



Lodz University of Technology

Faculty of Organization and Management
Institute of Marketing and Sustainable Development

Łódź, 22.07.2025

Prof. dr hab. inż. Magdalena Grębosz-Krawczyk
Department of Marketing
Faculty of Organization and Management
Lodz University of Technology

Review of the doctoral dissertation of Mr Shuvam Chatterjee titled „Cross-cultural differences in shopper attitudes to olfactory marketing: Poland vs. India”, written under scientific supervision of prof. dr hab. Paweł Bryła

The basis for the review was a letter from prof. dr hab. Ewa Walińska, the chairwoman of the Academic Degree Committee in the Discipline of Management and Quality Studies at the University of Lodz of June 30th, 2025 with the attached documentation concerning the preparation of the review of the doctoral dissertation of Mr Shuvam Chatterjee titled „Cross-cultural differences in shopper attitudes to olfactory marketing: Poland vs. India”. Doctoral dissertation was written in English.

The review of this doctoral dissertation was prepared on the basis of criteria that allow to determine compliance with the requirements in the context of the original solution of a scientific problem, the general theoretical knowledge of the PhD student in the discipline of management and quality studies, as well as his ability to conduct independently scientific work.

In this review, I assess especially the way of formulating the research problem and the topic of the dissertation, research objectives and hypotheses, research methodology, as well as the substantive content and formal structure of the dissertation. The above elements became the basis for the formulation of final opinion.

Institute of Marketing and Sustainable Development
93-590 Lodz, Poland, 8 Politechniki Street
phone: +48 42 631 32 54, +48 42 631 37 67
e-mail: w8i83@adm.p.lodz.pl, www.woiz.p.lodz.pl
Correspondence address:
90-924 Lodz, Poland, 116 Zeromskiego Street



HR EXCELLENCE IN RESEARCH

1. Topic, originality and objectives of the doctoral dissertation

In his doctoral dissertation, Mr Shuvam Chatterjee investigates the impact of ambient fragrances on consumer behaviour in retail settings, with a particular emphasis on the moderating role of companionship and cross-cultural differences between India and Poland. The study aims to explore how sensory stimuli, such as scent, interact with emotional and cognitive processes to influence purchase intentions, loyalty, and customer experience in two distinct cultural contexts – collectivist (India) and individualist (Poland).

The dissertation demonstrates originality in its interdisciplinary approach, combining insights from sensory marketing, cross-cultural psychology, and retail management. The integration of Schwartz's theory of cultural values into the analysis of scent-induced behaviour offers a novel perspective on how culture shapes consumers' emotional and behavioural responses to ambient conditions in retail environments.

Importantly, the Author has chosen to present the dissertation in the form of a cumulative work based on a series of scientific articles. This decision reflects both a high level of academic maturity and the ability to conduct independent research at an international standard. Preparing a doctoral thesis in the form of a series of peer-reviewed publications is a demanding and ambitious path, and I highly appreciate the Candidate's effort and consistency in following this approach.

The research gap is clearly defined, as empirical studies on ambient scent in cross-cultural settings are still limited. The study's emphasis on companionship as a contextual factor (shopping alone vs. with others) adds further depth and contemporary relevance, given the growing interest in customer experience personalization.

In my opinion, the dissertation addresses a relevant and timely research problem and contributes to the advancement of marketing and retail management knowledge within the broader discipline of management and quality studies.

The main goal of this PhD thesis is to understand the impact of fragrance on retail consumers' shopping outcomes, considering their purchase behaviour across two distinct cultures (India and Poland) having an individualistic versus collective approach through the impact of companionship. The main goal is formulated correctly.

The Author proposed also three primary and three secondary objectives:

- Primary Objectives:
 - i) To understand the retail store attributes that affect consumers' thoughts and emotions, thus playing a crucial role in purchasing decisions.
 - ii) To examine how, from a cross-cultural standpoint, companionship, ambient fragrances, and purchase intentions interact in retail settings.
 - iii) To determine whether consumers develop store loyalty due to the influence of fragrance.
- Secondary Objectives:
 - i) To examine how ambient fragrances affect customers' intentions to buy in retail settings.
 - ii) To investigate how the association between ambient fragrances and purchase intentions is influenced by companionship (shopping alone versus with others).
 - iii) To compare how consumers in two culturally different markets - Poland and India - respond to companionship and ambient fragrances.

The research goals are well formulated and reflect an advanced understanding of both theoretical and practical aspects of consumer behaviour in retail contexts.

2. Research questions, hypotheses and research methodology

The doctoral dissertation includes four research questions that clearly reflect the complexity and multidimensional nature of the examined problem:

- Do retail store attributes that affect consumer thoughts and emotions play an important role in their purchase decisions across two distinct cultures?
- Does companionship influence consumer behaviours in a scented retail environment, depending on culture (regarding time spent, money spent, and impulse purchases)?
- Does companionship influence consumers' cognitive, behavioural, and attitudinal responses in a scented retail environment, depending on culture?
- How does fragrance affect the retail market's cognitive, behavioural, and attitudinal loyalty?

The questions address the influence of retail store attributes, cultural differences, companionship, and ambient scent on consumer behaviours, including cognition,

attitudes, purchase intentions, and loyalty. They are logically derived from the main research objectives and effectively guide the empirical investigation. The first research question appears to be somewhat too broad.

Based on the formulated goals and research questions, the PhD Student developed four hypotheses:

1. Companionship influences Indian consumers more positively than Polish consumers, considering the time and money spent and impulse buying in a scented retail environment.
2. Companionship influences Indian consumers' cognitive, behavioural, and attitudinal responses more positively than Polish consumers in a scented retail environment.
3. Consumer ratings of environmental scent quality in a retail store are positively associated with the amount of money spent in India and Poland.
4. Fragrance within the retail store helps foster cognitive, behavioural, and attitudinal loyalty in a retail environment.

These hypotheses are relevant, precise, and appropriately linked to theoretical foundations. They capture the expected differences between Polish and Indian consumers in terms of their behavioural and attitudinal responses to in-store scent and companionship. It is worth noting that in hypotheses 2 and 4, the Author combines three distinct dimensions of consumer reactions – cognitive, behavioural, and attitudinal – within a single hypothesis. While this reflects the complexity of the examined phenomena, it may also hinder the clarity and precision of hypothesis testing. These dimensions may lead to divergent results, and partial confirmation may complicate the interpretation of the findings. From a methodological perspective, it could be more appropriate to formulate these aspects as separate, testable hypotheses.

The methodological approach adopted in the dissertation is ambitious and well designed. The Author applied a mixed-method design, combining qualitative and quantitative techniques. In the qualitative part, the Zaltman Metaphor Elicitation Technique (ZMET) was used to explore hidden meanings and emotional associations of retail consumers. The procedure was implemented carefully, with two phases of interviews conducted in Poland and India. The ZMET interviews were conducted by

trained researchers and provided in-depth insights into the cognitive and emotional responses of consumers.

The quantitative part of the research was based on structured surveys carried out in shopping malls in Poland and India. The sample was large (over 600 mall-intercept questionnaires were distributed, the final dataset consisted of 579 valid surveys), and data collection was methodologically rigorous – including pretesting, operationalization of variables using validated scales, and the use of regression and cross-tab analyses.

The methodology is transparently described, and the triangulation of methods contributes significantly to the credibility of the findings.

When assessing the research approach, it should be stated that Author used research methods and tools adequate for the formulated objectives, thus confirming the ability to use them properly. I also positively assess the ability to collect a large amount of data and its interpretation. One minor shortcoming is that the time frames for the qualitative field research are not clearly stated in the main methodological section, which slightly limits the transparency of the research process.

The detailed examination of the conclusions formulated by Author on the basis of own research is carried out in the further part of the review, when evaluating the articles.

In the doctoral dissertation Mr Shuvam Chatterjee refers to several sources indicated in the articles' lists of references and the final references' list. The Author refers to the international literature. I highly assess the selection of sources and their use as it was very well focused on the implementation of the dissertation objectives. It confirms the general theoretical knowledge of the PhD Student in the discipline of management and quality studies.

The number of sources used is impressive and the sources are up-to-date. One additional remark concerns the literature review. While the Author refers extensively to international sources, it is regrettable that relevant Polish research on sensory marketing was not included – for example, studies by Sowier-Kasprzyk (2022), Pabian (2019), Salerno-Kochan and Turek (2021), or Grębosz and Wrońska (2012). Incorporating local academic contributions could have further strengthened the theoretical foundation of the dissertation and contextualized the research more effectively in the Polish setting.

3. Evaluation of the dissertation content

The dissertation takes the form of the compilation of five peer-reviewed research articles, preceded by an introduction and followed by a conclusion, discussion of implications and limitations, as well as appendices, references, and a list of figures and tables. The structure of the thesis is coherent and logical. The five articles are thematically integrated and mutually complementary. Each article constitutes a substantive contribution to the overarching research problem – the role of ambient scent in shaping consumer behaviour in retail settings, with attention to cross-cultural and contextual (companionship-related) variables. The following articles were presented:

- Chatterjee, S., & Bryła, P. (2022). Innovation and trends in olfactory marketing: A review of the literature. *Journal of Economics and Management*, 44, 210–235. <https://doi.org/10.22367/jem.2022.44.09>
- Chatterjee, S., & Bryła, P. (2023). Mapping consumers' semi-conscious decisions with the use of ZMET in a retail market setup. *Decision*, 50(2), 221–232. <https://doi.org/10.1007/s40622-023-00350-3>
- Chatterjee, S., Bryła, P., & Saleh, M. I. (2024). Cross-cultural differences in the effects of the ambient scent on in-store behavior: The role of companionship. *Decision*, 51(3), 339–354. <https://doi.org/10.1007/s40622-024-00400-4>
- Chatterjee, S., & Bryła, P. (in press). Effects of in-store fragrance as a cognitive innovation on loyalty building behaviour. *International Journal of Business Innovation and Research*. <http://dx.doi.org/10.1504/IJBIR.2023.10058386>
- Chatterjee, S., & Bryła, P. (2024). Olfactory marketing as a technological innovation tool for the Indian retail industry – A study of Shoppers Stop retail store in Kolkata, India. *International Journal of Indian Culture and Business Management*, 31(3), 261–273. <https://doi.org/10.1504/IJICBM.2024.137276>

One important formal remark concerns the authorship of the included articles. All five publications have been co-authored, which raises legitimate questions regarding the individual contribution of the PhD candidate. However, in accordance with academic standards and good practices in doctoral supervision, all Authors stated the scope and nature of the doctoral student's input into each article. A transparent declaration of contribution helped dispel any doubts regarding the originality and independence of the research.

In the introduction, Author discussed the aims, research questions, hypotheses and research gaps as well as the research methodology and the scope of research, and he correctly justified the choice of the topic.

The first paper (Chatterjee & Bryła, 2022) presents a comprehensive literature review on olfactory marketing, introducing key concepts, identifying research gaps, and justifying the relevance of the dissertation topic. This article successfully synthesises previous studies, emphasizing the role of scent in consumer cognition, behaviour, and loyalty building. The PhD Student shows a comprehension of theoretical concepts and frameworks in the field of management and quality studies. The literature review is well-structured and demonstrates familiarity with key academic sources.

The second article (Chatterjee & Bryła, 2023) is qualitative in nature and uses the ZMET technique to explore subconscious and emotional dimensions of consumer perception in retail environments. The article identifies symbolic associations linked to store attributes, including scent. This phase provides a solid foundation for subsequent quantitative studies and demonstrates methodological maturity.

The third and fourth articles (Chatterjee, Bryła & Saleh, 2024; Chatterjee & Bryła, in press) focus on cross-cultural differences in consumer responses to ambient scent, comparing Polish and Indian consumers. They analyse behavioural, attitudinal, and cognitive aspects of loyalty and purchasing intentions, highlighting the moderating role of companionship. The integration of cultural theory (Schwartz) and the use of control variables (age, sex) add rigour to the analysis. It is unclear why the results in the fourth article are presented only for Indian participants, and why the sample differs from the Indian sample used in the third article. Clarification on this discrepancy would be valuable.

The fifth article (Chatterjee & Bryła, 2024) examines the influence of ambient scent on decision-making in terms of time and money spent. The article presents a valuable empirical contribution by analysing the effects of fragrance cues on consumer behaviour in a retail shopping mall in Kolkata, using regression analysis with SPSS on data from 190 shoppers. While it is understandable that the article was published in the *International Journal of Indian Culture and Business Management*, which justified the focus on Indian consumers, the inclusion of comparative data from the Polish sample – or publishing the study in a more internationally oriented journal – could have enhanced the cross-cultural value of the findings and strengthened the coherence of the dissertation

as a whole. It is also not entirely clear why a different research tool and a different sample of Indian consumers were used in the fifth article.

All articles demonstrate methodological rigour, and the analyses are thorough and well-structured. They lead to the formulation of insightful and relevant conclusions that contribute meaningfully to the understanding of consumer behaviour in retail environments. Altogether, these articles provide a comprehensive, multidimensional exploration of the topic.

The concluding section of the dissertation provides a concise summary of findings, but it could have been developed further. While the Author successfully recapitulates the key results and hypotheses testing, the discussion remains rather general. The conclusion benefits from a detailed reflection on the theoretical contributions. It is also worth noting that limitations of the research and directions for further studies are clearly stated, which improves the final section.

Despite indicated shortcomings, the dissertation shows consistency between the stated aims and the conducted research. The articles are methodologically sound, conceptually integrated, and well-aligned with the dissertation's objectives. The Author demonstrates the ability to resolve the original scientific problem, the general theoretical knowledge in the discipline of management and quality studies, as well as the ability to conduct independently scientific work.

I would like to ask the Author questions of a polemical nature that could constitute a starting point for the discussion:

- In the dissertation, you refer to Schwartz's theory of cultural values to explain differences between Polish and Indian consumers. Have you considered how the concept of tightness-looseness (Gelfand et al.) might further enrich your cross-cultural interpretation of consumer reactions to sensory stimuli?
- Could you explain why the sample sizes differ across articles 3, 4, and 5? What were the considerations behind these variations?
- Given the growing role of digital and hybrid retail environments, how do you see the applicability of your findings in contexts where olfactory cues are absent (e.g., online shopping)? Can ambient scent effects be metaphorically recreated to influence consumer decisions?

The structure of this dissertation is consistent with academic standards for cumulative (article-based) dissertations and is appropriate for the subject matter.

The dissertation is clearly written, with precise and discipline-appropriate language. The Author demonstrates fluency in management and quality studies terminology and presents ideas in a comprehensible and stylistically correct manner. The formal aspects of the dissertation are in line with commonly accepted academic conventions. Overall, the formal and linguistic quality of the dissertation should be assessed as high.

4. Conclusion

After evaluating the overall content of the doctoral dissertation of Mr Shuvam Chatterjee titled „Cross-cultural differences in shopper attitudes to olfactory marketing: Poland vs. India” submitted for review, and taking into account:

- the original solution of a scientific problem,
- the general theoretical knowledge of the PhD student in the discipline of management and quality studies,
- the PhD student’s ability to conduct independently scientific work,

I state with full conviction that this dissertation meets the requirements set for doctoral dissertations indicated by the article 187, art. 190 p. 2-4 of the Act of 20 July 2018 “Law on Higher Education and Science”.

I therefore request the Academic Degree Committee in the Discipline of Management and Quality Studies at the University of Lodz to admit the doctoral dissertation of Mr Shuvam Chatterjee to public defense.

I would like also to request for a distinction of this dissertation.

M. Grogosz