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Challenges and trends in the global automotive manufacturing structure

Thesis of Ph.D. dissertation

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1. The objective and the results of the research project

This dissertation qualifies for presenting the most important driving forces, challenges, and trends in the structural evolution in the manufacturing activity of the global automotive industry. This paper is based on the widest and latest possible international researches presented in the special literature, and builds on deep interviews made with professionals and experts of the automotive industry; then it presents the research results in a thesis-like summary.

The chosen topic is a very timely issue, as the most recognised executives of the automotive industry agree that the third „revolution" of the automotive industry is underway in these days.

As the Hungarian-language special literature that pertains to this topic (as well as those publications that relate to the various special areas of the automotive industry) is very osculatory, therefore the author relies mainly on publications in the English and in the German language.

The traditional markets of the automotive industry (Triad) are going to stagnate in the near future. After the Triad markets get saturated, concentration in the markets of other regions globally (like East-Europe, Asia-Pacific [mostly China], and South-America, as 'Emerging Markets') is going to be a key issue in the strategic decisions of each automakers.

The worsening perspectives for growth in previously leading markets of the developed western industrial countries, as well as the increasing cost pressure in the global automobile market have led to recent cross-border mergers between automakers; this trend of concentration will continue in the future too.

Several powerful trends have appeared in the market recently. On the one hand, customer needs became very heterogeneous; on the other hand, the automotive industry has reached a point where the deciding part of their sales revenues and, most importantly, of their profit comes from the so-called 'downstream' activities (financing, repair, insurance, second-hand car trading). It represents those areas, in which the number of interactions with customers and, consequently, also the chance of developing customer loyalty are very significant.

In these days the buyers want to express their own personality through the product that they purchase.
For this reason automakers will restrict their production to those modules, subassemblies, and technologies, which are crucial to building the automobile brand image, thus further enhancing the brand profile. The automakers must organise these value creating activities in-house, without delay. An important consequence of all these factors is a reinterpretation of the role of the players in the automotive production structure: the automakers are going to be high-tech-brand dealers, while the suppliers assume step-by-step all the 'non-branding' tasks.

A clear trend of the past few years is that electronics are incorporated into an automobile in an increasing manner. Without this rapid expansion of electronics solutions, the automotive industry will not be able to meet the higher and higher demands made on a car today as well as in the future. This relates to improving various parameters, like output criteria, release of harmful materials, consumption, comfort- and safety requirements, and so on. Parallel with the growing demands towards electronics solutions, unfortunately also the number of faults due to electronics has significantly increased in the recent years. This is well mirrored in the statistics on recalls and on failures.

As automakers cannot increase their market prices because of the tough competition, there is only one possibility left: they want to solve their cost problems through enforcing a continuous decrease in suppliers' prices. Therefore the profitability of many suppliers has a disillusioning effect. This very bad profitability, as well as the succession-related problems in the ownership of the European companies that emerged from family businesses classically, have lead to a situation, in which the concentration of the supplier sector takes larger and larger dimensions; in other words, the number of those suppliers that are independent from concerns is on the decrease.
A clear tendency is visible: all suppliers of the automotive industry are under an enormous price pressure and under a constraint to „get placed” in the supplier pyramid, and this tendency is going to become even stronger in the next few years.

The trend of the future gets more and more well marked, that is, not only automakers but also suppliers will play a technology-leader role in the automotive industry. Those suppliers that are already, or want to become, technology leaders in a given special area, follow the market trends with the same attention as automakers.

The market- and technology-leader supplier firms must legitimise their claims for leadership in the field of brand policy. In the future brand is going to be one of the most critical factors in market success also in the B2B business area.

The consolidation induced by various challenges will radically recast the roles in the automotive industry in respect of the modular approach: in many cases, especially in the case of vehicle modules that do not have brand value, the suppliers become equivalently important partners as automakers, forming production clusters. These networks, constituted of automakers, suppliers and service providers, compete against each other, and networks that stand above competition ensure the long-term success of each participant. Collaborative partnership will become more and more typical of this progress, as the suppliers bear all the responsibility of the units supplied by them, vis-à-vis the automakers.

The potential that lies in the new business models can be exploited only through close intergrowth, partnership behaviour, and confidence.

2. Theses of the dissertation

1. Due to the saturation noticeable in the, so-far, traditional markets of the automotive industry, the automakers’ primary task will be to concentrate on the emerging markets.
   - 1.1. However, also matured markets have growth potential as yet.
   - 1.2. Presence of the production sector in the emerging markets has key importance in terms of car sales.

2. Due to the more and more differentiated and individual customer demands the product offering of automakers is going to be increasingly dispersed in the future.

3. Due to the continuous descending of the brand-loyalty of customers, automakers must focus on branding and on customer service activities in the future.

4. Due to the tough competition in the markets, and due to the huge cost pressure, the number of both the independent automakers and the independent supplier firms will continue to decrease. Access to satisfactory amounts of capital will play a key role in the future.

5. The automakers’ self-production activity will be restricted to those automobile sub-assemblies, which serve the purpose of enhancing the brand profile.
   - 5.1. The automakers will outsource, to supplier firms, the production of those sub-assemblies that do not have brand-specific features; this process provides the supplier sector with a huge growth potential.
   - 5.2. The automakers’ self-production activity will decrease more vigorously in the case of mass-market brands than in the case of premium brands.

6. The overwhelming majority of future innovation will be linked to automobile electronics and softwares, which is one of the greatest challenges for the automotive industry. Today, however, neither the automakers nor the suppliers are really prepared for the elimination of faults in the electronics systems.

7. The supplier firms' success factors prevailing so far (innovation, supplier loyalty, quality) continue to be operative; however, the supplier role will be supplemented with new strategic elements too.
   7.1. In addition to automakers, an increasing number of supplier firms will play the role of technology-leader in the future.
   7.2. In addition to automobile brands, the role of supplier brands will be marked up in the future.

8. Developing new and innovative business models in the automotive industry for the changed traditional co-operation between automaker and supplier will become crucial in the future.
   8.1. A modular approach that takes into consideration the brand-specific elements will play an increasingly important role in car-design.
   8.2. Horizontal co-operation among automakers will bear more significance in the future.