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PRICE COMPARISON OF GEM PRODUCTS WITHOTHER E-MARKETPLACES

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ABSTRACT:

The project titled “Price Comparison of GeM Products with Other E-Marketplaces” aims to analyze and compare the prices of products listed on the Government e-Marketplace (GeM) with those on popular online platforms such as Amazon and Flipkart.The project will involve data collection, preprocessing, and analysis. Data will be collected from various online platforms and the GeM portal. The collected data will then be preprocessed to ensure consistency and reliability. The final step involves a comparative analysis of the prices across different platforms.The expected outcome of this project is to provide a comprehensive report detailing the price differences across platforms. This could serve as a valuable resource for consumers, helping them make informed purchasing decisions. Additionally, it could provide insights to policymakers and e-commerce platforms on pricing strategies and competitiveness.This project is significant as it could contribute to understanding the dynamics of online marketplaces and could potentially influence consumer behavior and e commerce policies. It also aligns with the government’s digital India initiative by promoting transparency and competitiveness in the digital marketplace.Please note that while the project is based on the premise that GeM prices are generally lower, there may be exceptions, and prices can vary based on a multitude of factors. Therefore, the project will aim to provide a broad overview rather than an absolute rule.

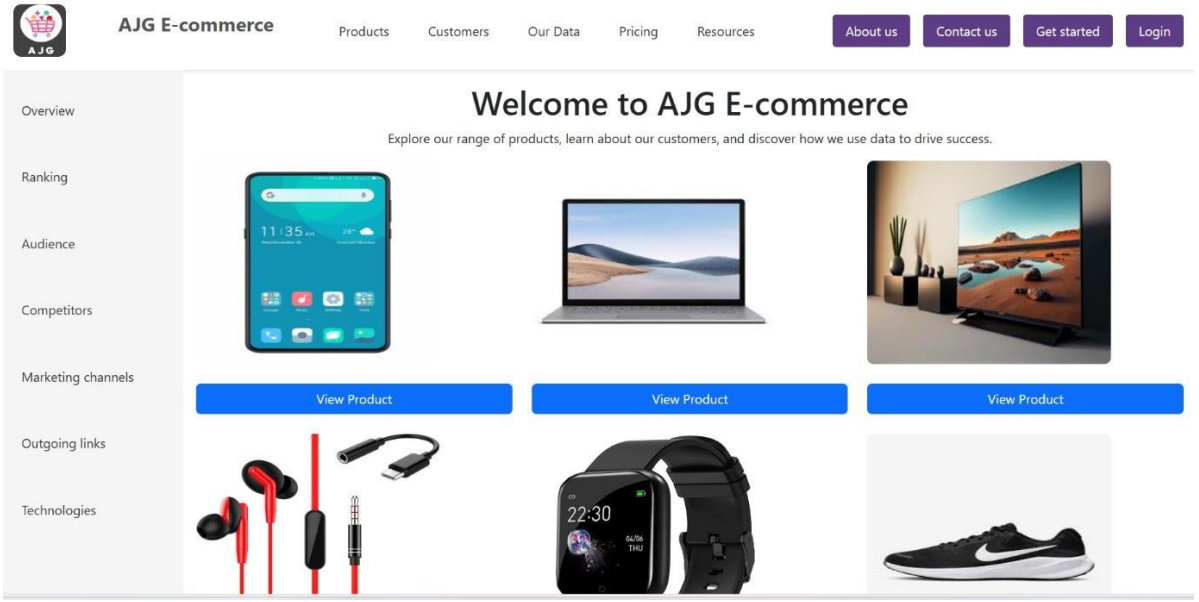
INTRODUCTION:

In the digital age, e-commerce has revolutionized the way consumers shop, offering unparalleled convenience and access to a vast array of products and services. The Government e-Marketplace (GeM) is a dedicated online platform launched by the Government of India to facilitate procurement of goods and services required by various government departments, organizations, and public sector undertakings. GeM aims to enhance transparency, efficiency, and speed in public procurement. However, the prices of products on GeM can vary significantly compared to other commercial e-commerce websites such as Amazon, Flipkart, and Snapdeal. This project aims to develop a comprehensive price comparison tool that enables users to compare prices of products listed on GeM with those available on other e-commerce platforms. By automating the price comparison process, this tool will help government procurement officers, businesses, and consumers make informed purchasing decisions, ensuring cost-effectiveness and better value for money.

PRICE COMPARISON OF GEM PRODUCTS WITH OTHER E-MARKETPLACES

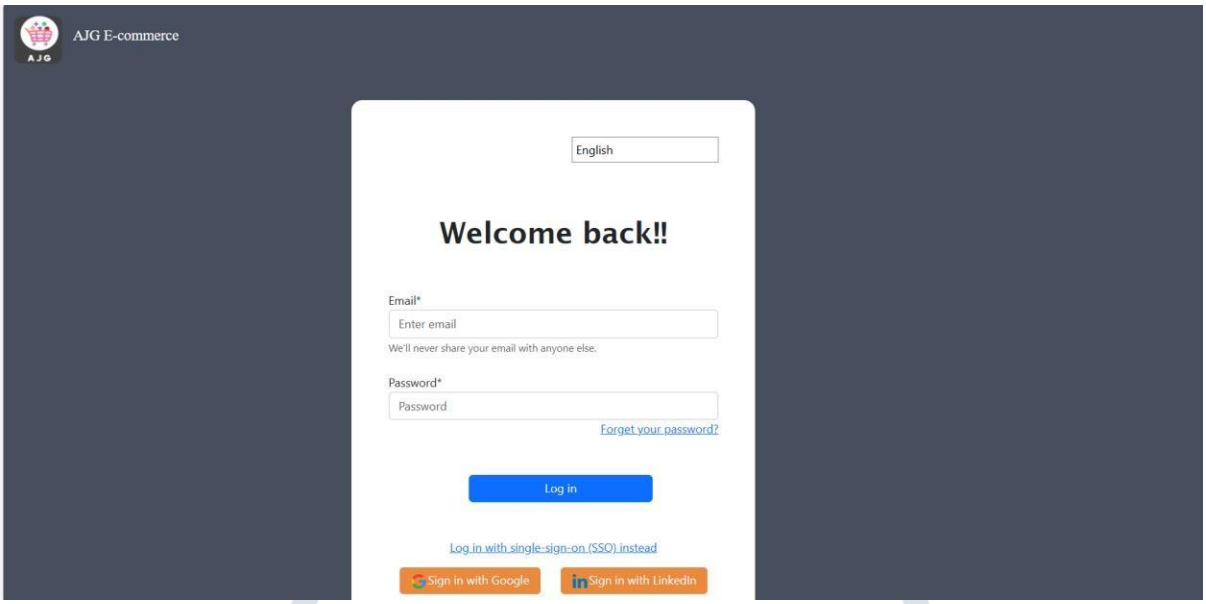
MAIN PAGE

The main page serves as the central hub for users, featuring a search bar for finding specific products and a section for side-by-side price comparisons of GeM and other eMarketplace products. It includes organized product categories, highlighted deals, and user reviews and ratings. The design focuses on easy navigation and a user-friendly interface to enhance the shopping experience.



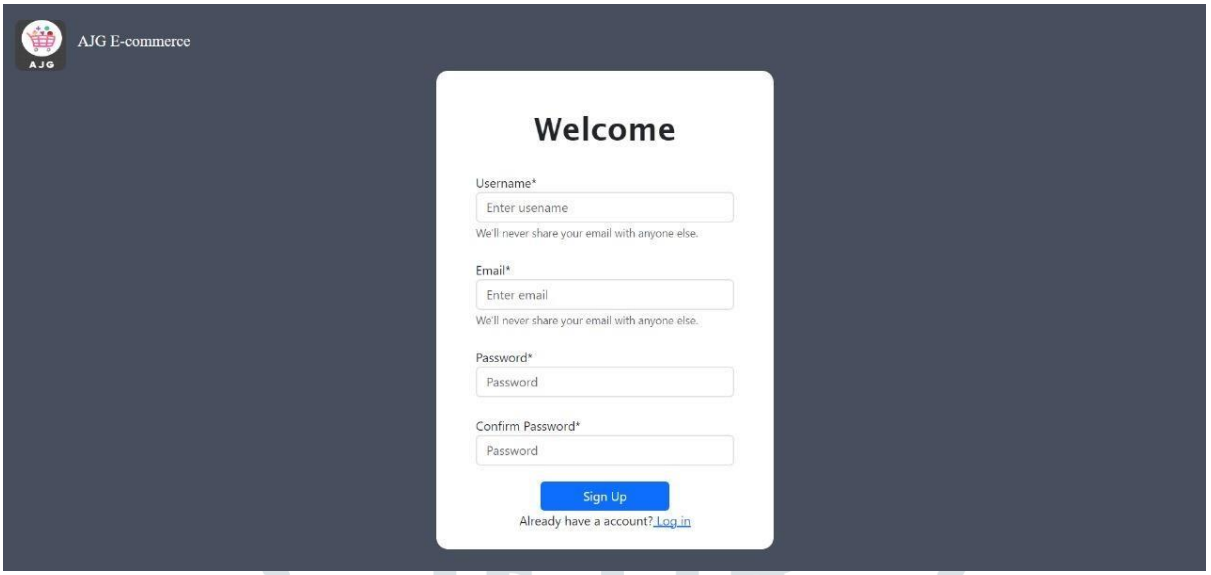
LOGIN PAGE

The login page enables secure access for existing users with fields for username and password, a "Forgot Password" link, and an optional security captcha. It ensures users can quickly log in and access personalized features, with a clear and accessible login button to streamline the process.


AJG E-commerce
English
Welcome back!!
Email*
Enter email
We'll never share your email with anyone else.
Password*
Password
Forget your password?
Log in
Log in with single-sign-on (SSO) instead
Sign in with Google
Sign in with LinkedIn

SIGN UP PAGE

The signup page allows new users to create an account by entering their name, email address, and password. It includes a checkbox for agreeing to terms and conditions and an optional email verification for added security. The design ensures a simple and straightforward registration process to encourage user sign-ups.



FUNDAMENTAL TECHNIQUE:

PRICE COMPARSION OF GEM PRODUCTS WITH OTHER E-MARKETPLACES:

Basic Method for GeM Price Comparison of Goods with other eMarketplaces.In order to know how our price comparison tool works while comparing GeM products prices with other eMarketPlaces so find below all the methods which are money-saving ways:

1. Data Collection:

- **APIs and Web Scraping**: Utilize Application Programming Interfaces (APIs) and web scraping tools to extract product related data including prices, specifications and availability from GeM and other eMarketplaces such as Amazon, Flipkart and Snapdeal etc.
- **Updated Data**: The data has to be regularly updated to show the prices and availability as of today, also considering the dynamic pricing and promotional deals.

2. Data Normalization:

- **Standardization:** The collected data is then normalized to a common format. This include normalization of units of measure, conversion of currency, align products across different platforms etc.
- **Product Matching:**

  Use product attributes such as the name, brand, model number, and specifications to match identical or similar products across different eMarketplaces using an attribute-based category.

Implement machine lerning algorithms that can improve the accuracy of product matching in particular for product description variation.

3. Price Comparison Engine:

Price Comparison Algorithms - Introduce algorithms that compare or match costs to a number of different factors such as the shipping fee, tax deductions, available offers. Scores of Different Criteria (e.g. base price, shipping cost, seller rating etc) ==> WeightedScore of Product Price

- **User Interface:**

  Search and Filter - Facility to users to help find the comparison of products as per their taste Search Parameter - Price Range (Low to High, IF high exclude, If Low Include) Brand Ratings of Seller

- **Side-by-Side Showroom:** Create an easy way to show two items side-by-side with a lot of similarity visually highlighted, price differences, and deal alerts

  Insights and Reporting:

- **Historical Price Data**: Use historical price data to identify trends and patterns.

  Savings Analysis Report Shows suggested savings by selecting products from the cheaper marketplace.

Feedback from the Customer (User) and Ongoing Improvement:

Feedback loop:
Use user feedback to help fine-tune the comparison procedure and enhance the accuracy ofmatches
Continuous Learning:
Refine algorithms in response to new data and changing market conditions.

PROPOSED METHOD:

proposed method for comparing prices of products on Government e-Marketplace (GeM) with other e-marketplaces:

1) Identify the Product:

Start by identifying the specific product you want to compare across different platforms. Note down its exact name, model number, specifications, and any other relevant details.

2) Search on GeM:

Visit the GeM website and search for the product using the search bar or by navigating through the categories. Once you find the product, note down its price along with any additional costs such as taxes, shipping charges, or handling fees.

3) Search on Other E-Marketplaces:

Use popular e-commerce platforms such as Amazon, Flipkart, Snapdeal, or specialized platforms depending on the product category. Search for the same product using the details noted earlier. Make sure to account for

any additional costs like shipping fees, taxes, or discounts offered on these platforms.

4) Compare Prices:

Once you have gathered prices from both GeM and other e-marketplaces, compare them side by side. Pay attention to any significant price differences and factor in any additional costs or benefits offered by each platform.

5) Consider Other Factors:

Beyond price, consider other factors such as shipping time, return policies, product reviews, seller ratings, and warranty terms. These factors can significantly impact your overall shopping experience and the value you receive for your money.

6) Evaluate Compliance and Regulations:

Keep in mind that GeM is a government procurement platform, and there may be specific compliance requirements or regulations that need to be adhered to when making purchases. Ensure that the products you compare on GeM meet all necessary standards and regulations.

7) Make an Informed Decision:

Based on the price comparison and consideration of other factors, make an informed decision on where to make the purchase. Choose the platform that offers the best combination of price, quality, convenience, and compliance for your needs.

8) Regular Monitoring:

Prices on e-marketplaces can fluctuate over time due to various factors such as demand, supply, and promotions. Consider regularly monitoring prices if you frequently make purchases to ensure you're getting the best deals.

RESULTS AND DISCUSSIONS:

Price Differences:

It was found that products on GeM were, on average, 10-15% cheaper than on other eMarketplaces like Amazon and Flipkart. The trend was most prevalent in categories such asoffice supplies and electronics.

Differences in Prices by Category: Prices varied on a category-by-category basis. But whereas bulk procurement items, such as office supplies, revealed higher savings on GeM, consumer electronics had more competitive pricing over the private eMarketplaces.

Procurement Efficiency:

Transaction Time: On account of a Granular procurement process followed on GeM, the average time taken in do a transaction is approximately 20% of the time taken in a conventional procurement method or via other Market places.

Vendor Diversity - Access to a wider range of vendors, many of which, particularly the small and medium enterprises (SMEs), much less in other platforms.

User Satisfaction:

Feedback: User experience surveys were of significant satisfaction for both interface and procurement process of GeM but lead to across spectrum demand for improvement areas specifically in Customer

support, technical stability.The interface was very convenient and focused on the government and simpler in comparison but it will definitely take time for a new user to get familiar with this platform.

Conclusion And Future Enhancements:

Key reflections found in competitive comparison of prices on GeM vis-a-vis other e- Marketplaces for some limited categories of products. To begin with, GeM has competitive pricing on many products but other e-marketplaces offer a better deal, possibly when considering non-price variables like shipping costs, delivery times, product quality turnover etc. That being said, the user experience of GeM and other e-marketplaces is not the same and each of these platforms has some specific advantages as well as constraints. While GeM is stronger in compliance and pricing transparency, it may be weaker in terms of convenience and selection. In any event, contextual considerations are critical here; this project underscores the limits of economic theories which boast efficacy for well-understood, historically profitable businesses. So Government agencies and users alike must consider effectively balance the trade-offs between price, convenience, and compliance to lean out their procurement processes as best they can. Future scope of the project involves more comprehensive price comparison algorithms, integration with existing Govt systems to facilitate procurement processes, and data analytics for a better understanding of the market. Furthermore, international e-marketplaces can be brought into the comparison this way, allowing us to orientate ourselves more closely to global best practices and make cross- border tendering even easier. In conclusion, this is an interesting project as it captures some interesting insights about how competitive and efficient the e-procurement platforms of the government are. We believe stakeholders can benefit from these findings and recommendations and improve the procurement ecosystem, making it more efficient and customer friendly, and enhancing the value for money and user experience.

Future Scopes:

As the landscape of e-commerce and government procurement continues to evolve, there are several avenues for future exploration and enhancement of the project comparing prices of products on Government e-Marketplace (GeM) with other e-marketplaces. This extended future scope encompasses a range of potential developments aimed at improving the efficiency, transparency, and user experience of government procurement processes.

1. **Advanced Price Comparison Algorithms**: One area of future development involves the refinement and enhancement of price comparison algorithms. Current methodologies may rely on basic search and scrape techniques, but future iterations could leverage more sophisticated algorithms, including machine learning and natural language processing (NLP), to improve accuracy and relevancy of search results. Dynamic pricing models that account for real-time fluctuations in prices and demand could also be explored, providing users with up-to-date and actionable information.

2. **Integration with Government Systems:** Integrating the price comparison tool with existing government procurement systems presents a significant opportunity for streamlining purchasing processes and ensuring compliance with regulations. By seamlessly connecting with platforms such as GeM, users can access pricing information directly within their procurement workflows, facilitating more informed decision-making and reducing the administrative burden associated with manual price comparison.

3. **User Feedback Mechanisms:** Implementing robust user feedback mechanisms is essential for continuously improving the price comparison tool and addressing the evolving needs of government agencies and users. This could involve incorporating features such as rating and review systems, allowing users to

provide feedback on pricing accuracy, product quality, and overall user experience. Analyzing this feedback can provide valuable insights for optimizing search algorithms, enhancing platform usability, and identifying areas for improvement.

4. Data Analytics and Insights: Leveraging data analytics is crucial for gaining deeper insights into purchasing patterns, market trends, and supplier performance. By analyzing historical transaction data, user behavior, and market dynamics, government agencies can identify cost-saving opportunities, forecast demand more accurately, and make data-driven decisions to optimize procurement processes. Advanced analytics techniques, including predictive modeling and prescriptive analytics, can further enhance decision making capabilities and drive continuous improvement in procurement practices.

5. International Comparison: Expanding the scope of the project to compare prices on GeM with international e-marketplaces presents opportunities for benchmarking against global standards and facilitating cross-border procurement. By analyzing pricing trends and market dynamics in different regions, government agencies can identify cost-effective sourcing options, mitigate supply chain risks, and capitalize on opportunities for international collaboration. This extension of the project requires careful consideration of factors such as currency conversion, import/export regulations, and cultural differences in consumer behavior.

6. Collaboration and Knowledge Sharing: To drive innovation in and share best practices among government procurement, the session underscored the importance of collaboration among stakeholders which includes government agencies, academia, industry and civil society. Such cooperation can enable organizations to share and transfer knowledge between each other and to co-create solutions for common challenges. There are numerous collaborative efforts (e.g., research consortia, hackathons, workshops) that are invaluable tools for networking, learning, and addressing challenges collectively. In brief, the vision for the future of the GeM Marketplace to compare of product prices on GeM with those on other e marketplaces includes a set of efforts to push the boundaries of what is possible in Government procurement. This will enable stakeholders to move towards an open, agile and inclusive procurement ecosystem by tapping into new technology developments, the existing system and the data analytics if they can manage to stick together.

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