

RESEARCH PROPOSAL: THE INFLUENCE OF GENDER ON USER BEHAVIOR IN ONLINE AND MOBILE LEARNING ENVIRONMENTS

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Introduction

Online and mobile educational technologies (e-learning and m-learning) have enjoyed one of the fastest adoption rates ever seen in higher education (Gaskell, 2017; L. Johnson, Adams Becker, Estrada, & Freeman, 2015; Snell & Snell-Siddle, 2013). This research aims to study the effects of socially constructed roles, behaviors and activities in present society in online and mobile environments, in particular, gender as a determinant of consumer behavior and decision making. While ethnicity, class, income, age, and other characteristics are all important considerations when studying consumer behavior, this proposal focuses initially on gender, as it has been shown to be significant to consumers' behavior in the online learning environment (Ashong & Commander, 2012; Borun, Schaller, Chambers, & Allison-Bunnell, 2010; Halpern, 2013; Muilenburg & Berge, 2005; Palmer, Bowman, & Harroff, 2012). It also continues to be a leading form of segmentation used by researchers, marketers, and advertisers (Halpern, 2013; McSporrان & Young, 2001; Rovai & Baker, 2005). Since gender is socially constructed - and given the social nature of learning - the study will examine how it is manifested in an online learning environment. The study aims to recognize significant gender gaps in three main areas: user engagement, learner satisfaction, and instructional outcomes.

Significance

The relevance of this proposed research was highlighted in the Horizon Report, a comprehensive study published by The New Media Consortium, an international association dedicated to the exploration of new media trends (L. Johnson et al., 2015). The report lists two emerging disruptive technologies in higher education: Online learning, especially massively open online courses (MOOCs), and learning analytics, which brings analytic techniques common in businesses to gain insights regarding online student behavior. As the field of online educational media matures, exploring the newly available platforms and data sources can enable continual improvement of goals such as user acquisition, engagement drivers, and retention.

The study aims to contribute to the existing knowledge on consumer segmentation and behavioral determinants, particularly on how social characteristics affect attitude and performance.

By understanding the social and cultural forces that impact consumer behavior, the research aims to provide insights for practical academic and marketing communications purposes such as functionality optimization, curriculum design, engagement drivers and personalization of the user experience. In a broader context, the understanding of any gender disparities can highlight a broader academic issue - the effects of socially constructed roles, behaviors, and activities in present society on marketing and consumer behavior.

Theoretical Framework

Despite the interest and availability of data, not enough research has been done on these technologies. An in-depth review of current literature on the impact of gender in the adult online learning environments reveals that most studies have found it to be a significant behavioral factor. Recent research found that female students have more positive perception of online learning than males (R. D. Johnson, 2011), tend to excel at integrating and assimilating information (Eom, Wen, & Ashill, 2006; Rovai & Baker, 2005; Snell & Snell-Siddle, 2013), and perform better in online courses that involve a great deal of interpersonal and visual communication (Wang, Wu, & Wang, 2009). Male students, on the other hand, were shown to do better with tasks requiring localized processing, such as mathematics, and to perform better under stress and time constraints (Palmer et al., 2012).

While the theory underpinning most studies is that the difference between male and female consumer behaviors is related to cognitive abilities such as information processing factors (comprehensive processing, usually associated with females, vs. a more focused processing, traditionally associated with males), this proposal's hypotheses is that the differences are triggered by cultural and social factors, such as gender roles and behavioral norms.

Methodology

I propose to conduct a large-scale ($n = 1,000$) empirical study on a stratified sample of students enrolled in 100%-online educational courses in different areas of study (business, computer sciences, humanities) in an example of research universities. Data will be collected in three ways: Site analytics - as learners participate in online activities, they leave a clear trail of analytics data that can be mined for insights. Web analytics tools, specifically Google Analytics and Kissmetrics, will be used to get information on session data, general engagement (such as time spent on page), referral data, customer acquisition channels and more; Pre and post-course surveys containing qualitative and quantitative questions; and Student assessment results from both formative and summative evaluations completed during the course. The information collected will be analyzed and tested against a research model using the structural equation modeling approach (SEM), which allows both confirmatory and exploratory modeling. Two-sample hypothesis testing will be used to examine specific insights and conclusions for further verification.

Limitations

Although the proposed study is based on student statistics, I understand that collecting data from a large sample size can be challenging as student records are protected by privacy laws and IRB policies. While I aim to articulate my research area in as much detail as possible, I maintain a flexible approach and a nuanced understanding of the restrictions beyond my control.

References

- Ashong, C. Y., & Commander, N. E. (2012). Ethnicity, gender, and perceptions of online learning in higher education. *Journal of Online Learning and Teaching*, 8(2), 98.
- Borun, M., Schaller, D. T., Chambers, M. B., & Allison-Bunnell, S. (2010). Implications of learning style, age group, and gender for developing online learning activities. *Visitor Studies*, 13(2), 145–159.
- Eom, S. B., Wen, H. J., & Ashill, N. (2006). The determinants of students' perceived learning outcomes and satisfaction in university online education: An empirical investigation. *Decision Sciences Journal of Innovative Education*, 4(2), 215–235.
- Gaskell, A. (2017). *The evolution and evaluation of massive open online courses: MOOCs in motion*. Taylor & Francis.
- Halpern, D. F. (2013). *Sex differences in cognitive abilities*. Psychology press.
- Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2015). *The NMC Horizon Report: 2015 Higher Education Edition*. ERIC.
- Johnson, R. D. (2011). Gender differences in e-learning: Communication, social presence, and learning outcomes. *Journal of Organizational and End User Computing (JOEUC)*, 23(1), 79–94.
- McSporran, M., & Young, S. (2001). Does gender matter in online learning? *ALT-J*, 9(2), 3–15.
- Muilenburg, L. Y., & Berge, Z. L. (2005). Student barriers to online learning: A factor analytic study. *Distance Education*, 26(1), 29–48.
- Palmer, G., Bowman, L., & Harroff, P. (2012). The role of gender, race and ethnicity in the adult online learning environment. In *INTED2012 Proceedings* (pp. 6645–6650). IATED.

- Rovai, A. P., & Baker, J. D. (2005). Gender differences in online learning: Sense of community, perceived learning, and interpersonal interactions. *Quarterly Review of Distance Education*, 6(1), 31.
- Snell, S., & Snell-Siddle, C. (2013). Mobile learning: The effects of gender and age on perceptions of the use of mobile tools. In *The Second International Conference on Informatics Engineering & Information Science (ICIEIS2013)* (pp. 274–281). The Society of Digital Information and Wireless Communication.
- Wang, Y.-S., Wu, M.-C., & Wang, H.-Y. (2009). Investigating the determinants and age and gender differences in the acceptance of mobile learning. *British Journal of Educational Technology*, 40(1), 92–118.