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Drivers of the Future Retailing Environment

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1 Introduction

In order to forecast major paradigm shifts in any industry, one needs to understand the driving forces of change. This paper focuses on the retail industry and tries to identify decisive factors which shape this industry's future. A synopsis of the framework proposed by *Numberger/Rennhak (2005)* is shown in figure 1.

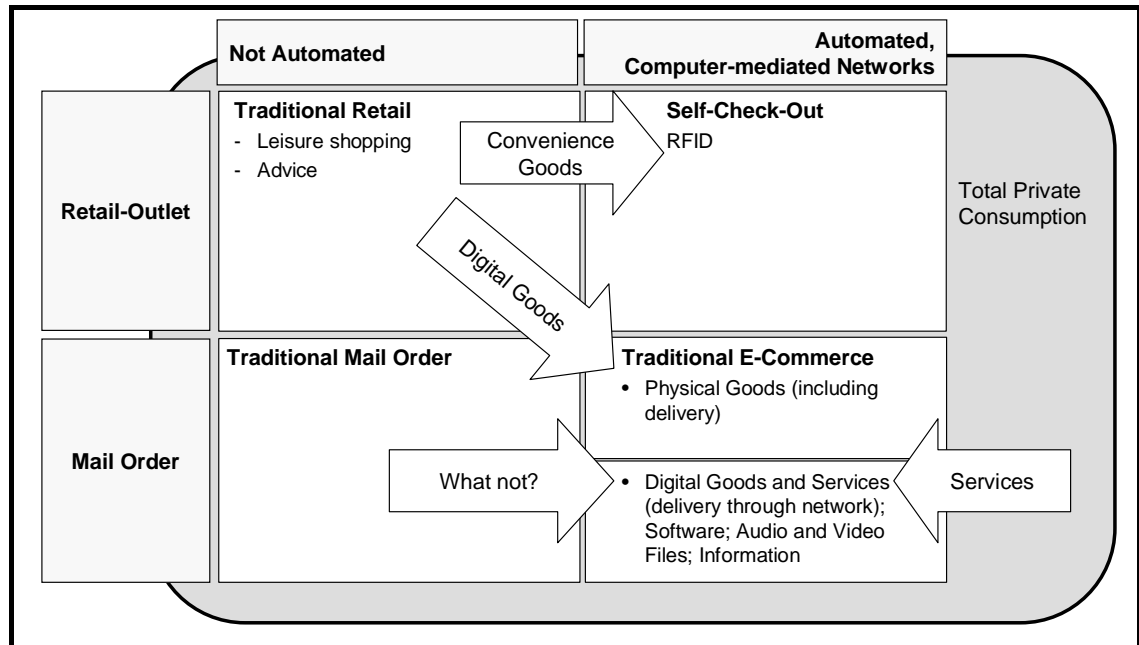


Figure 1: Potential Developments

Based on the findings of *Numberger/Rennhak (2005)* a set of variables is derived from roughly fifty semi-structured interviews with retailers and customers as well as academics and from literature. As *Numberger (2004)* proposed, interviewees were cross-functional and interdisciplinary.¹

The survey included questions about the future medium of shopping, the influence on its development, and general trends and interests with regards to the future. Results were analysed such that variables are aggregated from the text without an a priori framework such as PEST and included if they correlate highly with the entire system and if specific events are highly likely. The challenge of the study is to aggregate the data to few meaningful variables in order to keep complexity low enough enabling a later check of consistency.

¹ Two group interviews were conducted with practitioners and two with academics, with six to eight participants each lasting two hours. With few exceptions, practitioners were at the executive level. Academics were professors and lecturers. Users participated in a web survey with thirteen open ended questions. Face to face or telephone interviews were carried out with non-users, teenagers and some additional experts.

2 Potential Drivers of the Retailing Environment

As discussed in *Numberger/Rennhak* (2005) potential drivers of change in retailing might be found in the following environments: Society, Distribution, Technology, Retail Outlets, Socio-Politics and Market environments, which we will discuss in the following sections.

Society

Societal trends that might or might not be consistent with the development of retailing and especially E-Commerce are globalisation, individualisation, demographic change, social inequality and mobility and urbanisation. Other societal variables with a more direct influence on or from the development of retailing are the integration of E-Commerce into everyday life, buyers' bargaining power, consumers' trust, education and culture, consumers' price and quality sensitivity and societal flexibility.

Globalisation might directly influence buyers' bargaining power, as a globally transparent market increases competition. On the other hand, globalisation of consumption patterns and market concentration decreases buyers' bargaining power. Additionally, interviewees expressed their concerns about social tensions and the development of regional blocks.

Individualisation is expressed as individual consumption, a pursuit of one's own ways and objectives, single life with less 'true' personal contacts and a disintegration of society. Interviewees expressed their concerns about the influence of increased E-Commerce on personal interaction, although they did not believe that traditional retail outlets would totally disappear. Interestingly, the need for personal conversation and advice was one of the most important arguments for the claim that retail outlets will not completely disappear. Further individualisation could increase the need for personal contact in shopping situations. Additionally, shopping only for oneself in comparison to family shopping leads to a relative increase in logistics costs because the time spent for shopping is essentially the same, whether shopping for one or five people. Thus mail order might become more interesting. On the other hand, single life is often associated with less time spent at home, making home delivery difficult. Other aspects potentially interrelated with growing individualisation are demographic changes because of fewer couples having fewer children; the importance of leisure shopping because shopping is becoming a means of leading an individual life; mass customisation because of more individualised products; social inequality because individual life styles are the opposite of equality; and security, because external pressure tends to bring social groups closer together.

Demographic change is one of the biggest challenges for European and the Japanese societies. The *UN* (2000, p. 137) estimate median ages in Europe to rise from 38 years in 2000 to a range from 41.7 years to 44.3 years in 2020. For countries such as Italy, the range is 48.1 years to 49.6 years, starting from around 40 years in 2000.² This implies an increase of roughly eight years. These figures are depending on the development of life expectancy, migration and fertility rates. Direct implications to E-Commerce are few, with exception of the adoption of persons over 65 years old, but the demographic change directly influences the proportion of the population participating in the workforce and the weekly working hours, which in turn would make mail order shopping more or less likely. Other interactions are productivity, societal flexibility and social inequality.

Whether there is a trend of rising social inequality in Europe is subject to debate.³ Interviewees mentioned their perception of rising inequality and a retreat of the welfare state. They were concerned that parts of society could be excluded from E-Commerce because they are not computer literate, cannot afford internet access or because their negative payment history is publicly available. Systematic exclusion of certain groups could negatively impact the political climate. Additionally, a potentially interesting target group might be foregone. Inequality might rise because of further immigration induced through demographic change. Price reductions with infrastructure and internet access could even out such effects, with more efficient secondary markets leading to rising living standards in poorer milieus.

The trend of urbanisation will lead to population increases of around fifteen per cent in important cities, with a shrinking overall population.⁴ Urbanisation could positively affect mail order because of better infrastructure such as broadband networks and better delivery services. Simultaneously, motorisation is expected to increase with more women buying their own cars.⁵ Higher car ownership levels could have positive effects as pick-up stations become more relevant, although it seems more likely that it would reduce the importance of mail order shopping. Additionally, in big cities the assortment of goods on stock is usually higher than in small ones, so there is less of an incentive to shop via mail order.

Consumers' trust is considered one of the biggest obstacles for E-Commerce. Trust in that regard is mainly associated with the questions of disclosing data, vendors handling of them and accepting that handling. Rising trust means that consumers accept personalisation and automated advice, and that they enrol in loyalty programs. It means also that vendors treat data sensibly. Higher trust

² *UN* 2000, p. 113.

³ cf. *Atkinson/Brandolini* 2001, p. 795; *Cornia* 2000, p. 5.

⁴ cf. for Germany: *Kröhnert et al.* 2004, p. 13.

⁵ cf. *Shell* 2004, p. 7.

can lead to higher E-Commerce both in its mail order and retail outlet versions, more and higher quality of automated advice, more mass-customisation, higher productivity and potentially also to a reduced buyers' bargaining power. If consumers readily disclose data and accept data collection, this could also positively affect political security. Trust might be enhanced through more computer and network security, efficiently providing autonomy over one's terminal. Integration of ever more electronic equipment into everyday life can influence trust, too, as that would lay the grounds for collecting huge amounts of data and potentially misusing them. On the other hand, trust will probably rise with internet and general information technology experience. A positive political climate might also have positive effects on consumers' trust.

In the early days of E-Commerce, some were enthusiastic that buyers' bargaining power would increase because of extended market transparency, with the ultimate scenario of consumers picking up product data from RFID chips with their mobile phone and directly searching for cheaper suppliers on price comparison sites. More recently, the market concentration and strength of brands such as *amazon*, *Ebay*, *Google* and *Yahoo* suggest a lesser importance of that rationale, if not an inversion through lock-in effects such as with the iPod.

Societal Variables
Globalisation
Individualisation
Demographic Change
Social Inequality
Mobility and Urbanisation
Integration of E-commerce into Everyday Life
Buyers' Bargaining Power
Consumers' Trust
Education and Culture
Consumers' Price Sensitivity
Consumers' Quality Sensitivity
Societal Flexibility

Table 1: Societal Variables

Other society-related items frequently mentioned were the integration of E-Commerce into everyday life, such as through more terminals, handsets, digital cameras, RFID chips, smart dust and ubiquitous internet; the development of education and culture, such as effects of digital goods on the publishing, entertainment and culture industries, but also a concern about the European

culture with regards to demographic change and migration; consumers' price sensitivity, such as with consumers entertaining more in shopping for good deals; quality sensitivity, such as with consumers shopping for quality products, but with regards to usability in computer-mediated transactions; and societal flexibility, with the innovativeness, speed of adoption and mobility.

Distribution

Distribution is central to mail order shopping of physical goods. While online shopping for both physical and digital goods needs a computer-mediated network, only with physical goods an additional distribution network is required for delivery. With E-Commerce, a close integration of the transactional or marketing function and logistics is especially beneficial.⁶ Factors describing the Distribution environment with regard to E-Commerce include service, destination, cost and returns.

Interviewees mentioned different service aspects, such as delivery speed, time, flexibility and reliability as important for broader long-term adoption of electronic mail order of physical goods, especially if somebody has to receive the delivery at home in person. Pick-up stations are a potential remedy, especially for people who value flexibility and cannot shop during normal opening hours. A high share of delivery to pick-up stations could come with convenience goods being shopped online during office hours and picked up on the way home. Another important aspect with distribution is cost. With mail order, picking, assembling and delivery are turned over to the vendor. This is only possible, if the vendor can do that at lower costs than what the consumer is prepared to pay for it, which is roughly the cost he would incur when doing it himself. High wage differences, high fuel costs including taxes, and further automation within the logistics domain will make it relatively cheaper for vendors to deliver than for consumers to drive themselves. Yet, costs for mail order vendors increase with consumers returning their orders. Interviewed logistics experts called the problem of returns the actual cost driver in the delivery function.

Distribution Variables
Service Level
Destination
Cost
Returns

Table 2: Distribution Variables

⁶ cf. Alt/Schmid 2000, p. 92.

Technology

Internet access as one of the immediate prerequisites for E-Commerce adoption has surpassed the fifty per cent threshold in Western Europe according to EITO.⁷ The development of technology in its different aspects, infrastructure, power of terminals, computer security, usability as well as consumers experience and acceptance, will directly interact with the development of E-Commerce for mail ordered physical and digital goods as well as in retail outlets.

Missing touch and feel is one of the most important obstacles to shopping online. The power of terminals with regards to the amount and richness of information made available to the user is immediately influencing the amount of orders placed through networks. Advanced and widespread virtual reality capabilities including odours could enhance the overall experience by stimulating cognitive processes. Leisure shopping might then move online a great deal. On the other hand, more powerful input devices such as web cams, speech recognition and intelligent home appliances will facilitate ordering goods and services. A related factor is usability, with standardised shopping processes, user interfaces, no redundant inputs, improved search mechanisms, etc. Usability as opposed to the power of terminals is more concerned with ease of use and learning barriers.

The technological development of infrastructure is directly influencing its deployment and thus the importance of orders placed through computer-mediated networks. Estimating the development of semiconductor power as does Moore's Law⁸ might be a good proxy for indicating technology advancement and related cost reductions.

Studies have repeatedly shown the influence of internet experience on money spent online.⁹ The attitude towards technology in general and to the internet in particular is associated with experience, the perceived control over technology, and the pace of its development. Internet acceptance might simply be the proportion of people using internet regularly for a longer time period.

A last technological factor influencing the amount spent online is computer and network security, efficiently providing autonomy over one's terminal through preventing spam emails, computer viruses, but also manufacturers' excessive control ambitions.

⁷ *Graumann/Neinert* 2004.

⁸ The co-founder and chairman emeritus of Intel Corp. *Gordon Moore* predicted in the 1960s that the number of transistors on a semiconductor, and thus overall chip performance, would double every 20 months.

⁹ cf. e.g. *Lohse et al.* 2000, p. 21.

Technology Variables
Infrastructure Development
Virtual reality power of terminals
Computer security
Usability
Consumers experience and acceptance

Table 3: Technology Variables

Retail Outlets

E-Commerce with physical goods has been compared to retail outlets.¹⁰ Whether the traditional retail sector will loose grounds is dependent on its perceived relative quality with regard to shopping experience and convenience, advice, and density of the retail network and opening hours. Easy accessibility by car and presentable environments such as in shopping centres or high street have also been mentioned as factors attracting consumers to traditional outlets.

Automation in retail outlets: A different aspect about the relative advantage of retail outlets is the opportunity to find a good deal. While transaction cost savings and larger markets might decrease prices online, more operational transaction cost savings such as self-check out systems are expected to come with retail outlets, too, reducing waiting time and saving work. Additionally, electronic networks at the point of sale can be used to enhance the shopping experience offline and blend the best of both worlds.

Additional aspects in retail outlets include the importance of leisure shopping and multi-channelling. A higher importance of leisure shopping would potentially support both traditional quality retail outlets and E-Commerce mail order. Multi-channelling, such as a bricks-and-mortar approach, could enhance the compatibility of E-Commerce with traditional shopping routines: traditional retailers use internet to pre-sell and sell goods and offer additional services, and E-Commerce vendors opening flagship stores as trust-building activities.

¹⁰ cf. e.g. Lee/Tan 2003; Pechtl 2003; Dach 2002; Ward 2001; Brynjolfsson/Smith 2000.

Retail Outlet Variables
Quality
Automation
Importance of leisure shopping
Multi-channelling

Table 4: Retail Outlet Variables

Socio-Politics

The political environment is important for describing the E-Commerce system both because of its direct influence on E-Commerce and on its indirect influence through other environments such as the market and society.

General security is one of the more directly influencing variables, as people will rather draw on mail order shopping if they fear physical violence in shopping centres. Perceived general security will also influence productivity and the consumption. Potential threats to security include demographic change¹¹ and rising inequality.

Another variable with a direct influence is the administrative and juridical frame. Intellectual property laws especially affect digital goods, which are mostly information goods. Administrative interventions can enhance internet access handing out subsidies and investing into education programs. Compulsory use of E-government applications would have a positive influence on E-Commerce. German tax authorities for instance made internet tax declarations compulsory for companies as of 2005.¹²

Political climate is a rather aggregated variable and gained as such much attention among interviewees. This variable comprises economisation of society, attitude to foreigners and migration pressure, sexual equality, corruption of democracy, a detached European government and power concentration. A negative development in this regard could influence productivity, the administrative and juridical frame and societal flexibility.

A last socio-political variable is health, potentially threatened by internet and E-Commerce. A connection was made between E-Commerce and different diseases, such as psychological, orthopaedic and cardiovascular diseases. Additionally, adoption of E-Commerce with vital goods might jeopardise supply thereof. On the other hand, a global super-plague might drive consumers away from crowded places such as shopping centres.

¹¹ cf. *Hewitt* 2004.

¹² cf. §18 I 1 StÄndG 2003.

Socio-Political Variables
General security
Administrative and juridical frame
Political climate
Health

Table 5: Socio-Political Variables

Market

Market as the last E-Commerce environment identified includes variables such as disintermediation and re-intermediation, mass customisation, and the more macro-economic items size of workforce, working hours, productivity and consumption.

In the early days of E-Commerce, reduced costs for gathering information were thought to make intermediaries obsolete, and manufacturers would try to circumvent retailers. While this forward integration is clearly the case with E-Commerce in some sectors such as travel bookings, there is a similar development with strong brands starting to deploy flagship stores and factory outlets. On the other hand, the role of white labels seems to become more important in the retail sector, i.e. retailers integrating backwards. Some interviewees thought that advising customers could disappear in the retail sector and retailers specialising on their own brands could loose the market function, if consumers still use these functions but stop paying for them when shopping elsewhere.

Mass-customisation is another influencing variable, as a broad variety of different goods increases costs for inventories and needs a large market. One interviewee said: 'I had the experience of a specialised [high street] retailer telling me: "we don't have that, look on the internet." Do you think I will ever go there again?' On the other hand, wide adoption of E-Commerce would make mass-customisation easier.

Size of workforce influences E-Commerce as people involved in a formal job generally have greater difficulties organising their shopping. With an increased workforce, increased use of mail order shopping can be expected. The same is true with increased working hours. Additionally, size of workforce is directly related to demographic change, productivity, and inequality.

Other market variables extracted include productivity, where increases are expected by more automation in the retail function, and general consumption, since picking, assembling and delivery are services that have to be paid for.

Market Variables
Disintermediation and re-intermediation
Mass customisation
Size of workforce
Weekly working hours
Productivity
Consumption

Table 6: Market Variables

3 Discussion and further research

The paper tried to synthesise existing research and ideas empirically grounded in expert and consumer interviews about the long-term outlook of retailing. It simultaneously tried to be generic enough to allow a description of the system with relatively few variables and specific enough to allow a quantitative assessment of the variables.

In a next step the variables need to be used for individual forecasts and a subsequent consistency analysis, leading to different (as well as consistent) scenarios.

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