

Digital Disruptions and Impact on Business Trend: A Study on Home Appliances Marketing

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Abstract

In recent years, the home appliances industry has undergone significant transformations driven by digital disruptions. These disruptions encompass technological advancements that are reshaping how products are marketed, sold, and experienced by consumers. From the rise of e-commerce and social media to the integration of smart technologies and data analytics, digital innovations are redefining consumer expectations and business operations. Various market trends, such as cloud technology, the rise of artificial intelligence, the accelerating adoption of the Internet of Things, growing social media influence, and the introduction of innovative small household appliances, are all contributing to the growth of the household appliances market. Here, we are exploring how digital approaches influence marketing trends. This study does not focus on a single product but encompasses major home appliances, such as smart home devices, that fall under the same umbrella. We utilized data mining techniques to support this study and applied detailed analysis to reach the conclusion that digital disruptions are pushing companies to adopt more sustainable practices and transparent communication, reflecting a growing consumer preference for eco-friendly and ethical brands.

Keywords

Digital Disruptions, Business Trend, AI & IOT, Smart Home Appliances, Marketing

Introduction

The household appliances market is experiencing substantial growth globally, driven by increasing urbanization, rising disposable incomes, and technological advancements that enhance product efficiency and convenience, aligning with evolving consumer lifestyles and the demand for smart home solutions. As consumers increasingly turn to online platforms for research and purchases, traditional marketing strategies are becoming less effective. Brands must now navigate a landscape where convenience, personalization, and engagement are paramount. The emergence of smart appliances—devices connected to the 'Internet of Things' has further shifted the dynamics of consumer interaction, prompting brands to market not just products but comprehensive lifestyle solutions. Additionally, digital disruptions are compelling companies to adopt more sustainable practices and transparent communication, reflecting a growing consumer preference for eco-friendly and ethical brands. The integration of augmented/mixed reality (AR/MR) and artificial intelligence (AI) into marketing strategies is transforming the shopping experience, allowing consumers to visualize products in their own spaces while receiving tailored recommendations. In this evolving landscape, understanding and embracing digital disruptions is crucial for home appliance brands aiming to remain competitive. This introduction paves the way for examining the different facets of digital disruptions and their influence on marketing strategies within the home appliances sector, highlighting the necessity for innovation and adaptability in an ever-evolving market.

Objectives

This study aims to determine how digital disruptions are effectively driving emerging marketing trends while fostering deeper connections with consumers through personalized marketing strategies and interactive platforms,

ensuring that brands remain relevant in their daily lives. We focus on how e-commerce platforms and digital channels expand market reach, driving online sales and attracting a broader customer base, including underserved markets. Nowadays, companies are implementing advanced analytics to gather insights into consumer behaviour and preferences. Additionally, they are integrating technologies like immersive reality (AR) and intelligent automation (AI) to elevate the shopping experience, allowing consumers to visualize products. These innovations are highly beneficial in providing tailored recommendations, allowing brands to effectively customize their offerings and marketing efforts. By focusing on these objectives, brands can successfully navigate the challenges posed by digital disruptions, positioning themselves for success in the dynamic home appliances market.

Literature

During the existing study we found some exiting elements that explains the way how significantly the industry is moving with the new definition of digital innovations, marketing strategy and customer driven product development. We explored how AI can be combined with other existing technologies within a company to analyze its business patterns. [1] As smart home services become more accessible, there remains a gap in understanding the factors that contribute to their ongoing use and how the integration of smart devices and services within the home environment affects individual well-being. [2] The case studies of one of the existing types of research discuss certain specific technology of industry 4.0 and with some specific industries. The results of case study found that overall performance (in terms of production, market and revenue) of the industries grow by use of this technology. They also wrote that how industry 4.0 is going to bring changes in the development of effective supply chain network, managing effective sales force, data-based decision making and designing better sales target. The present study gives a glimpse on the use of industry 4.0 and better sustainability of firms in the cutting-edge technology. The outcome of study made decision to claim that the use of computer vision, internet of things, robotics and artificial intelligence work for better functioning of operational and managerial dimension of the firms and also gives direction for the firms who are yet to apply this technology. [3] Another study says that the trends will be most familiar to digital marketers, but their relevance is expanding across the enterprise, starting with customer-experience, product, and channel management. [4] The integration of digital and physical experiences is creating new ways for businesses to interact with customers, by using digital information to augment individual experiences with products and services. Consumer demand is rising for products that are free, intuitive, and radically user oriented. And the rapid evolution of IT-enabled commerce is reducing entry barriers and opening new revenue streams to a range of individuals and companies.[5] The dissemination of innovations occurs both vertically across different layers and horizontally across various industries. The study also identified three primary threats that could cause a disruption, along with four fundamental strategies that can be applied when such a disruption occurs. [6] Competitive pressure refers to the intensity of competition within a business sector (Soewarno et al., 2020). As noted by Bernard et al. (2006), this pressure stems from companies contending with rivals in the commodities market, marked by frequent interactions aimed at attracting customers, increasing market share, or ensuring survival amidst stiff competition.[7] Over the past decade, business infrastructure has increasingly gone digital, fostering greater interconnectivity between products, processes, and services. Across various industries and sectors, digital technologies—comprising information systems, computing power, communication tools, and connectivity solutions are driving profound transformations. These technologies are reshaping business strategies, processes, organizational capabilities, product offerings, services, and the crucial relationships between firms within extended business networks. [8] One existing study showed that the obtained data on these firms through primary sources, including personal and remote interviews, as well as other forms of communication, to conduct a thorough research analysis. [9] In another research identified various stages of disruptive innovation in the retail sector of Yiwu, China as well. Notably, the shift in the traditional retail model, which was primarily focused on physical stores, was driven by several factors aimed at better positioning for global purchasing demands. According to Zaki (2019), the retail industry as a whole is on the brink of significant disruptive change. This creates a timely opportunity to initiate the next wave of value creation through digital transformation, which will encompass both new and existing market participants, as well as the integration of advanced technologies and digital solutions. [10] Business model innovators do not develop completely new products or services; rather, they reimagine existing offerings and enhance the ways in which these products and services are delivered to end consumers.[11] Research suggests that the Internet of Things (IoT) is not only improving the efficiency and effectiveness of digital marketing but also revolutionizing the consumer experience. This integration enables more dynamic, responsive, and personalized marketing strategies, significantly reshaping the interaction between brands and their customers. [12] The Industry 4.0 revolution is making the electricity landscape more complex than ever before, driven by the rapid advancement of disruptive technologies. [13] A solid understanding of digital trends, opportunities, and strategic directions is essential in driving successful digital transformation. [14] In recent years, a second wave of digital transformation has emerged, ushering in the fourth industrial revolution. The associated information and communication technologies have now become sufficiently cost-effective, allowing for their widespread application across various sectors. [15] Over the past three decades, the evolution of delivery and fulfilment methods has shifted from traditional e-commerce to the current model of

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quick commerce. This new model provides various modes of engagement and interaction for customers, who are increasingly channel-agnostic and prioritize convenience and a personalized retail experience. [16] One existing work paper introduced a Marketing Technology Acceptance Model (MTAM) designed for the development of digital marketing strategies and capabilities. The model incorporates key factors such as ease of use, perceived usefulness, perceived cost, expected return, efficiency, digital service quality, digital information quality, digital system quality, user attitude, and actual usage. [17] It provides an overview of a critical study focused on supply chain management and market research. [18] Another article explores the implications of five significant digital trends for global brand development and management: (i) the expansion of digital global sales channels, (ii) the co-creation of global brand strategies, (iii) greater transparency in brand activities across the globe, (iv) improved global connectivity among brand consumers, and (v) the Internet of Things. For each trend, the author explores significant changes occurring in the marketplace and suggests directions for future research. [19] One study presents empirical research findings on the complex interactions between marketing initiatives and their target audiences, utilizing various communication channels and methodologies. It employs statistical metrics and graphical representations to illustrate the growth and development of the digital marketing landscape, providing insights into industry-specific trends, geographic differences, and the financial investments made in this evolving field. Additionally, the article examines various Internet platforms that have significantly shaped the evolution of digital communications in the commercial sector. [20]

Research Method

Types of Digital Disruptions in Major and Minor Appliances Marketing

Digital disruptions are transforming marketing strategies across the home appliances sector, affecting both major and minor/small appliances in unique ways. Here's a breakdown of the types of disruptions for each category:

Major Appliances (e.g., refrigerators, washing machines, ovens)

E-commerce Revolution

Shift to Online Sales: Increased consumer preference for online purchasing of large appliances, facilitated by detailed product pages and virtual showrooms.

Home Delivery Services: Enhanced logistics and delivery services tailored for large items, improving customer convenience.

Smart Technology Integration

Connected Appliances: IoT-enabled appliances allow for remote monitoring and control, creating opportunities for brands to engage consumers through apps.

Smart Home Ecosystems: Marketing strategies emphasize compatibility with other smart home devices, encouraging consumers to buy into entire systems.

Data-Driven Insights

Consumer Behaviour Analysis: Advanced analytics help brands understand usage patterns, allowing for targeted marketing and product development.

Personalized Recommendations: Brands use data to offer personalized product suggestions based on consumer preferences and history.

Mixed Reality (MR) Experiences

Virtual Placement Tools: AR/MR apps allow consumers to visualize how large appliances will fit in their homes before purchase, reducing purchase hesitation.

Omni-channel Marketing

Integrated Shopping Experiences: Brands create seamless transitions between online and offline interactions, enhancing the customer journey.

Minor / Small Appliances (e.g., toasters, blenders, coffee makers)

Social Media Influence

Visual Marketing: Platforms like Instagram and TikTok enable brands to showcase minor appliances through engaging visuals and demonstrations, enhancing brand appeal.

Personalization and Customization

Product Customization: Brands are increasingly offering customizable minor appliances, allowing consumers to choose colours, features, and designs.

Targeted Promotions: Using data analytics, brands can tailor promotions based on consumer preferences and purchase history.

Interactive Customer Engagement

Real-time Feedback: Instant feedback mechanisms via social media and review platforms allow brands to adapt quickly to consumer preferences.

AI-Powered Customer Service

Chatbots and Virtual Assistants: These tools provide immediate support for inquiries and purchasing decisions, enhancing customer satisfaction for minor appliance users.

Technologies Used

The transformation brought about by digital disruptions in home appliances marketing relies heavily on various technologies, such as:

1. E-commerce Platforms

Online Retail Solutions: Platforms like Shopify, Magento, and WooCommerce enable brands to create user-friendly online stores.

Marketplace Integration: Brands leverage marketplaces like Amazon and eBay to reach a wider audience.

2. Data Analytics Tools

Customer Analytics: Tools like Google Analytics and Tableau help brands analyse consumer behaviour, track sales, and measure marketing campaign effectiveness.

Predictive Analytics: Software such as IBM Watson and SAS Analytics assists in forecasting trends and consumer preferences.

3. Artificial Intelligence

Personalization Engines: AI algorithms enable personalized product recommendations based on user behaviour and preferences.

Chatbots and Virtual Assistants: AI-driven chatbots provide instant customer support and product information on websites and social media platforms.

4. Augmented / Mixed Reality and Virtual Reality

AR Applications: Technologies like ARKit (Apple) and AR Core (Google) allow consumers to visualize appliances in their homes before purchase.

VR Showrooms: Platforms like Oculus provide immersive experiences where customers can explore products in a virtual environment.

5. Social Media Tools

Social Media Management: Tools like Hootsuite and Buffer help brands manage their social media presence,

schedule posts, and analyse engagement.

Influencer Marketing Platforms: Solutions like AspireIQ and Traackr connect brands with influencers to enhance marketing reach.

6. Customer Relationship Management (CRM) Systems

Data Management: CRMs like Salesforce and HubSpot help brands manage customer interactions, track leads, and personalize marketing efforts based on consumer data.

7. Mobile Technologies

Responsive Design: Technologies that ensure websites and e-commerce platforms are optimized for mobile devices, enhancing the shopping experience.

Mobile Apps: Custom mobile applications can facilitate easy access to product information, purchases, and customer support.

8. Blockchain Technology

Supply Chain Transparency: Blockchain can provide secure, transparent records of product sourcing and manufacturing processes, appealing to ethically-minded consumers.

9. Internet of Things

Smart Appliances: Connected devices that collect data on usage patterns, which can be used for targeted marketing and product improvements.

Consumer Engagement: These technologies allow brands to engage with consumers directly through connected appliances, offering personalized experiences.

10. Automation Tools

Marketing Automation: Platforms like Marketo and Mailchimp enable automated email campaigns, customer segmentation, and targeted messaging based on consumer behaviour.

We have used some advance machine learning algorithms to analyse the test data gathered from qualitative survey and pre-processed them to use in quantitative output

- Supervised Learning
- Decision Tree
- Qualitative survey

Dataset

Qualitative survey

We have used some of the important questions get feedback from trusted resources and which are most effective and also the most promising potential, FAQs for the global household appliances market by product type and factors for most emerging market trends.

1. Do you think digital influence are the major drivers for the growth of the household appliances market
2. Do you think that AI and IOT are impacting to determine the emerging trends in household appliances market
3. Do you believe that IOT driven monitoring is effective for household appliances?
4. If a renowned home appliance company offers ecofriendly products for all segments of users, will you buy that?
5. Are you using an ecommerce platform to buy any home appliances?
6. Do you agree that new technology driven appliances are more cost effective?
7. Do you think that with the changing demand of customers, companies are forced to change their way of product marketing?
8. If a company wants sales growth, do you think tech innovation is a major factor for that?

Analysis and Discussion

- From the results, we can easily conclude that a robust business model leveraging digital disruptions in home appliances marketing can enhance consumer engagement, optimize sales, and drive innovation.
- We can also assert that digital distribution channels have a positive effect on the marketing of home appliances.
- It is evident from the study that IoT-enabled appliances, which enhance convenience, energy efficiency, and user experience, are directly contributing to sales growth for major product companies.
- In the current competitive market, it is clear that the use of augmented and virtual reality tools is creating immersive shopping experiences, allowing customers to visualize products in their homes. This leads to effective improvements in marketing techniques and shapes newly innovated business trends.

Implications

Successfully implementing digital disruptions in home appliances marketing involves several strategic steps. Here's a comprehensive approach:

1. Companies should develop intuitive and user-friendly websites that showcase products with high-quality images, detailed descriptions, and customer reviews.
2. Use analytics to segment customers based on demographics, buying behavior, and preferences, and tailor marketing strategies to each segment.
3. A product company can leverage AI algorithms to offer personalized product recommendations by analyzing customers' past purchases and browsing history.
4. Create AR/MR experiences that allow users to interact with products virtually, enhancing engagement and reducing uncertainty.
5. Brands should ensure that online and offline experiences are integrated, allowing customers to seamlessly transition between them (e.g., buy online, pick up in-store).

Future scope

As digital disruptions continue to evolve, the future of marketing in the home appliances sector is poised for significant transformation. AI-powered chatbots will enhance customer service by providing real-time assistance, improving customer engagement and satisfaction. Companies will increasingly rely on machine learning to predict consumer trends, enabling proactive marketing and more efficient inventory management. Sustainable marketing strategies will focus more on eco-friendly products by promoting energy-efficient appliances through the use of green technologies. Blockchain technology can enhance trust by providing transparent and tamper-proof supply chain data, which can be marketed to environmentally conscious consumers.

Challenges

The entry of new players in the digital space has heightened competition, making it crucial for established brands to adapt quickly. Digital disruptions will lead to increased consumer expectations for seamless experiences, quick responses, and personalized interactions, creating pressure on brands to innovate continuously. However, with increased data usage comes the challenge of ensuring customer privacy and compliance with regulations.

Conclusion

Implementing digital disruptions in home appliances marketing requires a strategic and comprehensive approach. By leveraging technology, embracing data-driven decision-making, and focusing on customer experience, brands can enhance their market presence and drive growth in an increasingly digital landscape. Both major and minor appliances are experiencing significant digital disruptions, albeit in different ways. Major appliances are primarily influenced by trends in smart technology, data analytics, and sustainability, while minor appliances benefit from social media engagement, personalization, and interactive marketing strategies. Grasping these disruptions enables brands to customize their marketing strategies, enhance consumer engagement, foster ongoing innovation, and increase sales in a rapidly evolving environment. It has been proven that a focus on sustainability and an emphasis on personalized experiences will be crucial for success in the coming years.

References

1. Adoption of Artificial Intelligence and Cutting-Edge Technologies for Production System Sustainability: A Moderator-Mediation Analysis
Chatterjee, S., Chaudhuri, R., Kamble, S. *et al.* Adoption of Artificial Intelligence and Cutting-Edge Technologies for Production System Sustainability: A Moderator-Mediation Analysis. *Inf Syst Front* **25**, 1779–1794

- (2023). <https://doi.org/10.1007/s10796-022-10317-x>
2. The Impact of IoT Smart Home Services on Psychological Well-Being
Sequeiros, H., Oliveira, T. & Thomas, M.A. The Impact of IoT Smart Home Services on Psychological Well-Being. *Inf Syst Front* 24, 1009–1026 (2022). <https://doi.org/10.1007/s10796-021-10118-8>
 3. Business Sustainability and Growth in Journey of Industry 4.0-A Case Study
Patra, Gouranga, and Raj Kumar Roy. "Business sustainability and growth in journey of industry 4.0-a case study." *New Horizons for Industry 4.0 in Modern Business*. Cham: Springer International Publishing, 2023. 29-50.
 4. AI-empowered Knowledge Management
Majumder, Soumi, and Nilanjan Dey. *AI-empowered knowledge management*. Springer, 2022.
 5. Ten IT-enabled business trends for the decade ahead
Bughin, Jacques, Michael Chui, and James Manyika. "Ten IT-enabled business trends for the decade ahead." *McKinsey Quarterly* 13.May (2013): 1-13.
 6. Kalevi Kilkki, Martti Mäntylä, Kimmo Karhu, Heikki Hämmäinen, Heikki Ailisto, A disruption framework,Technological Forecasting and Social Change,Volume 129,2018,Pages 275-284,ISSN 0040-1625,<https://doi.org/10.1016/j.techfore.2017.09.034>.
 7. Impact of Advancement of Technology, Competitive Pressure, User Expectation on Continuous Digital Disruption: Mediating Role of Perceive Ease of Use
Addison, Sylvia. "Impact of advancement of technology, competitive pressure, user expectation on continuous digital disruption: mediating role of perceive ease of use." *Open Journal of Business and Management* 9.4 (2021): 2013-1079.
 8. Digital Business Strategy: Toward a Next Generation of Insights
Bharadwaj, Anandhi, et al. "Digital business strategy: toward a next generation of insights." *MIS quarterly* (2013): 471-482.
 - 9.Managing disruptive external forces in international marketing
Jeong, Insik, et al. "Managing disruptive external forces in international marketing." *International Marketing Review* 40.5 (2023): 936-956.
 10. Disruptive Innovation in the Context of Retailing: Digital Trends and the Internationalization of the Yiwu Commodity Market
Liu, Wan, and Steven Si. "Disruptive innovation in the context of retailing: digital trends and the internationalization of the Yiwu Commodity Market." *Sustainability* 14.13 (2022): 7559.
 11. A Review of the Impact of Disruptive Innovations on Markets and Business Performance of Players
Mookerjee, Joydeep, and O. Rao. "A review of the impact of disruptive innovations on markets and business performance of players." *International Journal of Grid and Distributed Computing* 14.1 (2021): 605-630.
 12. DIGITAL MARKETING IN THE AGE OF IOT: A REVIEW OF TRENDS AND IMPACTS
Okorie, Gold Nmesoma, et al. "Digital marketing in the age of iot: a review of trends and impacts." *International Journal of Management & Entrepreneurship Research* 6.1 (2024): 104-131.
 13. The effects of disruptive technologies on power utility company's performance; empirical evidence from Indonesia
Strengers, Yolande, et al. "Digital technology and energy imaginaries of future home life: Comic-strip scenarios as a method to disrupt energy industry futures." *Energy Research & Social Science* 84 (2022): 102366.
 14. Surviving Disruption and Uncertainty Through Digital Transformation: A Case Study on Small to Medium-Sized Enterprises
Fan, Qiuyan, and Nipa Ouppara. "Surviving disruption and uncertainty through digital transformation: A case study on small to medium-sized enterprises (SME)." *Moving businesses online and embracing e-commerce: Impact and opportunities caused by COVID-19*. IGI Global, 2022. 1-22.
 15. The evolutionary and disruptive potential of Industrie 4.0
Winter, Johannes. "The evolutionary and disruptive potential of Industrie 4.0." *Hungarian Geographical Bulletin* 69.2 (2020): 83-97.
 16. Chapter 14 - Digital retail—key trends and developments
Zhang, Lina, and Mikko Hänninen. "Digital retail—Key trends and developments." *The Digital Supply Chain*. Elsevier, 2022. 237-254.
 17. Smart Digital Marketing Capabilities for Sustainable Property Development: A Case of Malaysia
Low, Sheen, et al. "Smart digital marketing capabilities for sustainable property development: A case of Malaysia." *Sustainability* 12.13 (2020): 5402.
 18. Recent trends in supply chain management of business-to-business firms: a review and future research directions
Shrivastava, Santosh. "Recent trends in supply chain management of business-to-business firms: a review and future research directions." *Journal of Business & Industrial Marketing* 38.12 (2023): 2673-2693.
 19. Global Brand Building and Management in the Digital Age

Steenkamp, Jan-Benedict EM. "Global brand building and management in the digital age." *Journal of International Marketing* 28.1 (2020): 13-27.

20. Digitalization Strategies for Marketing Communications to Build Relationship Marketing: Modern Solutions in Brand Management

Morokhova, Valentyna, et al. "Digitalization strategies for marketing communications to build relationship marketing: Modern solutions in brand management." *WSEAS Transactions on Environment and Development* 19 (2023): 1231-1245.