Introduction

The report focuses on Amazon's mode of business operations through the adoption of generative AI to support users in making timely decisions. Previously, users experienced the challenges of using an e-commerce site to make purchases of consumer products. Some of the transactions may have been based on an impulse to satisfy their need to purchase products without a particular need. Technology has further simplified user engagement with retail sites by creating a range of products which customers are most likely to buy before they exit a page.

To maximize sales and revenue, the emergence of AI has allowed companies to tailor their needs in alignment with consumer needs so that they can remain competitive in a market where there is instability in customer loyalty.

As a retail giant via trading online, Amazon maintains two specific aspects of its brand. Amazon shopping guide provides the building foundation in which users across the globe experience seamless service whereby computational methods are used to provide accurate information that can interest a user in making decisions regarding their online purchase.

Literature review

Amazon has been successful in its business functions through the development of their own in-house practice led experience which reflects as a strategy through training and development. In 2009, through valuable secondary research of customer data, Amazon understood the trend on how customers purchase household products that are cost effective towards their budget. The organization began to work collaboratively with manufacturers to promote the Amazon Basics brand. While Amazon may not directly manage the outlets or factories where the items are manufactured, through the Amazon brand name in the retail industry, other products such as batteries, HDMI cables, clothing and other stationery goods account for substantial portion of its market share. The simplicity of the branding bears the Amazon Basics inscription. This creates a unique type of branding, separating Amazon as an organization while focusing on supporting

households to become decisive in purchasing affordable items. The branding creates a sort of memory which etches in the minds of customers by identifying firstly with the Amazon Basic brand on sight, secondly, with a view of the product in need, the customer can make decisions regarding their need to purchase goods. According to Wassan et al (2021) assertion, online stores like Amazon provide a website for consumers to understand the pointers regarding their need to purchase assorted items. The research establishes that over 90% of online shoppers are likely to use several shopping platforms to purchase affordable and high-quality products.

A notable argument about the algorithms developed at Amazon are known as a proprietary license to safely keep its successful components that are technically enviable by its competitors. Some of the demerits of this licensed algorithm names such as A9 or A10 prevent academic study to understand how the computational methods gather data driven by a need to maximize sales and revenue. Data centers are used for storing high-level data that can be used in parallel with real-time requirement, known algorithms such as regression analysis for sales forecasting can enable authors/researchers to understand the implementation process, aims and results of studies. With regards to Chen et al (2016) empirical research, it confirms that customers are still unaware of how prices are set on products. While customers may feel as though the obtain their monies worth from purchases, they misunderstand how the AI application searches for items with best matching prices therefore customers are presented with products the algorithm may have inaccurately calculated as competitive price for their purchase.

A9 is rated as a well-resourced tool for Amazon, prepacked with variables like keys and values which customers are notably more likely to search for and buy. Amazon customers are known to engage with the online platform system by delving into the intrinsic aspects of the web portal where they can find their needs. This is evident as Amazon shoppers do not intend to fulfill their needs through an initial page display offering unbeatable prices which they feel may just be a form of advertisement. Re and Beatrice (2020).

The available literature states that Amazon places profit maximization at the center of its core business operations, therefore creating a registered algorithm which certainly comprises of a selected mix of industry led algorithms like classification algorithms for analyzing customer segmentation can be attributed to open-source code samples which are majorly available through dynamically commercial trade systems.

The internet community has assumptions about how organizations can now sift information through network layers in real-time mode, in lieu of analyzing extensive amount of data available via cloud. The Amazon algorithms A9/A10 does not extensively cover the data mining process, instead it provides a list of beneficial experiences from using the online shopping platform.

In 2017, Amazon played an active role in merging and acquiring several companies with operations in various sectors. The aim to control and manage the business affairs of other organizations increases its market share while strengthening the brand image as a guiding foundation to the organization's achievements. The level of engagement between customers and Amazin sellers forms the link on how generating revenue by constantly updating sellers on how to adopt new and smarter ways to trade online. Fo

eBay- one of Amazon's biggest competitors trades as an auction site where sellers can make a profit from a sale or set a fixed price for items which can be afforded by buyers. Amazon uses a different approach which follows a set markup price for any required product. The key difference between Amazon and eBay entails how Amazon includes both sellers and buyers as one entity while eBay allows sellers to follow set rules.

Ethical considerations

Amazon uses several methods to manage its business functions, aimed at progressively maximizing its revenue and making the web app tool an interactive shopping experience for customers. Notably, Amazon claims to gather details that can help meet consumer needs, not what other commercial activities it may use obsolete data for. Dastin (2022) research covers
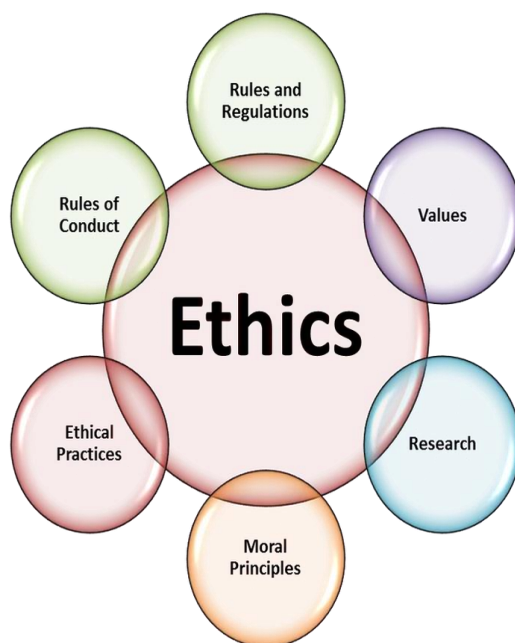
some ethical aspects where granular AI data were trained to be of preference. Most recently Amazon embarked on the development of a recruitment tool to remove any technical issues with hiring preferred candidates, the application chose men over women based on its set algorithms which gave women a lower score. To mitigate against unauthorized software testing of corporate applications, there are penalties for testing recruitment websites for vulnerabilities which can show how certain groups are hired.

Sales authority

The aim is to provide a marketplace that consists of high-quality and affordable products, Amazon ranks its sellers based on their previous activities which include the stock levels and the feedback received by sellers. Higher priority is mostly given to sellers that have been trading for several years. This means that an Amazon account can be easily converted to begin sales on the site as they may consider making a profit while overlooking important trade laws on how their sellable products are sourced. To maintain high-level integrity in doing business, Amazon has restrictions in place for the types of items that can be placed on sale. New sellers will usually go through a process of maintaining their accounts over a certain period. The process allows Amazon

to maintain its customer base by only including those they feel are trustworthy to engage in commercial business activities.

Sales history

A marketplace account with a high number of sales is mostly ranked above other sellers. The primary concern about reviewing sales history does not consider what types of products the reviews are linked to. Sellers can sell a list of products available at wholesale price as single items to gather extensive reviews from a list of the same products packed in units. New buyers on the Amazon site may follow instructions on how to get the best deals after viewing a seller's page that has been trading for years, the same product may have always sold at the original price as a standard item. Amazon does not bear responsibility for its after sales activities. Even though customers' payments are processed through its online payment system, in the even when goods are received and contain defects, Amazon addresses the issue by advising customers to deal with manufacturers directly as they are only responsible for the sales. Tanya (2022). Referring customers to manufacturers does not foster a strong relationship between Amazon and its end-users known as customers as customers are more likely to return to their point of sale without any knowledge of a specialist department tasked with resolving issues with i.e., electronic repairs of defective gadgets.

Impressions

The more clicks and time spent to read product specifics count towards how a seller is rated. In non-technical terms, when users are interested in a product, they may decide to click on the item, automatically this is usually counted towards expressing interests in a particular product. The challenges with the algorithm cannot differentiate between products that users may have bought in the past, so it focuses on any product that is clicked on. In turn, this can create false perceptions of sellers by allowing them to think their business will certainly be successful based on the number of impressions they receive on their products. An example of ensuring that impressions are genuinely targeted towards a product of interest should include the specifications

on how it can be measured that a customer's impression equates to an interest in purchasing an item. It can be understood that the packaging of an item does not reflect its quality until the actual product has been through use.

Click through rate (CTR)

The algorithm takes keywords and processes them through a search feature. The focal point is to gather the number of impressions the page result displays. Those results are obtained from the user input, on click of the display results, ranking is provided to place the product as a valuable/essential item that is well regarded by customers. The flaw of the algorithm can allow users to click through product listings at random, therefore he results obtained by Amazon can be a mix of users who were interested in the products versus users who may have had no personal intention of making an online purchase. As the algorithm simply implies, customers may click through a list of product listings without bearing in mind the effect of their online shopping activities. Most recent research conducted by Fan et al (2022) described how Amazon integrates user feedback with the display of products and its information. The method allows a user to gain an overview of feedback from other buyers so that decisions can be made towards purchase. It can be argued that Amazon originally focuses on positive feedback from its customers as it is an effective way to promote the organization's brand.

Advantages of Amazon's adoption of AI

Personalized product recommendations

The AI application built by developers at Amazon considers the challenges customers can experience on an ecommerce site that bears similarities with a physical store layout. To simplify the complexities of online shopping, Amazon utilizes features in the form of Bookmarks, by using options like "Recommended for you," products a customer may be interested in purchasing and a list of products bought by other customers. The AI backed strategy ensures that a purchase is made prior to exiting the web page. The aim to streamline shopping products makes the web

portal a site that can be navigated easily via options already embedded with valuable data that can help reduce time constraints in shopping online.

Alexa powered voice shopping

The assistive tool supports users in parsing information verbally to an AI generative tool built into a hardware device. Available in 15 languages, 80 countries and can explore up to 100,000 skills which are trained by Amazon AI models to record information and search through a list of databases to provide information as requested by a user. Since 2014, Alexa's invention was known to have technical problems which were enhanced through software patching and maintenance. The enhancements have allowed the AI tool to remain competitive by accounting for over 20% of Amazon's market share.

Continuous learning

Alexa functions by retrieving information from a user while the data is processed through Natural Processing Language, even though Alexa has never been trained to provide response to the

request, it retains specific keywords that is further analyzed so that developers can expand on their high-level datasets with the inclusion of newly added datasets. The importance of the feature allows users to make use of the wealth of knowledge pre-built into the Alexa AI application. The responses are engaging based on providing valuable information while maintaining data integrity that are accurately beneficial in finding products.

Limitations of generative AI at Amazon

Cloud capacity management constraints

In association with a list of custom-built software applications to expedite rigorous tasks, Amazon experiences the challenges of adequately storing data for use when needed. With its dynamic service on offer to other businesses, Amazon may have extended its resources more than it can robustly manage through opening new accounts for businesses that are yet to understand its practicability towards their business operations. As an ongoing process, Amazon will continuously seek new methods to create data warehouses/centers that can efficiently manage complex amount of data that can assist in achieving its position as a market leader within the retail/ecommerce industry and tech giant providing services to startups.

Integration challenges

Microsoft 365 has an acclaimed success with organizations who thrive on collaborating with internal and external stakeholders. Amazon plans to diversify its business activities by the development of its own Chatbox Q. The AI application will allow organizations to migrate to a new form of collaboration which may be significant to the application already in use. The project's core limitation will cause a delay in business operations as organizations may first want to know the added value focused on maximizing revenue. Although the AI application may thrive with new businesses financed by Amazon, it may be almost impossible for companies to adopt a new method of working when the current process can only be affected at the expiration of a commercial business contract.

*Increased operational challenges*

With the emergence of AI and how most companies have business components that can be managed by AI, Amazon customers may experience issues with navigating through services that are needed by their business. The disarray of a wealth of automation tools that can replace human capabilities may prove to be a financial setback for organizations who intend to promote their brand image via purchasing high powered AI applications, that may become obsolete in the future. Interestingly, a fully-fledged AI application without the required amount of training and development can yield a minimum use of the system. The solution to managing operational capability will require companies to invest in AI in parallel with creating user manuals that business owners can use as a reference guide to manage their Amazon business activities.

Future of Amazon's generative AI

Summarizing streaming programs

AI seeks to allow innovative ideas to thrive at Amazon, whereby users can focus on other important daily activities without any concerns about missing television programs. The generative AI at Amazon will allow users to access interesting snapshots of scenes that they find aligned to their viewership. This can help limit those other areas of a program for research purposes.

Traditionally, a recap feature can be enabled through a pause and play feature. With generative AI, users have options which can range from reading the subtitles and screenplay without watching the movie in its entirety to recording scenes or highlights that are of interest to the viewer.
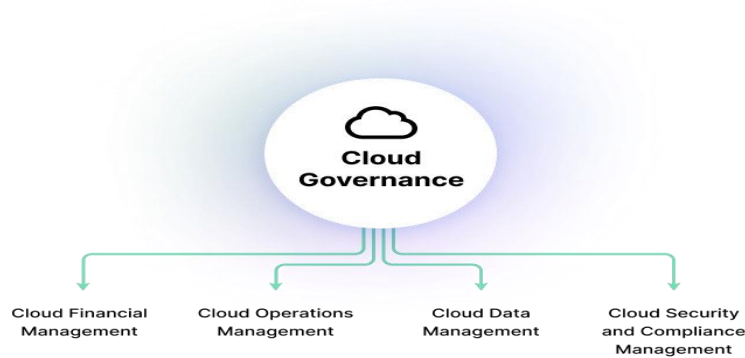
Cloud Adoption across the globe

Modern day style of business entails the need to retain and restore information at required intervals. It is noteworthy to state that there are organizations that still remotely store valuable data that can be found within a reachable distance. Amazon AWS aims to provide high-level cloud computing services to both organizations and developing countries that require accurate data to understand its GDP performance and how they can adopt new and smarter ways of working, mostly through the adoption of cloud computing that can be effective in managing large, complex and computer readable data encoded by proprietary programming languages.

According to Amazon research, cloud computing contributed over $1 Trillion to the global economy in 2013 which cloud hosted data management gained approximately $98 Billion. Increasingly, the next few years will oversee how organizations plan new seamless methods to efficiently manage their data in alignment with real time reporting of information on a need to view or use basis. The objective to maintain substantial amounts of data remains at the forefront of Amazon's business operations. Details as simple as a Customer's favorite color can be populated across multiple databases, while this sounds technically possible, AI will further simplify the data storage by retaining the Key = "Colour" and Value = "Blue" as one entity that can be curled from an API without searching through multiple databases to find a single line of information.

Thoughts and ideas

The emergence of AI has brought about dynamic methods of completing activities. While humans are concerned about the likelihood of lack of engagement with work, AI is predominantly geared towards providing best practices solutions that can expedite how businesses achieve their aims and objectives. The need to gather and retain data which can be made available in real time will entail the inclusion of AI as a new technology that is well suited to how companies plan to operate as a competitive measure. Supportively, AI is industry-wide and can be applied to any forms of business operations which can allow integrations with other software components that are not embedded with AI applications. Noteworthily, in the future AI may function as an intermediary between high-level systems and other newly developed systems that are soon to be a common name in the software industry.

References

Chen, L., Mislove, A. and Wilson, C. An Empirical Analysis of Algorithmic Pricing on Amazon Marketplace. Proceedings of the 25th International Conference on the World Wide Web. Accessed: Jan. 14, 2025. [Online]. Available from: https://dl.acm.org/doi/abs/10.1145/2872427.2883089

Dastin, J. Amazon Scraps Secret AI Recruiting Tool that Showed Bias Against Women. Ethics of Data and Analytics. www.taylorfrancis.com Accessed: Jan. 14, 2025. [Online]. Available: https://www.taylorfrancis.com/chapters/edit/10.1201/9781003278290-44/amazon-scraps-secret-ai-recruiting-tool-showed-bias-women-jeffrey-dastin

Maio, N. and Beatrice, R. Introduction to the Amazon algorithm. How Amazon's e-commerce works? 2020 [Online]. Accessed: Jan. 14, 2025. Available: https://www.econstor.eu/bitstream/10419/260664/1/1758046880.pdf

Tanya, M. Amazon as a Seller of Marketplace Goods under Article 2 [Online]. Available: https://heinonline.org/HOL/LandingPage?handle=hein.journals/clqv107&div=17&id=&page=

Wassan, S., Chex, X., Shen, T., Waqar, M. and Jhanjhi, NZ. Amazon Product Sentiment Analysis using Machine Learning Techniques. International Journal of Early Childhood Special Education (INT-JECSE).

www.revistacliniccapsicologica.com Accessed: Jan. 14, 2025. [Online]. Available:

https://www.revistaclinicapsicologica.com/archivesarticle.php?id=394

Zifang, F., Dan, O., Yulong, G., Bairan, F., Xiang, L., Wentian, B., Xin-yu, D., Xiaoyi, Z., Tao, Z., Quinqwen, L.

Through Rate Prediction in E-commerce Search: Proceedings of the Fifteenth ACM International

Conference on Web Search and Data Mining [Online]. Accessed: Jan. 14, 2025. Available:

https://www.citethisforme.com/cite/sources/websiteautociteeval