Association for Information Systems
AIS Electronic Library (AISeL)

AMCIS 1997 Proceedings

Americas Conference on Information Systems (AMCIS)

8-15-1997

The Impact of Electronic Commerce on the Automotive Industry

Stefan Klein
University Koblenz-Landau, Stefan.Klein@uni-koblenz.de

Dorian Selz
University of St.Gallen, Dorian.Selz@iwi.unisg.ch

The Impact of Electronic Commerce on the Automotive Industry

Stefan Klein
Institute for Information Systems,
University Koblenz-Landau,
Rheinau 1, D-56075 Koblenz,
Email: Stefan.Klein@uni-koblenz.de

Dorian Selz
University of St.Gallen,
Institute for Information Management,
Dufourstrasse 50, CH9000 St.Gallen,
Email: Dorian.Selz@iwi.unisg.ch

Abstract

The diffusion of the Internet (and comparable communication infrastructures) has led to the emergence of a virtual global marketspace in which products and services are sold electronically. As a result, traditional intermediaries, such as travel agents or retailers, are being bypassed. This development effects not only products and services which can be digitized but also the marketing and distribution of physical products.

We have scrutinized the interdependencies of product characteristics and traditional distribution structure, electronic commerce and the emergence of new services and distribution structures trends in the automotive industry. The auto manufacturers are facing difficult choices on several fronts at a time: cybermediaries, independent (mega-)dealers and their own direct sales operations on the Web are competing with their exclusive dealers. Based on this analysis which reveals patterns of exacerbated competition, we will discuss strategic options for a business network redesign.

Emerging distribution infrastructures and channel competition

Malone et al. (1987) have argued that new IT infrastructures will allow to circumvent and eliminate intermediaries in value systems and in supply chains in particular and thus lead to the emergence of electronic markets. However, at the same time emerging electronic marketplaces offer revenues and profits for specialized intermediaries: the entry barriers for electronic commerce are low and global visibility allows even highly specialized business to generate sufficient revenues. New players often show a better understanding of the characteristics of hypermedia computer-mediated environments (Hoffmann et al. 1995) while traditional players often show a lack of flexibility, agility and understanding of the new medium. The emerging cybermediaries leverage today's Internet technologies to streamline transactions between producer and consumer: buyers find the right goods and get connected to sellers.

Figure 1 exhibits the current restructuring of the auto distribution system:

- Many auto manufacturers maintain an exclusive and hierarchical network of national sales organizations and local dealers (channel I).
- Parallel to this proprietary distribution infrastructures independent dealers and large distributors or distributor networks have emerged. Competing with the networks of exclusive dealers, these new types of dealerships are more independent from the car companies and try to leverage on loopholes or weaknesses of the existing dealer networks such as national or regional price differences (channel II).
- Complementing their traditional infrastructure, the established players (auto manufacturers and channel I and II) set-up Web-sites to augment their sales and advertising activities. Especially independent dealers and distributors are using the Web to make the sales processes more efficient, to provide convenience and total care concepts (from comparative vehicle information to financing and insurance) and to facilitate the interaction between dealers and buyers. In addition, new players, such as on-line suppliers of information about cars, car related material and car sales have emerged at an astonishing pace in the last year and a half. (channel III).

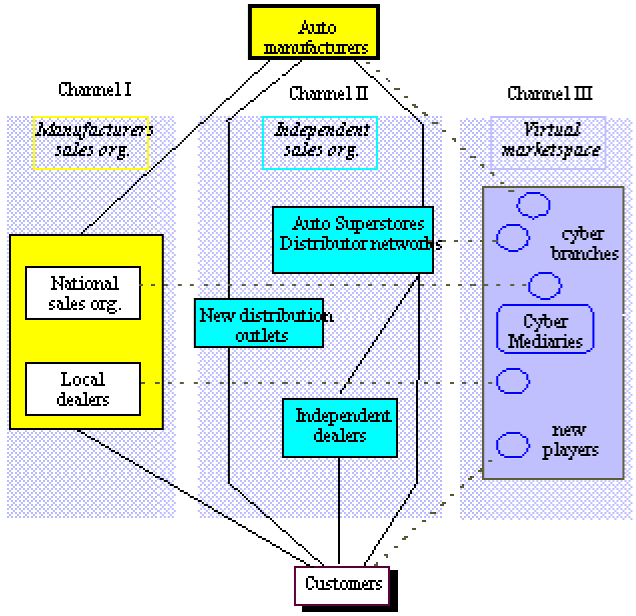

Figure 1: Sales and distribution channels in the auto industry

As a result of these changes, channel competition is increasing and the auto makers are losing control over the distribution channel. By setting up virtual auto showrooms on the Web, the auto manufacturers are trying to (re-)gain some control over this new sales channel and compete head-on with independent sales organizations as well as new entrants. By doing this, they are even risking conflicts with their own exclusive sales organization.

Strategic challenges in the auto industry

A brief look at some of the underlying trends and challenges in the auto industry explains the pressure that the auto manufacturers are facing in their traditional operations as well as from the Web.

Lindquist (Economist, 1996) estimates that in car manufacturing the return-on-investments in real terms dropped sharply in the last years. Increasingly, the car manufacturers earn better profits from financing car sales or leases than from the sales of cars. Dense networks of dealerships and service stations are a strategic necessity because of positive network externalities for the customers, however exclusive dealerships are hardly sustainable. As a result of product as well as distribution related changes, such as extended service intervals and recentralized distribution activities by the manufacturers, tension is rising between the manufacturers and their exclusive dealers. The later try to leverage on their immediate access to customers in order to improve their power in relation to the manufacturers.

Nevertheless, all major manufacturers plan to increase production capacity in the next years and to expand into yet lowly motorized countries in the developing world. At the same time they need to take into consideration the changing habits of their first world customers. Especially in America, but increasingly in Europe too, one can observe a trend to "fun-cars" and off-road sports and recreational vehicles. The automotive firms need to be content with a smaller number of sold cars in the traditional segment of compact family cars (Schwarz, 1994). The objective is to satisfy each customer with a car that meets his expectations and mobility demands. As a result, all major car manufacturers churn out more cars and different models than ever before which makes them particularly vulnerable.

While the auto companies have to find ways to convince not only traditional and but increasingly new customer groups to buy their cars, independent auto-distributors are expanding their market-share at the expense of exclusive dealerships. Responding to complains about the traditional way of selling cars and learning from the marketing of consumer goods "cradle-to-grave" auto distributor are emerging "…that will sell finance, lease, rent, repair, and recondition cars." "Huizenga has designed AutoNation to respond to long-standing complaints about traditional dealers. Store amenities include children's play areas and computer kiosks displaying pictures and descriptions of the cars in stock. … Cars can be returned in seven days, no questions asked, and carry a comprehensive 90-day warranty." (Kerwin; DeGeorge 1997, p.46&48)

In addition, differential pricing by the car manufacturers and long waiting lists for specific models open a niche for arbitrageurs which are using the Web to leverage their strengths, i.e. providing transparency. "'Deep down, this just scares the hell out of the manufacturers, because they fear losing control.' The reason: Retailers have historically been part of the apparatus auto makers used to find homes for all the cars they crank out - even aging models and design miscues. Powerful new buyers could be a threat …" (Kerwin; DeGeorge 1997, p. 47)

Strategic options for the auto manufacturers

The auto manufacturers are facing difficult choices on several fronts at a time: cybermediaries, independent (mega-)dealers and their own direct sales operations are competing with their exclusive dealers, which currently are the most important distribution channel, however they do not cover all the functions needed for future models and service concepts. Based on Venkatraman's (1991) distinction between business network redesign and business scope redefinition, we are giving a stylized summary of the manufacturers' strategic options using insights we gained from working with Mercedes Benz. Figure 2 depicts the possible impact of the WWW on the strategy parameters product, service and distribution infrastructure:

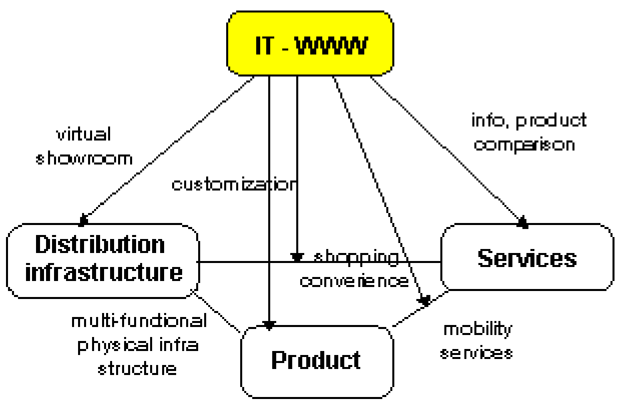

Figure 2: Strategic options in the auto industry

Business network redesign

The first option is to utilize the Web in order to improve the quality and efficiency of the existing distribution infrastructure (Jirikowsky 1996):

Closed user groups (Extranets) can be set-up

- for customers in order to provide exclusivity and protect the manufacturer from direct competition of imitation and
- for dealers in order to improve the information flow between the manufacturer and the dealers as well as among the dealers.

By this means, the manufacturers can leverage their assets such as the physical infrastructure, access to information and existing communities of customers.

Facing the competition from successful independent dealer networks, auto manufacturers might consider to set-up alliances with these dealers in order to gain some influence and complement or even partially substitute their proprietary dealer networks. Even if this means to relinquish some control over the distribution channel, it may be a preemptive move to avoid the loss of even more control, once the independent dealers become even more powerful or cooperate more closely with competing manufacturers.

Business scope redefinition: New products and services

Mercedes Benz has set-up virtual showrooms in which customers can customize their cars and get an abundance of auto and mobility related information. Furthermore it is considering leasing contracts which include the rent of a different model, e.g. a larger car for a couple of weeks per year when the customer might want more seats and luggage room.

More radical strategies reconsider the customer needs: an increasing number doesn't primarily want to own a car but to have access to a convenient way of mobility. Mercedes Benz acted accordingly and defines itself now as an *integrated mobility company*.

Given the trend to increased outsourcing, auto manufactures might undergo a metamorphosis from managing the assembly of cars with a network of suppliers and into managing a global network of service providers in order to "assemble" or configure complex mobility services.

Conclusions

The paper illustrates changes of the automotive distribution channels which are enforced by technological innovations. Shortcomings of traditional distribution infrastructures, new requirements as a result of new models targeted at new customer segments on one hand and increasing competition from independent (mega-)dealers, adopting consumer products marketing strategies and cybermediaries on the other hand pose huge challenges to auto manufacturers.

Responding to the complexity of these challenges, multiple strategic options from the auto manufacturers' perspective are discussed in order to illustrate how the Web can be used by traditional players to leverage their assets in the physical world. The Web can be used by established players to redefine themselves and thrive even in a situation of increased competition.

Despite the adaptability and transferability of strategies among different industries, the specific restraints and properties of industries have to be scrutinized in order to formulate viable strategies.

References

BENJAMIN R and WIGAND R (1995) Electronic Markets and Virtual Value Chains on the Information Superhighway. In *Sloan Management Review*, Winter, pp.62-72.

BUSINESS WEEK (1996) The new Mercedes. In *Business Week*, August 26, pp.34-38.

BUSINESS WEEK (1996) Making Money on the Net. In *Business Week*, September 23, pp.44-52.

DBHIGHTECH REPORT (1996) *DBHigh Tech Report*. (April) p.23. MercedesBenz, Stuttgart.

ECONOMIST, THE (1996) Taming the Beast; Living with the Car. In *The Economist*, June 22.

HOFFMAN DL, NOVAK TP and CHATTERJEE P (1995) Commercial Scenarios for the Web: Opportunities and Challenges. In *Journal of Computer Mediated Communication*, Vol.1No.3.

JIRIKOWSKY U (1996) Mercedes-Benz AG in T-Online and Internet. In: *Informatik* 3 (6), 26-28.

KERWIN K and DEGEORGE G (1997) Hurricane Huizenga - He hurtles to the front of the pack in auto superstores. In: *Business Week*, February 24, 1997, 46-49.

KONSYNSKI BR and KARIMI J (1993) On the Design of Global Information Systems. In *Globalization, Technology and Competition* (BRADLEY S, HAUSMAN J and NOLAN R, Ed), Harvard Business School, New York.

LEE, HO GEUN (1997) Electronic Market Intermediary: Transforming Technical Feasibility into Institutional Reality. In: Proceedings of HICSS 1997, Vol.IV.

MALONE TW, YATES J and BENJAMIN RI (1987) Electronic Markets and electronic hierarchies. In *Communications of the ACM*, (30)pp.390-402.

SCHWARZ K (1994) *Car Wars: Die Automobilindustrie im globalen Wettbewerb*. Peter Lang Verlag, Frankfurt a.M.

SVIOKLA J, and RAYPORT J (1994): Managing in the Marketspace. In *Harvard Business Review*, November/December, pp.141-150.

VENKATRAMAN N (1991) IT-Induced Business Reconfiguration. In *The Corporation of the 1990sInformation Technology and Organisation Transformation* (MORTON MS, Ed), pp.122158. Oxford University Press, Oxford.