



Cognitive rationality and sustainable decision based on Maslow's theorem: A case study in Slovakia

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Abstract

Nowadays, the social pressure on the producers of passenger cars in the scope of their pro-environmental innovativeness is accelerating. However, the market does not accept the shift from traditional fuel technologies, and thus, a significant consumption schism has been created. One of the possible reasons for such a situation is a structured analysis of the principles of needs. Motivations of consumers in this aspect, where the phenomenon of car brand is also significant. However, stating the general functional mechanisms and patterns is not enough in this respect, but the structure of consumer characteristics relevant for these mechanisms and patterns would be useful to explore. Thus, this article analyses the possible marketing tools from the marketing management side. The hypothesis is that the individual passenger car influences more levels of the Maslow pyramid. Therefore, changes are harder to be reached. Some preliminary car usage data has been collected in Slovakia by surveying to investigate the socio-economic dependence of car usage. These data have been evaluated via descriptive statistics. The results serve as a platform for further research. It has been found that socio-economic characteristics could significantly influence Maslow's theorem. Thus, contemporary knowledge about the influence of psychographic characteristics should be revised in favor of this new knowledge.

Keywords

Maslow's theorem, consumer characteristics, consumer behaviour, green marketing, car usage

1. Introduction

Cognitive rationalization refer to the process in which pertinent cognitions are modified or inferred in relation to a problematic behavior. In this paper cognitive rationality is focusing on sustainable decision on personal level. The cognitive development of mobility is one of the most acute tasks nowadays. From an environmental point of view, the situation should be the top priority not only for national governments and companies operating in the relevant sectors but also for individuals (Zoldy, Baranyi, 2021). According to the American psychologist Abraham Maslow (1908-1970), human actions are motivated to meet their needs. Therefore, he created the pyramids (or hierarchy) of needs, based on what caused happiness for people. Maslow presented his concept of the hierarchy of needs in his 1943 article, *The Theory of Human Motivation*. This hierarchy (Maslow, 1943) assumes that people are first motivated to meet basic needs before moving on to more complex and advanced needs (Figure 1). The central belief of his theory was that people have a desire for self-fulfilment. That is, they want to be what they can be. However, before the ultimate goal of self-fulfilment is achieved, people must meet their most basic needs, such as food, security, love, and self-esteem.

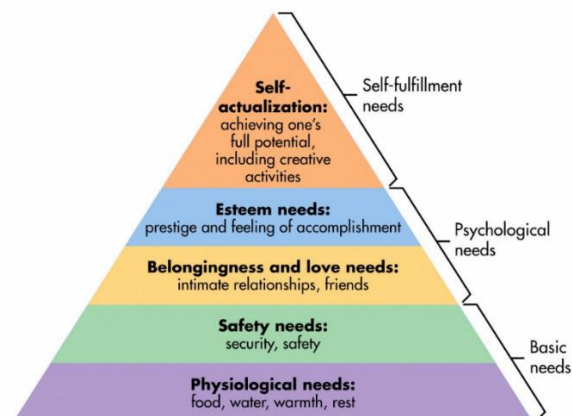


Figure 1 Maslow's Hierarchy of Needs

(Source: Abraham Maslow (1943): *Theory of Human Motivation*)

The modern marketing concept includes social responsibility, which extends to environmental protection. That also includes personal social responsibility, not only the well-known and researched corporate social responsibility. Social responsibility



pays increased attention to the implications of marketing decisions, action programs, social and ethical considerations into marketing practices. These include the prevention of pollution, the production of nature- and human-friendly products or services and also the protection of consumer interests. The approach, often defined as eco-marketing, is closely related to the issue of sustainable development. In addition to the interpretation of environmental responsibility in a national or a global dimension, the marketing literature nowadays emphasises corporate sustainability strategies and (environmentally) conscious consumer behaviour and segments. A conscious consumer is aware of and exercises their consumer rights. An essential feature of an ethical consumer is that he or she considers ethical, social, and environmental aspects in his or her decisions and the interests of other people, the future generation, and the values of the natural environment. The current form of road transport imposes significant burdens on society and the environment that are not new (Transport 2000, 1997). Key research areas are road accidents, emissions, noise pollution, traffic congestion, social isolation, and segregation (Figure 2a, 2b):

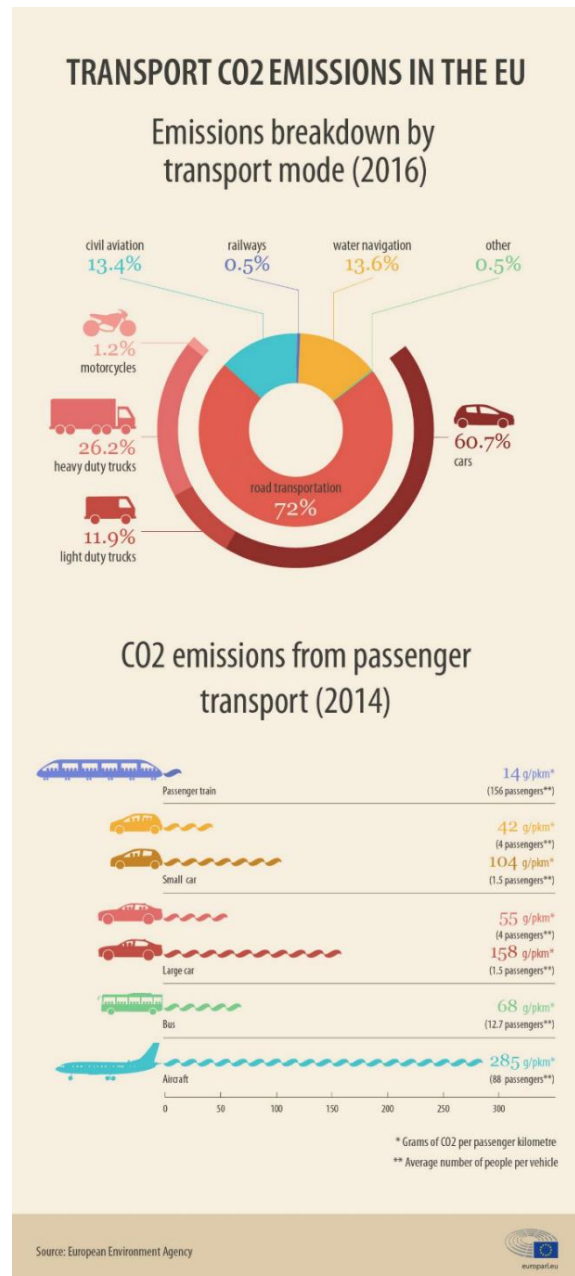
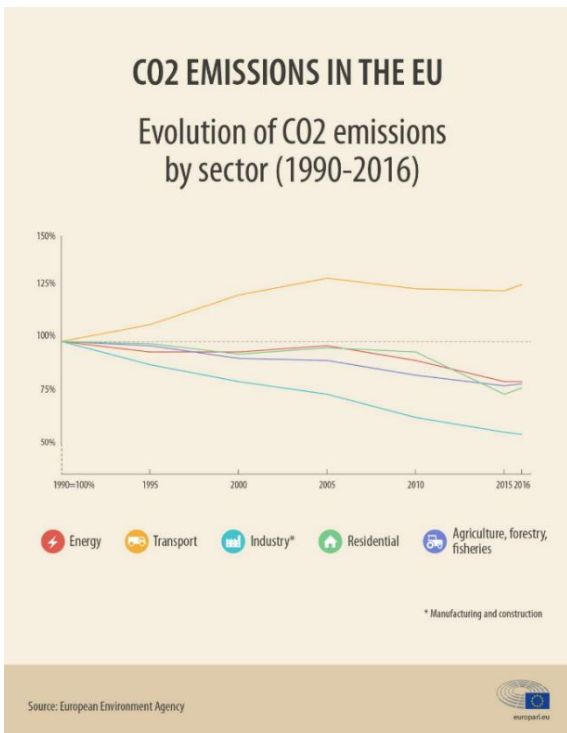


Figure 2a CO₂ emission in the EU 1990-2016
(Source: EEA)

Figure 2b CO₂ emission of transport sector in 2016
(Source: EEA)

The present article aims to investigate the reduction of the environmental load caused by individual road transport, mainly connected by car usage and car type choice, as branding. How can car choice and usage related mindset be changed?



The article is structured as follows. After the introduction that introduces the research question, the methodology is described: the detailed tools of survey assessment are presented. The results are analysed and compared with international literature and practical experience. Finally, the conclusion is drawn.

2. Methodology

As individual car use is flexible in space and time, the attractiveness of more sustainable public transport can only be increased if all the necessary information (stops, routes, package sizes, fares) is available to the passenger, as this is the only way to compensate for public transport. Public transport is a more significant cognitive burden, as it is necessary to plan expenses, the route, the departure time. As passengers, we do not have control, which can lead to uncertainty (Zoldy et al., 2022; Stradling et al., 2000; Wardman et al., 2001), and this further increases the attractiveness of individual road transport. On the contrary, the increasing volume of traffic has an impact, which questions the predictability of the use of individual cars and the safety of routes (Török, 2015). Destroying images is not difficult if the victim has actual or theoretical vulnerability (Wring, 1997; Beresford, 1998). There are several different de-marketing processes in the literature, of which only three are relevant for the present discussion:

- Negative marketing, including negative advertising: in a competitive situation, it is a systematic attack on the reputation of a competitor in order to increase market share. E.g., negative advertising against driving.
- Demand restraint, the point is to deter consumers of a competing product or service. E.g., car users cause traffic jams and the introduction of traffic tolls that are charges for everyone.
- Indirect preservation: creating a competing product or discouraging consumers from increasing control over shared resources. E.g., to create bus lanes to make better use of infrastructure as a shared resource to maintain the public transport service.

It is essential to understand the connection between users and passenger cars in this aspect. Unfortunately, passenger cars are still symbols nowadays, and their image vulnerability is still questionable. Therefore, a questionnaire was run in Slovakia to understand the socio-economic connection of brand dependence in car brands. The reason for choosing Slovakia as a significant country has been its strong interdependence (calculated the share on GDP per capita of inhabitants) with the automotive industry. Consequently Slovakia realised socially responsible activities on the regional basis, focused mainly on the car brands operating in the area (Kia, Volkswagen, Peugeot-Citroen). Preliminary analysis showed correlation between economical activity and performance of automotive industry. The questionnaire was filled in by 2035 inhabitants of the Slovak republic, who were older than 15. Even though 18 is the age limit for obtaining driving licence and to buy a passenger car, the research aimed to reveal the motivations and needs of the upcoming consumer generation. Data were collected in 4th quarter of 2021, using Computer-Assisted Web Interviewing (CAWI) method, which is an internet surveying technique in which the interviewee follows a script provided in a website. The structure of the questionnaire was standardised – it had a demographical part and two individual specific parts focused separately on 1) consumer habits, needs and attitudes towards car brands and individual passenger car usage in general and on 2) consumer habits, needs and attitudes individually in case of a subjectively most valuable brand of a passenger car.

3. Analysis & Discussion

2035 respondents filled in the questionnaire country-wide. 49.9 % male and 50.1 % female (Figure 3a). The age distribution is shown in Figure 3b:

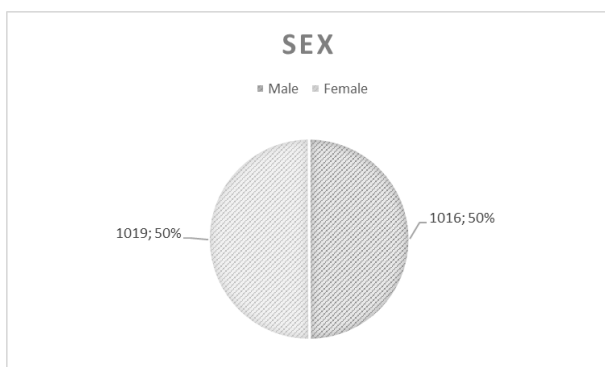


Figure 3a Sex distribution in survey
(Source: own edition)

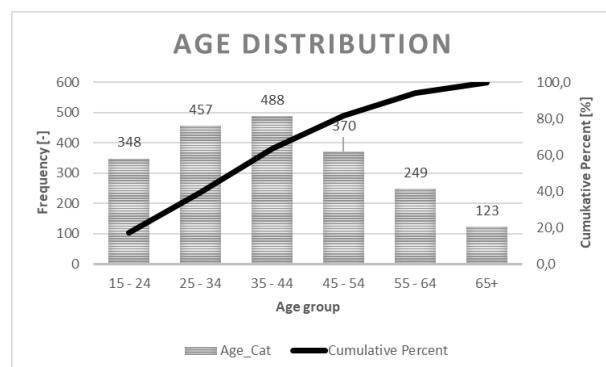


Figure 3b Age distribution in survey
(Source: own edition)



Based on the analysis of Figure 3a, 3b, 4a, 4b, it can be said that theoretically, to achieve the environmental goals of lowering pollution caused by individual road transport, people need to be deterred from buying a car and using a car. Unfortunately, however, the purchase and use of a car have substantial public benefits, so the state or decision-makers have no interest in reducing the purchase or use. Consequently, individual car users, individual people, must be affected. The biggest problem with green marketing is that protecting our environment has no monetary benefit for consumers, companies, or society. The value of the environment can only be included in the price of economic activity if it is of value for both parties involved in the economic action (Belz, Peattie, 2012).

Maximising pleasure and minimising pain is the most basic instinct for humans and animals, and it is in line with Maslow's theorem. Unfortunately, there is no consensus in behavioural science studies on more effective influencing techniques. However, a reward can reinforce the desired behaviour (Kreps, 1997; Berridge, 2001). Unfortunately, car usage has several connections to alternate levels of Maslow's pyramid (Figure 1). Car usage can be a source of money if used as a tool (physiological level), or can be connected to the security of body, health or property (safety level), as-well-as connected to friendship or family (love level), or can increase self-confidence, respect by others (esteem level), or increase spontaneity, problem-solving (self-actualisation level). As seen in this multi-level connection, it is very problematic to modify these attitudes. The detailed analysis of the questionnaire showed that there is a significant spatial difference of passenger car preference, but choosing no car was insignificant, which strengthened the status symbol idea (Figure 4a and 4b):

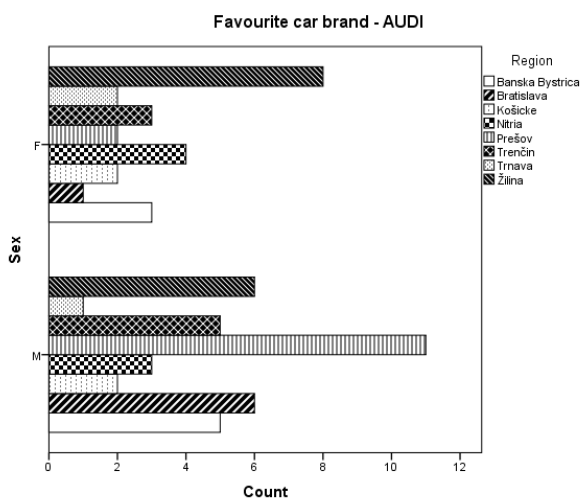


Figure 4a Example of the spatial distribution of car preference
(Source: own edition) *

* Please note that no car is not significant

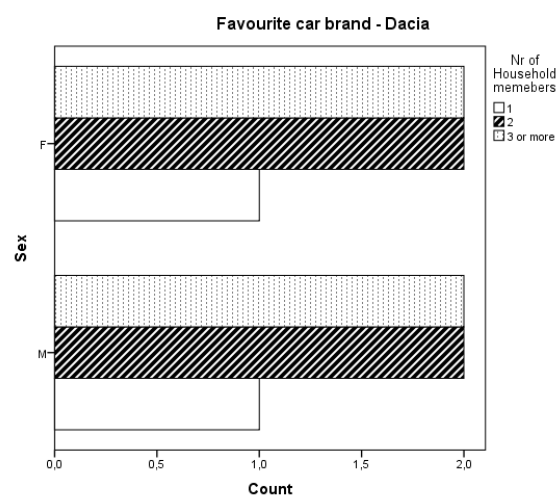


Figure 4b Example of age distribution in survey
(Source: own edition)

* Please note that no car is not significant

4. Conclusions

In summary, the tools of environmental marketing are scarce, and it is not easy to find a solution that only affects individual road vehicle usage. Our article shows that the car manufacture branding is deeply hidden in the mindset of Slovakian people based on the survey responses. It is difficult to curb individual road vehicle use and make cars more sustainable. Unfortunately, the spatial and temporal flexibility of individual passenger cars encourages people to make new journeys. The use of individual cars satisfies several levels of demand in Maslow's hierarchy at the same time. It is a complex system in which coercive and encouraging means can only be used together. Encouraging, restorative measures could be financed from the financial benefits of coercive solutions. However, there is still potential to develop the research of this topic and eliminate limits and barriers of general applicability of results this research has obtained. The most significant barrier in this aspect is the territorial nature of this research. According to Hofstede's socio-cultural profile evaluation of the countries, the Slovak Republic is very specific. Thus, regional specifics of the market from the psychographic point of view should be considered before applying the results from this research to different national psychographic environments.

5. References

Maslow A. (1943): *Theory of Human Motivation*



- Belz F. M., Peattie K. (2012): *Sustainability marketing. A Global Perspective*. West Sussex: John Wiley & Sons. ISBN: 978-1-119-96619-7, p352
- Beresford, Q. (1998): Selling democracy short: elections in the age of the market. *Current Affairs Bulletin* 74(5):24-32,
- Berridge, K. C., (2001): Rewarding learning: reinforcement, incentives and expectations. In: Medin, D.L. (ed.), *The Psychology of Learning and Motivation*.
- Kreps, D., (1997): Intrinsic motivation and extrinsic incentives. *American Economic Review Papers and Proceedings of the Hundred and Fourth Annual Meeting of the American Economic Association*. 87(2):359–364
- Stradling, S.G., Hine, J., Wardman, M., (2000): Physical, cognitive and affective effort in travel mode choices. *IAAP International Conference on Traffic and Transport Psychology*. Bern, September 2000. p9
- Transport 2000 (1997): *Blueprint for Quality Public Transport*. London. p52, ISBN 978-0907347460
- Török, Á. (2015): Analysing the Connection of Hungarian Economy and Traffic Safety”, *Periodica Polytechnica Transportation Engineering*, 43(2), pp. 106–110. DOI: <https://doi.org/hj5v>
- Zoldy, M., Baranyi, P., (2021): Cognitive Mobility – CogMob. In Nikodem, J., Klempous, R., (eds) *12th IEEE International Conference on Cognitive Infocommunications (CogInfoCom 2021): Proceedings IEEE*: 921–925
- Zoldy, M., Szalmane Csete, M., Kolozsi, P. P., Bordas, P., & Torok, A. (2022). Cognitive Sustainability. *Cognitive Sustainability*, 1(1). DOI: <https://doi.org/10.55343/cogsust.7>
- Wardman, M., Hine, J., Stradling, S.G., (2001): *Interchange and Travel Choice*. vols. 1 and 2, Scottish Executive Central Research Unit, Edinburgh
- Wring, D., (1997): Reconciling marketing with political science: theories of political marketing. *Journal of Marketing Management*, 13(7):651-663, DOI: <https://doi.org/c3qcde>