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Nike's Product Recommendation System and Incorporation of AI

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Nike's Product Recommendation System

Nike is a worldwide corporation that specializes in athletic footwear and apparel. With their prominent position in the global market, they are the largest producer in both of their product areas, as well as a large manufacturer of sports equipment. My interest in doing this capstone research project about them is a result of two things. First, Nike has been the company that my group for the BGEN 499 course has been focusing on this semester. We have come to know Nike inside and out, writing papers on both external and internal analyses and strategizing about how Nike can be a more efficient and profitable company in the future. The work myself and the group did this semester spurred my ambition to learn a little bit more about Nike through this capstone project. The second motivator is a more personal one. I am someone that is very interested in sports and that realm in general, so Nike is a good fit in terms of a company that I can do some more digging into. The research that I conducted revolves around Nike's product recommendation system (the "You May Also Like" tab), as well as their competitors. I created a scoring system based on five main variables, plus one extra one to determine the success of the system. Each variable was subjectively scored on a scale from one to seven, and then totaled to get a grand total score out of 35. This process was repeated for three product searches (black shoes, white shoes, and white tee shirt). The variables used include:

- Presence: How visible is the recommendation system on the company's website (is it easy to find, minimal scrolling needed)?
- Ease of Use: Is the system intuitive for the customer? Does clicking on the recommendations bring the customer straight to the other products?

- Price Similarity: How close is the price of the recommended items to the item that was originally searched for?
- Item Similarity/Connectedness: Do the recommended items seem to be highly similar to the ones originally searched (or do they correlate with the product in some way)?
- Product Rating System: Is there a way for customers to voice their opinions on the products they buy? Is it visible, easy to do, and detailed?
- Hit Rate (1/0): A yes or no score deciding whether or not I believe the recommendation system would've been perceived as "successful" or helpful by the customer.

The results of the process both corroborated general trends that I would believe to be true about having a good recommendation system, while also raising some questions about how good Nike's truly is. Below are the results of each of the individual evaluations as well as the aggregated totals:

(black shoes)	Presence	Ease of Use	Price Similarity	Item Similarity/Connectedness	Product Rating System	Totals	Hit Rate (1/0)
Nike	6	7	5	7	7	32	1
Adidas	7	7	6	7	7	34	1
Under Armour	5	6	3	3	7	24	0
Reebok	5	7	7	5	7	31	1
New Balance	6	6	7	5	7	31	1

(white shoes)	Presence	Ease of Use	Price Similarity	Item Similarity/Connectedness	Product Rating System	Totals	Hit Rate (1/0)
Nike	6	7	6	7	7	33	1
Adidas	7	7	5	5	7	31	1
Under Armour	5	6	3	3	7	24	0
Reebok	5	7	5	6	7	30	1
New Balance	5	6	6	6	7	30	1

(white tee shirt)	Presence	Ease of Use	Price Similarity	Item Similarity/Connectedness	Product Rating System	Totals	Hit Rate (1/0)
Nike	5	7	7	4	7	30	1
Adidas	7	7	7	5	7	33	1
Under Armour	5	6	6	6	7	30	1
Reebok	6	7	3	4	7	27	0
New Balance	6	6	5	6	7	30	1

Grand Totals	
Nike	95
Adidas	98
Under Armour	78
Reebok	88
New Balance	91

Given the fact that Nike and Adidas lead the sports footwear and apparel industry pretty substantially in revenues, it was not shocking that they both led in terms of recommendation system scores as well. However, Nike is the world leader in the industry pulling in revenues of \$51.217 Billion in 2023 ("Nike, Inc., 2024), which is more

than double any other corporation. Therefore, it is a little surprising that Adidas beat out Nike in two of the three analyses, as well as in the overall aggregate score. The question remains, what is the importance of a great recommendation system for a company like Nike that already demonstrates superior financial performance?

A top-of-the-industry recommendation system has numerous benefits in regards to increasing Nike's profitability. First and foremost, it would significantly reduce the costs of marketing. Regardless of the business, retaining a previous customer is substantially cheaper than acquiring a new one through marketing techniques or otherwise. Depending on the study and the type of industry that a company operates within, acquiring a new customer is anywhere from 5 to 25 times more expensive than keeping an existing one (Gallo, Amy). This is due to a variety of factors, one of the main ones being the vast amount that companies like Nike spend on marketing to new customers in order to generate sales. According to D. Tighle on [statistica.com](https://www.statista.com), Nike spent a staggering \$4.06 Billion on advertising and promotion in 2023. It is not surprising, then, that if Nike were able to save a significant amount of marginal cost on each customer by selling to existing ones rather than new, this is the avenue that they would prefer most of the time. By drastically cutting the marginal costs of customers, Nike would see a sizable increase in their margin and profits and ultimately look better in the eyes of the market and investors. Additionally, decreasing costs (and thus increasing profits) isn't the only benefit of customer retention. According to BIA Advisory in an article written by Jennifer Dublino, customers that a company currently has spend 67 percent more on average than customers that are new to the business. This is a different perspective than the typical "returning customers are cheaper" thought

process. Where that thought process attacks the costs portion of an income statement, the idea that these pre-existing customers also spend more is much more focused on the revenue generation at the “top-line” of the income statement. As a result, an effort to improve their recommendation system (and therefore retain customers) will both increase Nike’s sales while reducing their costs at the same time. This twofold result precisely answers the question of why the recommendation system issue should be important to Nike, but the question of how they should best go about improving it.

There are various ways that Nike could attempt to improve their product recommendation system. Given the extraordinary development of artificial intelligence (AI) in recent years, AI could be the solution that gives Nike a competitive advantage in the industry for years to come. The pace at which AI has grown has been unlike anything we have ever seen. In 2023 alone, spending on AI systems and research hit \$154 Billion worldwide (Kuznetsov, 2024). With the capabilities of AI being so large, it is difficult at first to determine exactly how Nike can implement it to successfully improve their product recommendation system. In my opinion, Nike should use intelligence technologies to pursue personalized marketing strategies for each of the customers that visit their website. Personalized marketing systems collect and use data about customers’ habits, interests, and purchasing patterns in order to create an advertising strategy that offers targeted, customized messages to each customer (Symon, 2024). These targeted messages are much more likely to resonate with each individual customer, increasing the chances that they make a purchase on something related to what they have already looked at or bought. Therefore, a superior recommendation system infused with AI can aid the process of retaining customers and encouraging

recurring purchases, concepts that we have already discussed to be extremely beneficial for Nike's business. Another way that AI can improve Nike's recommendation systems is actually from within, determining what products and markets are most likely to be profitable. AI can sift through enormous amounts of information from virtually any type of source, allowing it to analyze and detect patterns that humans may miss or not have the time to do an in depth analysis on. It is able to use machine learning to "learn" from its past analysis of data and predict possible trends in the future, a system called predictive modeling. "Predictive modeling (also known as predictive analytics) is a mathematical technique that combines AI and machine learning with historical data to predict future outcomes accurately. These calculations happen almost instantaneously, allowing businesses to use predictions to make decisions in real time" (Yifat, 2024). For Nike, they could analyze market trends and economic conditions with AI in order to try to predict which markets could be worth Nike's investment (in terms of marketing and placing products). In addition to these techniques to find emerging markets, Nike can also use AI to determine which market segments are the most profitable, and thus where they should continue to invest time and money into. In general, AI will improve the efficiency of Nike in terms of determining the most successful products for each customer and markets to grow into.

All in all, this discussion has not only highlighted Nike's current position of its product recommendation system relative to market competitors, but also why they should strive to have the best system possible. A top-of-the-line recommendation system will not only increase Nike's probability of repeat customers, but also the amount that these customers will purchase. An infusion of AI technology would only enhance

this process, making it all the more successful. Embracing innovative technologies like artificial intelligence presents promising avenues for refining recommendation systems, fostering personalized marketing approaches, and utilizing predictive analytics to anticipate market trends. By embracing innovation and prioritizing the evolution of its recommendation ecosystem, Nike stands poised to not only maintain but enhance its industry leadership, ensuring sustained relevance and profitability in an ever-evolving landscape.

Appendix

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