AI in Product Management
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Lecture - 57
Benchmarking and Adjustments using AI

Thank you. Welcome to this NPTEL online certification course on artificial intelligence in product management. Now, we will talk about module 57, and we are discussing benchmarking and adjustments using AI. So, this is module 57 in part 12, which is managing performance with AI. So, to give you an overview, we will start with understanding the concept of product benchmarking.

We will explain how to use product benchmarks, then we will understand the benefits of integrating AI in product benchmarking, and then explore how AI can benefit various product benchmarks, metrics, and KPIs. So, to give an introduction, benchmarking is the process of screening, selecting, and analyzing comparable companies. It is a time-consuming and resource-intensive task for analysts. A significant portion of the time spent on this process goes toward preparing transfer pricing documentation, where analysts must sift through large volumes of data to identify suitable comparables.

Even with advancements in database quality, which now offers a rich array of quantitative and qualitative data, the sheer volume of potential comparables that analysts need to review can be overwhelming. Given the increasing capabilities of artificial intelligence, many are beginning to explore how AI could streamline and automate parts of the benchmarking process. AI has the potential to significantly reduce the time and effort involved in identifying and analyzing comparables by enhancing data processing, improving decision-making, and automating repetitive tasks. So, benchmarking today.

Today, human analysts select comparables based on a multitude of factors, some of which cannot be reliably applied with the screens built into current databases. A case in point is the business description of potential comparable companies. The database frequently lacks the desired granularity. They are incorrect or simply missing, and business descriptions for private companies often lack specific information on the company's functions and assumed risks. For these reasons, analysts usually must review the company's annual reports or at least the information presented on the company's website to perform the benchmarking.

Parts of the process can already be automated. For example, using Visual Basic for Applications, an event-driven programming language developed by Microsoft. A professional can build customized applications to obtain a series of hyperlinks for a company's website from an Excel worksheet, open them in a browser, and copy the opened pages into a PDF file. All that is left for the analyst to do is review the saved pages. Now we will look at product benchmarking.

The benchmarking process uses different parameters, which are the product benchmarks themselves. These parameters, also known as product performance benchmarks, are usually presented in percentage form and make it easier for companies to match their product performance to that of their competitors. These benchmarking studies are a form of external benchmarking since the comparison is being made to something outside of the company. Internal benchmarking, by contrast, is when the company compares a product's present and past performance side by side. Benchmarking is a crucial part.

of product management and development as it provides insights to improve current product as well as help develop new products that are more likely to succeed. Now, let us look at how to use product benchmarks. Using product benchmarks efficiently enable businesses to maintain a continuous improvement cycle by mentioning their product relative performance. and identify areas for enhancements. To implement an efficient benchmarking process, companies can incorporate certain techniques and tactics into their methodology.

The first is to create a user journey map. A user journey map visually represents the typical customer experience through a product funnel, helping businesses understand the key touchpoints and interactions customers have with the product. Making the journey provides valuable insights into their focus, into where friction occurs and helps identify opportunities to improve the user experience. The typical user journey map includes four main phases. First is awareness, the stage where potential customers first learn about the product.

Second is consideration when users evaluate the product and assess its value. The third is conversion, the phase where users take action, such as making a purchase or signing up. And fourth is adoption, the stage where users bring to regularly use the product and integrate it into their routines. By visualizing these phases, companies can identify critical areas for improvement and streamline the customer experience. The second is to overlay

metrics throughout the user journey to track the performance of their product and company and compare it against competitors.

Businesses must identify key metrics. And overlay them across the user journey. Different metrics are relevant at different stages. So, let us start with the first one, which is activation-related metrics. Collected during the consideration and conversion phase, these metrics track user engagement and initial actions.

Then there are retention-based metrics, measured during the adoption phase. These metrics focus on user engagement over time, such as customer retention rates, churn rates, and product stickiness. By analyzing these metrics at each stage, businesses can gain a clear picture of where they are excelling and where improvements are needed. The third is to implement continuous testing. Benchmarking is an ongoing process, and continuous testing is crucial for obtaining accurate results.

Businesses should first create hypotheses—develop testable hypotheses about what changes or features might improve product performance at specific stages of the user journey. Run experiments: conduct A/B tests or multivariate experiments to test different variations and see how changes affect user behavior. Then comes evaluating results: analyze the data to determine whether the changes lead to improvements and assess the overall impact. Repeat the process.

Benchmarking should be iterative with user testing and adjustments based on real-time data and performance trends. This cycle of testing and optimization ensures that products are always evolving based on user feedback and data. The fourth is use the right tools. Use the right tools to ensure that the product benchmarking process is accurate, efficient and scalable. Businesses need to integrate the right tools into their tech stack.

Tools that are designed to help businesses streamline their benchmarking efforts by tracking performance, creating data, collecting data across key metrics and touchpoints, enabling businesses to monitor product performance in real time. Running experiments, automating the process of A-B testing and multivariate testing allow businesses to quickly evaluate different variations. Generating actionable insights. providing data-driven insights and that inform product improvements and help businesses prioritize the most impactful changes. Scaling efforts?

support testing and analysis at scale, ensuring that the benchmarking process can grow as the product and business expands. By incorporating these tools, businesses can optimize

their benchmarking process, gain valuable insights, and continuously improve their product performance. Now, let us look at the benefits of integrating AI in product benchmarking. Product benchmarking offers several key benefits for businesses seeking to improve their offerings and stay competitive in the market. By comparing their product to industry leaders and competitors, companies can uncover valuable insights that derive improvement in product performance, customer engagement, and overall market positioning.

With AI, these benefits can be significantly enhanced, making benchmarking more efficient, data-driven, and actionable. So let us start with first, improved market awareness and trend identification. AI-driven tools can automate the monitoring of competitors and market trends in real-time, enabling businesses to quickly identify emerging features or shift in consumer behavior. AI can analyze vast amount of data including competitor products update, customer sentiments, and industry reports, providing businesses with

timely insights to stay ahead of the curve this allows companies to quickly adapt their products to meet changing market demands while also identifying outdated features for removal the second is competitive advantage ai can analyze key metrics such as activation rates and user engagement across competitors providing businesses with a deeper understanding of how their product performs related to others ai power tools can even predict areas where A product might fall short, allowing businesses to prioritize improvement based on data. By automating competitor analysis and performance tracking, AI helps businesses focus on the most impactful areas for gaining a competitive edge. The third step is data-driven decision-making. AI enables businesses to make more precise data-backed decisions by automating the analysis of benchmarking data.

Machine learning algorithms can identify patterns and correlations that may not be obvious to human analysts, providing actionable insights for product development and strategy. AI helps businesses continuously evaluate product performance, ensuring that businesses are informed, ensuring that decisions are informed by real-time accurate data. The fourth is enhanced product stickiness. AI can improve product stickiness, that is the ability of the product to retain users over time by analyzing user engagement data and identifying features that drive long-term retention.

By using predictive analytics, AI can suggest personalized enhancements to product features that are more likely to keep users engaged. This data-driven approach helps businesses optimize their products for higher user satisfaction and loyalty, improving retention and overall engagement. Fifth is continuous improvement and innovation. AI

helps drive continuous improvement by enabling businesses to monitor product performance and competitor innovation on an ongoing basis.

AI tools can automate the detection of emerging trends and new features, ensuring businesses are always informed about changes in the market. Sixth is better business processes. AI-driven benchmarking extends beyond product features to optimize business processes. By analyzing data from internal operations, continuous interactions, and competitors' benchmarks, AI can identify inefficiencies and recommend process improvements. This can lead to better workflows, customer service strategies, and product development cycles, enhancing overall business performance.

The seventh is increased customer satisfaction. AI can uncover insights from user feedback and sentiment analysis, helping businesses identify what customers value most in their products and where improvements are needed. By processing large amounts of qualitative data, AI can pinpoint pain points and provide actionable recommendations to enhance the user experience, boosting customer satisfaction and reducing churn. The eighth is strategic positioning and market differentiation.

AI helps businesses refine their strategic positioning by analyzing both internal and external data to assess where they stand in the market. AI can identify unique selling points by comparing product features and customer sentiments across competitors. This data-driven approach to market differentiation ensures that businesses are better tailored, businesses can better tailor their messaging and value propositions to attract and retain customers. Now let us look at product benchmark metrics and KPIs and we will start with the first one that is the activation rate.

This refers to the percentage of users who have completed a key action while using the product. This action will in turn help them experience the product's full potential or value. Measuring activation rate can be a tricky thing since different companies could have different definitions of what an activation benchmark is for their products. AI can play a significant role in identifying and optimizing activation behaviors for users By analyzing user behavior patterns, AI algorithms can first personalize onboarding.

Machine learning models can predict which users are more likely to complete key actions and provide them with tailored onboarding experience to improve activation rates. Then comes predictive analytics. AI can identify which users cohorts are most likely to activate or churn, allowing businesses to proactively target these users with specific interventions, for example, reminders and personalized content, etc. Then comes segmentation.

AI can segment users based on their activation likelihood, enabling team to adjust their strategies for different groups, new users, free trial users, etc. Second is product stickiness. This is the type of engagement index that measures what portion of the users use the product regularly. Product stickiness helps product managers understand usage cycles and patterns for different product different customer segments. So, product stickiness ratio is DAU upon AU into 100 where DAU stands for daily active users and MAU stands for monthly active users.

Analyze usage patterns and engagement data more effectively than traditional methods for product stickiness. User segmentation and behavior prediction. AI can identify patterns in how users engage with the product and predict long-term retention based on early actions. This can help teams identify which features or users cohort have the highest stickiness.

The next comes churn prediction. AI models can identify the sign of potential churn early, allowing companies to take action, e.g., offering personalized content or support, before users drop off. Then comes contextual recommendations. Machine learning algorithms can offer personalized recommendations to users, enhancing stickiness by suggesting features or content that keep them coming back. The third is feature adoption rate.

This is the percentage of users that adopt specific features on the app or product. A high feature adoption rate is usually indicative of great customer satisfaction. If the adoption rate is low, managers might want to look into what is stopping the customers from taking their usage to the next level. AI can provide insight into why some features get adopted more frequently. Actively than others and suggest adjustments to increase adoption.

The first is user feedback analysis. AI can analyze user feedback, for example, surveys, reviews, and support tickets to identify friction points in the adoption process or areas where users are struggling with a feature. A-B testing and experimentation. AI can help. Run continuous dynamic A-B tests, adjusting feature presentations and messaging to optimize adoption rates.

The next is targeted interventions. By segmenting users who haven't adopted certain features, AI can recommend personalized interventions such as tutorials or in-app messages to drive adoption. The fourth is free-to-paid conversion. This is the percentage of users who have upgraded from their free account to a paid subscription. Some SaaS companies offer new users a free trial before giving

them the opportunity to convert to paying customers, others offer a free tier option with limited functionality. AI can optimize the conversion process by analyzing user behavior, predicting when users are ready to upgrade, and delivering the right incentive at the right time. For that, predictive modeling can be used. AI can predict which free users are most likely to convert to paid plans by analyzing their usage patterns and interactions. Based on this, businesses can prioritize leads and offer personalized conversion incentives.

The next can be dynamic pricing and offers. AI can assist in creating personalized pricing models, special offers, or trial extensions that are tailored to the likelihood of conversion, increasing the chance of a successful upgrade. Next comes automated retargeting. For users who show signs of dropping off before converting, AI can trigger

automated emails or in-app notifications with targeted offers to drive conversion. The fifth is Net Promoter Score. This is a customer loyalty metric that measures the likelihood that a customer will recommend a product or service to another person. It is measured simply by using surveys to ask customers to rate this likelihood on a scale of 0 to 10 With 10 being the most likely, based on that score, customers are categorized as promoters, detractors, and passives.

AI can improve the accuracy and actionability of NPS by analyzing customer feedback at scale and identifying underlying drivers of customer satisfaction or dissatisfaction. So, we start with sentiment analysis. AI-driven natural language processing can analyze open-ended feedback from customers. Identifying common themes or sentiments that correlate with high or low NPS scores. Predictive analytics can predict NPS scores based on user behavior data, enabling businesses to take corrective actions before customers provide feedback.

Customer Segmentation: AI can help segment customers by NPS scores, promoters, passives, and detractors, and identify targeted strategies to improve loyalty among detractors or nurture promoters. The sixth is user retention. This metric shows the rate at which a customer will continue to use the product after a period of time or after the trial period is over. Managers can measure retention rate based on users or

time-based calculations, allowing managers to uncover retention rates after a specific date or within custom periods. AI can assist in improving retention by helping businesses understand the factors that contribute to users continuing to use or abandoning the product. First is churn prediction: by analyzing historical data, AI can predict which users are at risk of churning. allowing for proactive management, like AI suggesting personalized actions

such as offering discounts or customer support interactions. Then comes personalized engagement. AI can deliver personalized content or notifications based on user behavior, improving user retention by ensuring that the product is always relevant and engaging. Cohort analysis.

AI can segment users by retention patterns and identify key moments. where users are likely to drop off. So, to conclude this module, we have discussed the concept of product benchmarking. Thereafter, we explained how to use product benchmarks. We also discussed the benefits of integrating AI into product benchmarking.

Finally, we discussed product benchmark metrics and KPIs and how AI can help with them. These are some of the references from which the material for this module was taken. Thank you.