

**Graziella Ferrara**

Suor Orsola Benincasa of Naples

# GEOGRAPHIC PATTERNS IN THE AUTOMOTIVE INDUSTRY

**ABSTRACT.** This article aims to develop some concept on new economic geography. The authors presented a case study of a newborn carmaker that applies an innovative business model in auto industry. The current business environment is analyzed, problems of sustainability discussed, and a new business model proposed.

**KEY WORDS:** economic geography, automotive industry, China.

**CITATION:** Ferrara G. (2017) Geographic patterns in the automotive industry. *Geography, Environment, Sustainability (GES Journal)*, Vol. 10, No 1, p. 78–84.

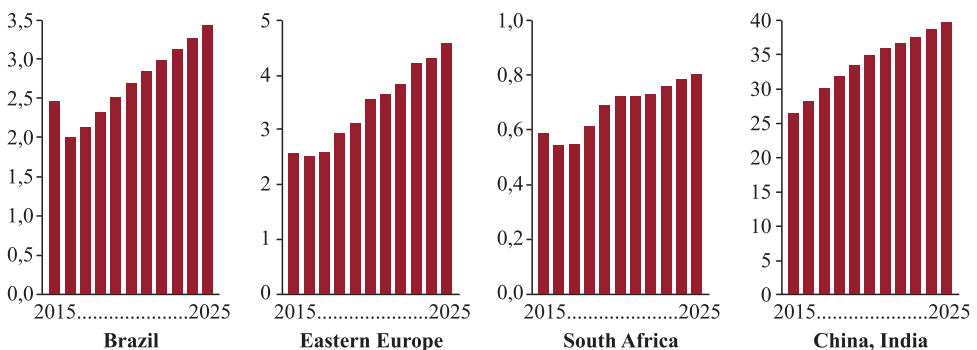
**DOI:** 10.24057/2071-9388-2017-10-1-78-84

## THE CHANGING GEOGRAPHY OF AUTO INDUSTRY

The automotive is a global business in which brands compete in the international arena. Global automotive sales for 2016 could hit 88 million vehicles, a 2 % increase from the previous years that would continue a five-year growth streak, according to consulting firm IHS Automotive [2017]. China is one of the world's two largest auto markets (Fig. 1). According to McKinsey, the market for premium cars in China increased at 30 % per year in the last decade, faster than the 25 % annual growth in the overall Chinese passenger vehicle market during the same

period [IHS Automotive, 2016]. China is expected to boast annual vehicle sales of more than 30 million by 2020. Smart joint ventures with Chinese companies that can be counted on for consistent returns and increased but highly managed production of more profitable, pricier models will be essential for automakers that want to take advantage of potential vehicle sales growth.

The opening of China's auto industry to foreign investment dates back to the mid-eighties. The first foreign companies that decided to produce in China in joint ventures with local partners, were the American Motors



Source: PWC, 2017

**Fig. 1. Emerging markets in the next decades**

Corporation which started in 1983 the production of the Jeep Cherokee in a joint venture with the Beijing Auto Works (BAW), Volkswagen which in 1984 began producing the Santana model in a joint venture with Shanghai Automotive Industrial Corporation (SAIC) and Peugeot which in the same year began the production at a plant located in Guangzhou. These European and American pioneers remained for a decade the only foreign manufacturers in China. Until the '90s, China's automotive industry was dominated by Dongfeng Auto, First Auto Works (FAW), and Shanghai Automotive Industry Co. (SAIC). They relied heavily on partnerships for branding and technology: Dongfeng partnered with Peugeot and Honda, FAW with Volkswagen and Toyota, and SAIC with GM and Volkswagen [Holmes, 1983, 2004].

A second phase in the Chinese automotive industry opened in the mid-nineties, when the government adopted a targeted industrial policy to the development and consolidation of a sector considered strategic. The objective of the new policy was to encourage the growth of a small number of domestic manufacturers endowed with adequate financial resources and advanced technologies [Coe, et al 2008; Dyer, 1996; Egeraat, Jacobson, 2005]. At this aim, it was promoted the establishment of joint venture joint between the main national manufacturers, almost all controlled by the government, and large foreign groups, to which it offered a potentially huge market, but it also required investment and the transfer of technologies and managerial knowledge. At this stage, after long and complex negotiations, some European and American producers were able to form strategic alliances with Chinese partners, but the big Japanese car makers were once again

at the window, or were simply excluded from negotiations.

In the late 1990s, private carmakers such as Geely and BYD entered into competition. Through imitation and low-end market positioning, they put downward pressure on passenger car prices and triggered a new wave of consumer demand. Some years ago, Chinese carmakers were perceived as weaker in technology, experience and branding, than their foreign competitors [Depner Bathelt, 2005; Gertler, 1996, 2001; Edensor, 2004; Frigant, Lung, 2002].

As Chinese consumers used to think homegrown cars were of lower quality, international brands like Volkswagen, Buick and Hyundai commanded a bigger share of the Chinese market. Thus, over the past decade, China's auto manufacturers have been struggling to develop their own brands through imitating, buying technology through acquisitions or allying with their global partners (Table 1). A relatively successful brand was Roewe, which was primarily based on technology that SAIC Motor acquired from the defunct British carmaker MG Rover.

Chinese car buyers are becoming more and more sophisticated in terms of design, quality and features. The new generations of buyers view cars as expressions of their identity and personality, and consider style the most important factor influencing shopping decisions. Innovation and sustainability were the other two major factors to follow design [Nielsen China, 2011]. These changes in the markets have led to the development of newborn carmakers able to implement a new business model that combines design, innovation and sustainability.

**Table 1. Localization Approaches**

	<b>National</b>	<b>Cross-National</b>
Collaboration	Local joint ventures Chery, Geely, BYD	Joint ventures FAW-VW
Competition	Local players Chery, Geely, BYD	M & A Geely-Volvo, SAIC-Rover (Roewe)

While traditional Chinese automotive firms have applied a business model focused on manufacturing that considers sale of vehicles as primarily source of profits. In such firms incremental technological improvements do not led to environmental impact reductions. In the newborn car marker an innovative business model has to combine economic and environmental sustainability. This model is the result of an innovative strategy that shifts the center of business from the design and sale of physical products, to the offer of product and service systems that are together able to satisfy a particular demand.

The innovative business model has to focus on offering satisfaction rather than sell products, and it can be described as an integrated mix of products and services, delivered by one or more socio-economical actors, and capable to fulfill a given demand of satisfaction. This model has the potentiality to bring to radical environmental impact reductions. The following text illustrates the case of this newborn carmaker that has applied this innovative business model in the automotive industry to achieve general benefits connected with innovations and sustainability.

## METHODOLOGY

Considering the exploratory nature of our research objectives, we present a case study. To build an initial understanding of the case, we first conducted web-based database research (Google Scholar, ProQuest, etc.). Then we verified our findings with several external consultants and scholars to refine our analysis.

## CASE STUDY

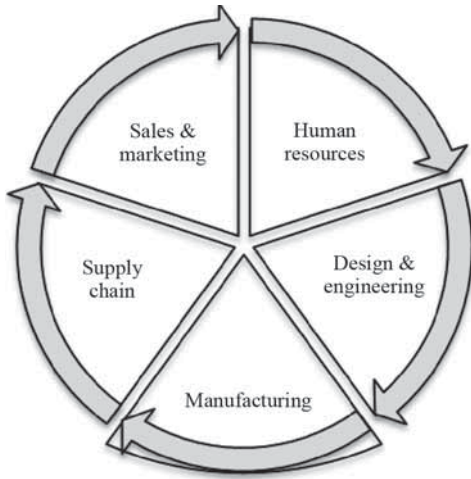
Chery Automobile Co., Ltd. was founded in 1997 as State-owned auto manufacturer with headquartered in Wuhu of East China's Anhui Province. It began the automobile production in 1999. Chery's main products were passenger cars, minivans, and SUVs. It was one of China's largest automaker and passenger car exporters. As an independent domestic

automaker, Chery has been aggressively seeking a global partner with financial strength and international influence to build an international brand. In 2007 it formed a joint venture with Israel Corporation. Founded in 1968 by the Government of the State of Israel, Israel Corporation Ltd was one of Israel's largest holding companies and a global player with over 70 % of its consolidated revenues derived from worldwide operations [Israel Corp, 2016].

Qoros, as a standalone brand, operated independently with ample investment and strong support from its two parents. The new company spent two years in strategic planning with McKinsey Co. and then another two years in designing the first prototype. After another two years of production model development, auto parts development and trial production, it went on its first public appearance in Geneva in March 2013 and went on sales in November 2013.

As an international automotive manufacturer originating from China, Qoros started from scratch and is staunchly dedicated to providing consumers with high-quality products that meet international standards [Qoros, 2016]. Qoros was determined to take a completely new path, which seemed to be more time-consuming and expensive. Instead of buying an existing brand, it started from scratch to build a new brand in China. This presented Qoros an opportunity to do things right from the very beginning without the complexity of legacies. Thus, Qoros since beginning has focused on a sustainable model base on innovation in human resources, design & engineering, manufacturing, supply chain, marketing & sales (Fig. 2).

Qoros integrated talents from around the world and created a team with extensive automotive industry experience. Thanks to the financial crisis, Qoros was able to recruit engineering and managers from major OEM's including Volkswagen, GM, Opel, Volvo, SAAB,



**Fig. 2. Drivers of success**

Ford, BMW and etc. There were nearly 200 international staff members, representing 25 nationalities. Despite of the Qoros team came from different countries and backgrounds, they worked as one team with shared values and aspirations. Thus, with a team of global experts who had led R & D for 2–3 car models, the company was able to utilize state-of-the-art technology and international best practice to fulfill its ambitions within a short period of time.

The international team of specialists and new automotive talents was also involved in design and engineering. The Qoros design studios in Munich and Shanghai conducted extensive consumer research on consumers in China and Europe. Qoros adopted forward engineering, which was the traditional process of moving from high-level abstractions and logical, implementation-independent designs to the physical implementation of a system.

Through this team of specialists Qoros made continuous efforts in improving manufacturing for responding to buyers' needs, which gave them advantages over larger rivals. However, whether Chinese consumers will buy into this new concept could only be answered by solid sales figures. Qoros had its factory in Changshu,

a prosperous city in Jiangsu province, about 80 kilometers from Shanghai. It exploited and enhanced Changshu's profile as an important hub in China's automobile industry. The city also housed Chery, Jaguar Land Rover, and an Automotive Industry Park hosting several major automotive suppliers including Benteler and Lear. Qoros also operated an operational hub in Shanghai, Munich and Graz.

Manufacturing was also supported from external suppliers. Qoros had from its earliest days been committed to producing cars that met global standards of quality. It would not be able to achieve this goal without partnering with the world's best automotive suppliers.

In a fast-changing, highly competitive landscape, Qoros collaborated to innovate with materials makers, parts suppliers and manufacturers, to help achieve greater sustainability in the automotive industry. And it was seeing results, in higher performance engines to interiors using finishes that incorporate renewably sourced materials. Qoros selected world-leading technology and service companies with R & D strength and advanced quality control capabilities as its suppliers. These included top industry players such as Magna Steyr, TRW, Continental, Bosch, Getrag, Benteler, Lear, Microsoft, Harman, Neusoft-Alpine and Iconmobile. Through extensive strategic outsourcing, Qoros had remained flexible and lean, and retained a fixed cost base estimated to be far less than half that of the large, established car manufacturers. With previous industry experience and personal influence among major suppliers, Qoros' management team was able to communicate effectively with these suppliers about its strategy and reassure them for its future. In this way, Qoros gained support from these top suppliers and built long-term relationships with them (Qoros, 2016).

Finally, Qoros worked hard to create an exceptional market position, brand identity and product positioning clearly distinguishable

from other domestic car manufacturers and international joint ventures. Qoros developed vehicles that were differentiated in their design, safety, and connected services and that exhibited international standards of quality. At the aim to achieve a competitive advantage Qoros worked hard on positioning, branding, product, pricing, dealership strategy, and promotion. A new brand image was expected to help diminish the negative effects generated by association with its parent brand and Made-in-China.

In developing this innovative business model Qoros has considered a number of best practices that will foster business sustainability, and will help organizations move along the path from laggards to leaders. These practices include stakeholder engagement, environmental management systems, reporting and disclosure, life cycle analysis.

Since beginning company has learned from customers, employees and their surrounding community trying not only about pushing out messages, but understanding opposition, finding common ground and involving stakeholders in joint decision-making. It also planned structures and processes aimed to help embed environmental efficiency into a firm's culture and mitigate risks considering both industry-specific and country-specific standards. Firm also implemented measurement and control for sustainable practices. Company collected information in a transparent way with outsiders. Finally it has worked considering the environmental and social impact of the products they produce through life cycle analysis. Adopting such business model, Qoros is trying to build a global reputation of company innovative and adaptive to its environments.

## CONCLUSIONS

The issue of sustainability is highly relevant in automotive industry. Thus, the most successful automotive companies in the world are recognizing that environmental

responsibility is not only good for their business, but it is becoming an integral part of the way their vehicles are marketed, purchased and driven.

Qoros, which was founded in 2007, has its factory in Changshu, a region of high importance in China's rapidly growing automobile industry, where its all-new, highly efficient and environmentally sustainable assembly facility is ramping up series production of the Qoros 3.

Qoros Auto Co. Ltd. went on public debut with its first model the Qoros 3 Sedan in Geneva International Motor Show 2013. The year later it achieved a five-star rating in the Euro NCAP crash tests, making it the first Chinese car to achieve such a rating. Following this major breakthrough, the company won a series of international accolade, including Red Dot Award and Universal Design Award.

After its first appearance in front of the Chinese public during the 15th Shanghai International Auto Show in April 2013, Qoros received widespread attention from the public, media and counterparts to its unique innovative business model. With the vision of becoming an international brand, Qoros has started to test the waters in East Europe even before the official launch in China market.

In September 2013, it opened its first European dealership in Bratislava, Slovakia, as part of an initiative to develop a full-scale European distribution operation. The experience in Slovakia would be very useful for Qoros to increase its presence in Central and Western Europe as well as Middle East.

In the growing Chinese automobile market, Qoros has an exceptional position, with brand identity and product positioning that is clearly distinguishable from domestic car manufacturers and international joint ventures.

## REFERENCES

1. Coe, N.M., Dicken, P., & Hess, M. (2008). Global production networks: realizing the potential. *Journal of economic geography*, 8 (3), 271–295.
2. Depner, H., & Bathelt, H. (2005). Exporting the German model: the establishment of a new automobile industry cluster in Shanghai. *Economic Geography*, 81 (1), 53–81.
3. Dyer, J.H. (1996). Specialized supplier networks as a source of competitive advantage: Evidence from the auto industry. *Strategic management journal*, 17 (4), 271–291.
4. Edensor, T. (2004). Automobility and national identity representation, geography and driving practice. *Theory, Culture & Society*, 21 (4–5), 101–120.
5. Egeraat, C., & Jacobson, D. (2005). Geography of production linkages in the Irish and Scottish microcomputer industry: The role of logistics. *Economic Geography*, 81 (3), 283–303.
6. Frigant, V., & Lung, Y. (2002). Geographical proximity and supplying relationships in modular production. *International Journal of Urban and Regional Research*, 26 (4), 742–755.
7. Gertler, M.S. (1996). Worlds apart: the changing market geography of the German machinery industry. *Small Business Economics*, 8 (2), 87–106.
8. Gertler, M.S. (2001). Best practice? Geography, learning and the institutional limits to strong convergence. *Journal of Economic Geography*, 1 (1), 5–26.
9. Holmes, J. (1983). Industrial reorganization, capital restructuring and locational change: an analysis of the Canadian automobile industry in the 1960s. *Economic Geography*, 251–271.
10. Holmes, J. (2004). Re-scaling collective bargaining: Union responses to restructuring in the North American auto industry. *Geoforum*, 35 (1), 9–21.
11. IHS Automotive (2017) <http://press.ihs.com>
12. Ireland, R.D., & Webb, J.W. (2007). Strategic entrepreneurship: Creating competitive advantage through streams of innovation. *Business Horizons*, 50 (1), 49–59.
13. Israel Corp (2016) <http://www.israelcorp.com/AboutUs/OurCompany.aspx>
14. Nielsen China (2011) The Next Generation of Chinese Car Buyers are Looking for Style, Georgia Zhuang, Vice President: <http://www.nielsen.com/us/en/newswire/2011/the-next-generation-of-chinese-car-buyers-are-looking-for-style.html>
15. PWC (2017) <http://www.strategyand.pwc.com/trends/2016-auto-industry-trends>
16. Qoros (2016) <http://www.qorosauto.com/en/newscenter/news/article25>



**Graziella Ferrara** is Professor of Economic Geography at Suor Orsola Benincasa of Naples. She was visiting researcher at Salem State College (USA). Her research interests concern geography, internationalization and corporate strategy. She published many articles on geography, internationalization and corporate strategy and she is in the editorial board of many relevant journals.