hydraulic solutions, later it managed to obtain responsibility for manufacturing electrically-assisted solutions.



vehicle, since they account for crash absorption, acting as passive safety devices. Apart from their structural role in vehicles, acting as shock absorbers and accounting for stability (e.g. cross car beams), these tubes are used in a variety of other automotive parts, such as airbags, seats, and wiper systems.

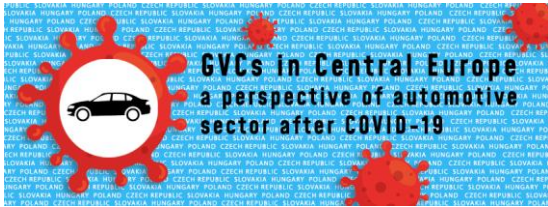
Although Tom-Ferr's wholesale business was characterised by stable growth, which was partly due to the limited number of competitors, there were signs of changing demand patterns, prompting the owner to invest in upgrading and expand the activity mix to suit future trends. Automotive customers recurrently signalled their demand for processed steel tubes, requesting, for example, tube end machining. Responding to customers' requirements Tom-Ferr has gradually diversified its processing services, including cutting, cold forming, bending, milling, welding, and CNC machining.

Obviously, the diversification of the manufacturing services required investments in advanced production technology, such as CNC-controlled precision cutting and pipe bending machines, and a fully automated machining centre. Altogether, process upgrading at Tom-Ferr was going on continuously, aligned with the rapid technological progress the industry itself has been undergoing. Examples of this co-evolutionary process include Tom-Ferr's investment in laser processing equipment, welding robots, and the purchase of a new measuring equipment enabling 3D measurement³ of its products. Most recently, this co-evolutionary process is epitomised by a fully automated new production plant equipped with advanced industry 4.0 solutions (with cyber-physical systems capturing and automatically processing data on practically all parameters of the production process) that ensure full process transparency and operational excellence.

This process development was indispensable for introducing a range of new products manufactured according to customers' specifications. The increasing weight of automotive components within Tom-Ferr's product mix prompted an organisational change: in 2008, a new (automotive) division was created.

Since return on investment in advanced technological solutions is ensured only if demand for the company's products is stable or rather expanding, Tom-Ferr's marketing and sales department redoubled efforts to expand the customer base. As a Tier2 supplier it can acquire large OEM customers (including Suzuki, Volkswagen, or Daimler) through Tier1 suppliers,

³ The measured valued can be compared to the 3D model of the component and deviations are identified automatically.



such as Toyo Seats or Kirchhoff (in 2018, Tom-Ferr was chosen the global supplier of the year by Kirchhoff).

As of 2015, Tom-Ferr initiated a marketing offensive to acquire new customers in established western European markets, and diversify thereby its stable domestic and south-east European customer base. This latter is served mainly by Tom-Ferr's own marketing and sales subsidiary in Serbia, established in 2005. In the framework of the marketing offensive, Tom-Ferr improved its website, prepared professional marketing materials, diversified its marketing channels including various social media platforms, and most importantly, it started to regularly participate in international automotive trade fairs and B2B exhibitions.

One of the key conditions of acquiring customers in the automotive industry is possessing the necessary quality certificates. The most recent quality standard published by the International Automotive Task Force is IATF 16949. It includes a number of technical specifications regarding operations and quality management, and related processes. Accordingly, automotive companies have to possess proven and completely documented processes that ensure operational perfection and guarantee the traceability of any error. In this vein, every step of the manufacturing operations has to be precisely defined and documented. For instance, companies have to be able to present the documentation of their production planning and capacity planning methods, their approach to maintenance management, their product testing and part approval processes, and they have to provide documentation of how the root causes of errors are analysed and identified. The newest version of IATF 16949 also includes prescriptions concerning the companies' supply chain management and risk management processes. One of the most important new requirements is that each tier controls its own suppliers: be able to audit them and propose adjustments for the improvement of suppliers' processes.

Accordingly, apart from providing all the necessary documentation how it can guarantee that customers' complaints are effectively addressed, Tom-Ferr needs to be able to demonstrate how it manages its own complaints and risks, if, for instance, its own suppliers deliver defected items or if their deliveries are delayed. For this sake, it has to formally evaluate internal and external risks, and elaborate a risk mitigation strategy, make relevant organisational changes, devise new key performance indicators, and upgrade the training of the staff.

Evidently, these actions required a cross-functional approach, which has generated positive changes in organisational culture. The manager interviewed underscored that Tom-Ferr's



becoming an IATF 16949:2016 certified supplier has definitely added to the professionalism of the company's processes.

The far from exhaustive list of requirements of an IATF 16949 certificate suggests that complying with the new quality standards, i.e. with all the technical, organisational, and process-related specifications, is nowadays the key driver of automotive companies' functional upgrading.

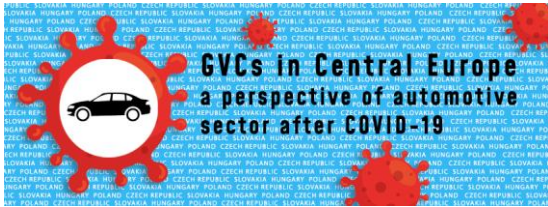
Tom-Ferr's efforts to obtain the new IATF quality certificate have given rise to two further notable developments. The first one is the implementation of an enterprise resource planning system – necessary for enhancing control over all processes and business functions. It goes without saying that ERP implementation, itself, requires and drives learning and results in upgrading across all business functions.

An even more important development was Tom-Ferr's opening of a steel tube manufacturing plant in 2019, motivated by the aim of securing supplies. The decision of Tom-Ferr's owners to increase the vertical integration of production by taking on upstream activities is a strategic move that can be referred to as chain upgrading.

Altogether, Tom-Ferr's case demonstrates that the drivers of the upgrading of domestic-owned companies are different from those of global companies' local manufacturing subsidiaries. Moreover, their upgrading trajectory is often longer and more diversified than that of captive subsidiaries.

Questions related to the case study:

1. Why are the key dimensions of upgrading different in foreign and domestic-owned companies? What are the main dimensions of upgrading at the local manufacturing subsidiaries of global companies? How about domestic-owned companies that try to integrate in GVCs?
2. How is the strategy to increase a firm's customer base related to upgrading? To which dimensions of upgrading is it related?
3. What is the difference between specialisation in manufacturing services and servitization of manufacturing?
4. How does quality certification prompt upgrading?



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