

Online Shoppers Purchasing Intention

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An eCommerce website/app is a go-to for all online shoppers. To increase the quality and service, every data related to the online site is collected. One of those information set is about the web session time. This data would play a very important role to see a customer's buying intention for a particular product. We investigate and explore the process of analyzing the data of a website's visitor traffic in order to assist the owner of a website in understanding the behavior of the website visitors [1]. This project will also initiate the association with ecommerce platforms ranging from omnichannel selling companies to vast industries in forecasting the global digital trade, making the world a slightly a better place both for the customer and the seller [2].

The visitor interaction with an eCommerce website can help eCommerce marketers understand how well campaigns are working and gives an idea of how better to invest in a site content, advertising, or other forms of engagement. Data mining with his dataset would reveal the performance of an eCommerce company and will provide with a better strategy/ the area to be focused on to improve performance and capture more audience [3]. By implementing the practical knowledge, we can offer several services such as marketing the products at the right place at the right time, identify potential customers, provide a competitive deal, and help capture the market for new companies. The scope of this project can also be extended to encourage local sellers to sell their products on an eCommerce platform which benefits not only the sellers but also the customers by receiving faster deliveries [4].

This project uses a dataset with 12,330 observations recorded from different users in a 1-year period to avoid any tendency to a specific campaign, special day, user profile, or period [5,6]. The dataset contains ten numerical and eight categorical variables. The 'Revenue' attribute has a binary outcome to indicate whether there was a purchase (with value 1) or no purchase (with value 0). Other variables of interest are the product related duration, bounce rates, exit rates, and page value. The relation among these variables can help us determine the reason for a customer not making a purchase or exiting the website. Few demographics and time-based variables will help us target customers of a specific group for marketing. Our focus is to determine the factors affecting the 'Revenue' of an eCommerce product and provide a model that increases the sales on an eCommerce website [8].

References

- [1] Adnan, M., Nagi, M., Kianmehr, K. et al. Promoting where, when and what? An analysis of web logs by integrating data mining and social network techniques to guide ecommerce business promotions. *Soc. Netw. Anal. Min.* 1, 173–185 (2011). <https://doi.org/10.1007/s13278-010-0015-3>
- [2] Research: Ecommerce Foundation. (n.d.). Retrieved from Ecommerce Foundation Web site: <https://www.ecommercefoundation.org/research>
- [3] Nizzari, M. M., & McNeill, K. D. (2000). U.S. Patent No. 6,014,647. Washington, DC: U.S. Patent and Trademark Office.
- [4] Our Approach: Walmart Inc. (n.d.). Retrieved from Walmart Inc.: <https://walmart.org/who-we-are/our-approach>
- [5] Sakar, C.O., Polat, S.O., Katircioglu, M. et al. Real-time prediction of online shoppers' purchasing intention using multilayer perceptron and LSTM recurrent neural networks. *Neural Comput & Applic* 31, 6893–6908 (2019). <https://doi.org/10.1007/s00521-018-3523-0>
- [6] Dua, D. and Graff, C. (2019). UCI Machine Learning Repository [<http://archive.ics.uci.edu/ml>]. Irvine, CA: University of California, School of Information and Computer Science. <https://archive.ics.uci.edu/ml/datasets/Online+Shoppers+Purchasing+Intention+Dataset#>
- [7] Mangiaracina, R., & Brugnoli, G. (1970). The ecommerce customer journey: A model to assess and compare the user experience of the ecommerce websites. *The Journal of Internet Banking and Commerce*, 14(3), 1-11.
- [8] Ghandour, Ahmad; Deans, Kenneth; Benwell, George; and Pillai, Paul, "Measuring eCommerce Website Success" (2008). ACIS 2008 Proceedings. 24. <https://aisel.aisnet.org/acis2008/24>
- [9] Tislerova, K. (2012, September). Information interaction in terms of eCommerce. In *The European Conference on Information Systems Management* (p. 307). Academic Conferences International Limited.
- [10] Mahlke, S. (2005, September). Understanding users' experience of interaction. In *Proceedings of the 2005 annual conference on European association of cognitive ergonomics* (pp. 251-254).