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A Study on the Influence of Mobile Apps on Omnichannel Retail Success

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ABSTRACT: This research explores the rising role of mobile applications in omnichannel retail and their influence on consumer behaviours, decision-making, and retail performance. Mobile apps are increasingly becoming the touchpoint that connects physical and digital shopping experiences, offering convenience, personalization, and real-time access. A primary survey among 103 respondents—mainly young adults aged 18–25—revealed strong usage patterns favouring electronics and apparel purchases through apps. Features like digital payments, app-exclusive offers, and product comparisons significantly impact consumer trust and loyalty. Statistical tests (Chi-Square, ANOVA) showed that factors such as age and income did not significantly affect mobile app usage. The study emphasizes the growing universality of mobile commerce and provides strategic insights for retailers to optimize mobile-first omnichannel experiences.

KEYWORDS: Mobile Shopping Apps, Omnichannel Retail, Consumer Behavior, Retail Technology, Digital Payments

I. INTRODUCTION

The fusion of digital and physical retail channels has reshaped the shopping experience. Mobile applications serve as the bridge connecting online convenience with offline interaction, empowering customers to research, purchase, and engage across multiple platforms. With increased smartphone penetration and internet access, mobile apps are not only enhancing personalization but also streamlining payment and fulfilment processes.

In today's omnichannel world, mobile apps allow seamless transitions from browsing to buying, offering services like BOPIS (Buy Online, Pick Up In-Store), AR-based product previews, and instant digital payments. While the benefits are vast, challenges such as app retention, data privacy, and platform competition persist. This study investigates how mobile apps shape modern retail experiences and impact consumer preferences in the omnichannel context.

II. PROBLEM STATEMENT

Retailers are investing heavily in digital integration, yet there remains uncertainty about how effectively mobile apps influence customer behavior and retail performance. Specifically, there is a gap in understanding how features like price comparison, in-app discounts, and digital payments drive store visits and loyalty.

This study explores whether customers trust mobile apps, use them to inform offline purchases, and how demographic variables influence this behavior. It also examines the operational and strategic issues retailers face in leveraging mobile platforms as part of their omnichannel strategy.

II. LITERATURE REVIEW

1.Verhoef et al. (2015) emphasized that omnichannel retailing integrates all channels to deliver a unified experience. They argued that seamless transitions between online and offline platforms improve customer satisfaction. This study supports the idea that mobile apps are essential to such integration.



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2.Grewal et al. (2020) found that over 70% of e-commerce transactions now happen on mobile apps. Mobile platforms are more engaging due to personalization and quick access to information. Retailers are investing heavily in mobile-first strategies to boost sales and retention.

3.Kim & Kim (2022) explored how gamification and loyalty rewards in apps increase user engagement. Personalized offers and app-exclusive benefits lead to higher repeat purchases. Young consumers respond more positively to interactive app features.

4.Gefen & Straub (2004) highlighted the importance of trust and data security in mobile commerce. Customers hesitate to use apps if they fear payment fraud or privacy violations. Retailers must ensure secure transactions and transparent policies.

III. OBJECTIVES OF THE STUDY:

1. To analyze the role of mobile apps in omnichannel retail integration:

This includes linking in-store, app, and website experiences for seamless shopping. The study evaluates how apps enhance convenience and continuity across platforms.

2. To examine consumer behavior in using mobile apps for shopping:

This covers frequency of usage, preferred products, and decision-making triggers. The study also investigates the role of AI and notifications in influencing choices.

3.To assess trust and satisfaction in mobile app usage for retail:

The objective is to understand perceptions about payment security and app reliability.

It further checks if trust impacts loyalty and repeated usage.

4. To identify challenges faced by retailers in mobile commerce.

Issues include app development cost, user retention, and integration with offline systems.

The study provides insights into overcoming these barriers for better outcomes.

HYPOTHESES:

1.H_{0a} (Null Hypothesis):

- Monthly income does not significantly influence customers' decision to visit a store based on mobile app usage.
- The perception of mobile apps impacting store visits is assumed to be income independent.
- This was tested using one-way ANOVA to validate any difference across income groups.

H_{1a} (Alternate Hypothesis):

- Monthly income significantly influences customers' decision to visit a store through mobile app influence.
- It assumes income plays a role in app-based retail decisions.
- A significant result would indicate income-based behavioral differences.

2.H_{0b} (Null Hypothesis):

- There is no significant association between age group and usage of mobile apps to compare prices before shopping offline.
- This hypothesis assumes uniform price-checking behavior across age segments.
- It was tested using a Chi-Square test to examine association strength.

1.H_{1b} (Alternate Hypothesis):

- There is a significant association between age group and use of mobile apps for price comparison.
- This proposes that younger or older customers may differ in how they use mobile apps.
- A significant result would suggest age-tailored marketing strategies are needed.



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IV. RESEARCH METHODOLOGY

1. Research Design:

The study adopts a descriptive and exploratory design to analyze consumer behavior in mobile commerce. It focuses on how mobile apps contribute to omnichannel retail success. Both qualitative insights and quantitative analysis were applied.

2. Sampling Technique:

Stratified random sampling was used to include diverse demographics like students, professionals, and homemakers. This ensured varied perspectives from age, income, and occupation groups. The final sample size was 103 respondents.

3. Data Collection Methods:

Primary data was collected through a structured questionnaire with close-ended questions.

Secondary data was gathered from journals, company reports, and market research databases. Tools like SPSS and Excel were used for statistical analysis.

4. Target Respondents:

The respondents included students, working professionals, business owners, and homemakers. Most participants were aged between 18–25, representing tech-savvy mobile users. They provided insights on usage behavior, preferences, and trust.

5. Statistical Tools Used:

ANOVA was used to test income group influence on store visits based on mobile app usage.

Chi-Square tested associations between age and price comparison behavior.

Spearman's correlation checked the relationship between online and offline satisfaction.

6. Scope and Limitations:

The study covers mobile app influence in retail, especially within omnichannel frameworks. It is limited to a specific region and demographic—mostly young adults. Responses may carry bias due to self-reporting and sample size.

V. RESULTS AND INTERPRETATION (SUMMARY)

Test Type	Variables Compared	Statistical Value	Result	Interpretation
ANOVA	Income vs Store Visit Influence by Mobile Apps	$F = 2.49$, $F(\text{crit}) = 2.70$	Not Significant	Income does not influence mobile apps' effect on store visits
Chi-Square	Age vs Mobile App Price Comparison	$\chi^2 = 0.629$, $p = 0.889$	Not Significant	Age does not affect use of price comparison tools in mobile apps



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VI. SUGGESTIONS

1.Target Student Demographics

Offer exclusive discounts, referral programs, and cashback for students. Leverage peer influence and student networks for promotion. Mobile marketing campaigns should focus on convenience and value.

2.Enhance In-App Personalization

Use AI to offer tailored product recommendations and push notifications. Show personalized deals based on browsing and purchase history. This can improve engagement and repeat purchases.

3.Strengthen App Features for In-Store Use

Integrate services like “Buy Online, Pick Up In-Store” (BOPIS) and in-store QR scanning. These bridge physical and digital shopping experiences seamlessly. They also drive store visits through app interactions.

4.Build Consumer Trust in Mobile Payments

Use secure gateways and highlight encryption and fraud protection clearly. Educate users on transaction safety and app privacy policies. Display security badges to build confidence.

5.Optimize User Experience (UX)

Improve app speed, layout, and navigation for better usability. Include larger fonts, voice search, and multilingual support for older users. Ensure responsive design across all devices.

6.Promote Real-Time Offers and Inventory Alerts

Send instant notifications when prices drop or items are back in stock. Use geo-fencing to push nearby store deals. This boosts app activity and drives urgency-based purchases.

VII. CONCLUSION

This study highlights the growing importance of mobile apps as a key driver in the success of omnichannel retailing. Mobile applications have become essential tools that offer convenience, personalized recommendations, seamless payment options, and the ability to connect online and offline shopping experiences. Consumers, especially young adults aged 18–25, show a strong preference for using mobile apps to purchase electronics and clothing, compare prices, and receive real-time discounts and notifications.

The research findings reveal that demographic factors such as age and income do not significantly influence mobile app usage patterns, indicating widespread acceptance across user groups. More than half of the respondents trust mobile apps for secure payments and believe that these platforms enhance their overall shopping experience. Features like BOPIS (Buy Online, Pick Up In-Store) and digital loyalty programs further demonstrate how mobile apps can boost both online engagement and physical store visits.

However, challenges remain, particularly in increasing adoption among older users, addressing data privacy concerns, and improving user retention. Retailers must focus on simplifying app interfaces, offering multilingual and accessible features, and unifying rewards across platforms to strengthen customer loyalty.

In conclusion, mobile apps are no longer just a digital convenience—they are central to shaping future retail strategies. Retailers that invest in intuitive, secure, and personalized mobile experiences will be better positioned to thrive in a competitive and digitally-driven market.

REFERENCES

1. Chopra, S. (2019) Supply Chain Management: Strategy, Planning, and Operation (7th ed.). Pearson Education.
2. Kumar, V., Dixit, A., Javalgi, R. G., Dass, M., & Choi, J. (2016). Digital transformation of retailing and its impact on value creation. *Journal of Business Research*, 69(1), 24–34.
3. EB.Venkateswara Prasad, Usman Mohideen, R Suresh,Internet Banking System – A Tool to Enhance Customer Loyalty in Self Service Technology Era” *International Journal of Current Engineering and Scientific Research*



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

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- (IJCESR) Vol. 4, Issue 4, April 2017, ISSN (Print): 2393-8374, ISSN (Online): 2394-0697, Pp 145-150, 57 with an Impact Factor 3.454. Kolkata
4. R Suresh , B.Venkateswara Prasad Problems & Prospects of Self-help Groups Micro Enterprise Activities and Its Impact on Empowerment with reference to Tamilnadu” in Pal Arch Journal of Archaeology of Egypt / Egyptology
 5. Usman Mohideen, B.Venkateswara Prasad, R. Suresh, An Analytical Study Consumers Buying Behavior towards Men’s Brand Apparel’ Purakala UGC Care Journal ISSN 0971 -2143, Vol 31, Issue 21- May, 2020, pp 967-971
 6. Usman Mohideen B.Venkateswara Prasad, R.Suresh An Investigation of Departments of Customer’s Shopping Behaviour Towards Select Hypermarket – An Empirical Study with reference to South India” International Journal of Management Studies, Volume IV, Special Issue 3, November 2017, Pp77-83.
 7. Usman Mohideen, B.Venkaeswara Prasad, R Suresh, Online Shopping Attitude and Behaviour – An Empirical Study With Special Reference to Select Professionals in Chennai City” International Journal of Marketing, Financial Services and Research, Volume 1 Issue 6 ,January 2017, Pp 49-57 with an Impact Factor 3.454. , ISSN NO: 2277-3622.
 8. Usman Mohideen, B.Venkateswara Prasad, R. Suresh, An Analytical Study Consumers Buying Behavior towards Men’s Brand Apparel’ Purakala UGC Care Journal ISSN 0971 -2143, Vol 31, Issue 21- May, 2020, pp 967-971
 9. Usman Mohideen B.Venkateswara Prasad, R.Suresh An Investigation of Departments of Customer’s Shopping Behaviour Towards Select Hypermarket – An Empirical Study with reference to South India” International Journal of Management Studies, Volume IV, Special Issue 3, November 2017, Pp77-83.
 10. Usman Mohideen, B.Venkaeswara Prasad, R Suresh, Online Shopping Attitude and Behaviour – An Empirical Study With Special Reference to Select Professionals in Chennai City” International Journal of Marketing, Financial Services and Research, Volume 1 Issue 6 ,January 2017, Pp 49-57 with an Impact Factor 3.454. , ISSN NO: 2277-3622.
 11. Sankar, Anitha V, Suresh R, Sivakumar R and Krishnan A.R. "Role of Incipient Influencers in Affecting Behavioural Intentions of Instagram Users." *Advances in Consumer Research* 2, no. 3 (2025): 429-438.
 12. Keerthana, B., & Karan Kumar, B. (2024). Role of content marketing in forming business strategies. *International Journal of Research in Management*, 6(2), 433–437
 13. R S Anantharajan, Venkata Krishnan “Consumer Preference towards Perfumes” International Journal of Multidisciplinary Research in Science, Engineering and Technology - DOI: 10.15680/IJMRSET.2024.0712245 ISSN NO 2582-7219
 14. V. Muthukumar, Study on consumer buying behavior towards e-commerce, ISSN: 0972-0766, Vol. XCIX, No.03, 2023, P-85
 15. Venkatesh, Dr P. "A Study on School Children’s Perception Towards Frequency of Visits And Selection Of Junk Food Retail Chain Store." *Natural Volatiles & Essential Oils*, ISSN (2021): 2148-9637.
 16. Venkatesh, P., et al. "PATIENTS PERCEPTIONS TOWARDS THE SERVICES OF THE HOSPITALS—A STUDY IN VELLORE DISTRICT, TAMILNADU." *World* 1.3 (2023): 0-4.
 17. Palraj, Venkatesh, and Murugan Krishnamoorthy. "A Study On Investors Perception Towards Systematic Investment Plan (SIP)." *International Journal of Accounting and Financial Management Research* 12.2 (2022): 53-58.
 18. Study on customer’s perception towards web application firewalls with special reference to Strongbox IT Private Limited." *Satraachee Foundation, Patna* 37.25 (2021): 191-197.
 19. Venkatesh, P., Dinesh S. Patel, and Maran Mari Muthu. "A Study On Customer Satisfaction Towards Home Loan With Reference To Vellore District." *Elementary Education Online* 19.2 (2022): 1950-1950.
 20. K.Murugan “A STUDY ON EFFECTIVENESS OF DIGITAL MARKETING IN FMCG WITH REFERENCE TO WEBBOOMBAA” ISSN NO: 2394-3114; Volume 40, Issue: 40(s1), January 2020, 185-190
 21. K.Murugan, “A Comparison of Lump sum and Systematic Investment plan with reference to Axis mutual fund” ISSN: 0090-5674, Volume-63, Issue-2s, October 2020.
 22. K.Murugan, “Patients Satisfaction Towards the Services of The Hospitals with Reference to Vellore District, Tamilnadu” ISSN: 0090-5674, Volume 13, Special Issue 8, November 2022.
 23. Parulatha, N., Vanitha, V., & Usha, S. (2025). Investigating trust and buying decisions in social commerce sales campaigns. *Academy of Marketing Studies Journal*, 29(5), 1-9 1528-2678-29-5-223.
 24. Suresh, V., Maran Chitra, and K. Maran. "A study on factors determining social media on cosmetic products." *Journal of Pharmaceutical Sciences and Research* 8.1 (2016)
 25. Suresh, Vetrivelvi, K. Maran, and Shanmuga Priya AR. "A study on the impact of affiliate marketing in e-business from the consumer’s perspective." *SP AR-International Journal of Engineering and Technology* 10.2 (2018): 471-475.



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26. Maran, K., J. Badrinarayanan, and P. Kumar. "A study on branded apparels customers purchase behavior with reference to India." *International Journal of Applied Business and Economic Research* 15.21 (2017): 215-221.
27. Maran, K., et al. "Data analysis on mobile payment technology with reference to users' behaviour of retail goods in India." *2021 4th International Conference on Computing and Communications Technologies (ICCCCT)*. IEEE, 2021.
28. Kootattu, Jayarajan, et al. "Customers Perception On Branded Apparels—An Empirical Study with Reference to Indian Men's Garments—Indian Market." *NEONATURAL VOLATILES & ESSENTIAL OILS Journal| NVEO* (2021): 8174-8180.
29. Venkatesh, P., Manikandan, M., Murugan, K., M., Ramu, M., & Senthilnathan, C. R. (2024, ber). The Pivotal Role Of Digital Marketing In The Global Net: A Comprehensive Overview. In 2024 International reference on Power, Energy, Control and Transmission ms (ICPECTS) (pp. 1-5). IEEE.
30. N, K., Priyadarshini, P., Senthilnathan, C. R., kandan, M., Kumar, R. G., & Ramu, M. (2024, October). Act of Artificial Intelligence on Global Healthcare Sector performance. In 2024 International Conference on Power, gy, Control and Transmission Systems (ICPECTS) (pp. EEE)
31. S. D., Kumar, V. M., Kumar, R. G., & Ramu, M. (2024, Elucidating Big Data Analytics by Using Marketing Mix ponents for Business Intelligence. In 2024 International reference on Communication, Computing and Internet of s (IC3IoT) (pp. 1-6).
32. Venkatesh, P., Murugan, K., Ramu, M., Manikandan, M., Senthilnathan, C.R., Krishnamoorthi, M.: A comprehensive investigation to examine the preferences and satisfaction levels of outpatients in relation to the quality of services provided by hospitals in the vellore district. In: 2023 Intelligent Computing and Control for Engineering and Business Systems (ICCEBS), Chennai, India, pp. 1–4 (2023)
33. M. Manikandan, P. Venkatesh, T. Illakya, M. Krishnamoorthi, C. R. Senthilnathan, and K. Maran, "The significance of big data analytics in the global healthcare market," *2022 International Conference on Communication, Computing and Internet of Things (IC3IoT)*, Apr. 2024, doi: 10.1109/ic3iot60841.2024.10550417.
34. M. Manikandan, R. K. Ch, K. M, M. Ramu and P. Venkatesh, "Neuro Computing-Based Models of Digital Marketing as a Business Strategy for Bangalore's Startup Founders," 2024 Third International Conference on Intelligent Techniques in Control, Optimization and Signal Processing (INCOS), Krishnankoil, Virudhunagar district, Tamil Nadu, India, 2024, pp. 1-3, doi: 10.1109/INCOS59338.2024.10527779.
35. Anitha, V., & Krishnan, A. R. (2022). Customer Intention Towards E-Grocery Shopping Apps Using TAM And UGT. *Special Education*, 1(43).
36. Digital assets for digital natives: Exploring familiarity and preference for cryptocurrency among millennials and Gen Z R. S. Lakshmi , K. Jawaharrani , S. Vijayakanthan , G. Nirmala , K. Dheenadayalan , S. Vasantha , *Journal of Autonomous Intelligence* (2024) Volume 7 Issue 3 doi: 10.32629/jai.v7i3.1054.
37. K. Jawaharrani, R. S. Lekshmi, G. Nirmala and K. Dheenadhayalan, "Role of CISO - Cyber Security & Risk Management," *2023 International Conference on Advances in Computing, Communication and Applied Informatics (ACCAI)*, Chennai, India, 2023, pp. 1-5, doi: 10.1109/ACCAI58221.2023.10200017.



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