Journal of Posthumanism

2025
Volume: 5, No: 2, pp. 37–50
ISSN: 2634-3576 (Print) | ISSN 2634-3584 (Online)
posthumanism.co.uk

DOI: https://doi.org/10.63332/joph.v5i2.390

Harnessing AI for Faster Innovation: How AI Concept Generation Impacts Development Timelines and Market Agility

Dr. Karamath Ateeq[1], Dr. Turki Al Masaeid[2], Hany Selim[3], Dr. Nidhi Oswal[4], Amer Ayada Ayoub Alkubaiusy[5], Dr. Rachid Alami[6], Saeed Mohamed Ghuloum Ajdoobi[7]

Abstract

This paper examines the impact of AI-driven concept generation on development cycles and market responsiveness. As organisations face pressure to innovate rapidly, AI is increasingly leveraged to accelerate product ideation, streamline prototyping, and enhance decision-making. This study explores whether AI-driven concept generation reduces time-to-market while maintaining product-market alignment. This research synthesises existing literature and industry case studies on AI applications in product management, supply chain optimisation, and business model innovation. Drawing on interdisciplinary perspectives, it critically evaluates AI's role in automated design exploration, data-driven decision-making, and market validation. A theoretical lens grounded in organisational behaviour and technology adoption frameworks underpins the analysis. AI-driven concept generation substantially reduces development cycles by enabling rapid prototyping, data-informed ideation, and real-time customer feedback loops. AI enhances firms' adaptability to market fluctuations by automating design exploration and improving strategic decision-making. However, the effectiveness of AI-generated concepts is contingent on data quality, human oversight, and organisational integration. While AI fosters efficiency, its benefits predominantly accrue to larger firms with robust AI infrastructure, potentially reinforcing industry concentration. This paper contributes to the discourse on AI in organisational behaviour by synthesising insights across multiple domains. It provides a nuanced understanding of AI's role in product innovation and strategic agility, offering implications for managers, policymakers, and researchers.

Keywords: *Artificial Intelligence, Concept Generation, Market Responsiveness, Product Innovation, Organizational Behavior, AI Ethics, Business Model Innovation*

Introduction

Background and Problem Statement

The growing market demand for speedy product development and alteration is among the most significant business challenges. In a competitive environment where consumer trends change rapidly, organisations must develop quickly to stay relevant and at the top regarding marketplace positioning. Babina et al. (2024) and De Silva & Alahakoon (2022) state that companies investing in AI witness considerable sales, employment, and valuation growth, predominantly

[1] Skyline University College, Email: karamath.ateeq@skylineuniversity.ac.ae
[2] Abu Dhabi School of Management Abu Dhabi, UAE Email: t.almasaeid@adsm.ac.ae
[3] Management Department, Faculty of Business, Liwa College, Abu Dhabi, 1201 Sweet Palace building , Al Zahiyah area Abu Dhabi, UAE. Email: hanidscs@gmail.com
[4] HRM Department, Faculty of Business , Liwa College, Saeed Bin Ahmed Al Otaiba Street, Al Danah Area, PO Box 41009 Abu Dhabi, UAE. Email: nidhioswal78@gmail.com
[5] Ajman University P.O.Box: 346 Ajman, United Arab Emirates Email: amer.ayoub@ajman.ac.ae
[6] Abu Dhabi School of Management P.O Box 6844 Abu Dhabi, UAE Email: r.alami@adsm.ac.ae
[7] University Mohamed V Avenue des Nations Unies, Agdal, Rabat Maroc B.P:8007. N.U Email: aldoubi23@gmail.com

through increased product innovation. Nevertheless, conventional product development processes are hindered by long ideation phases, labour-intensive prototyping, and poor decision-making and, therefore, suffer in terms of lengthy time-to-market.

Traditional concept and product development processes rely on iterative prototyping, human imagination, and careful testing in the marketplace, which require a lot of time and resources. In the view of Ogundipe et al. (2024), AI-facilitated product management optimises every stage in a product life cycle, beginning with ideation and ending with launch, through automation of ideation processes and application of fact-based intelligence. Organisations not leveraging AI in such processes will fall behind rapid and flexible competition leveraging rapid prototyping and predictive analysis.

AI-driven concept creation addresses such inefficiencies through ideation automation, prototyping acceleration, and heightened marketplace responsiveness. Zatsu et al. (2024) say that AI technology maximises processes, product quality, and innovation during concept development in food and other industries. With AI technology in concept development, companies can effectively reduce development cycles, seek new and innovative forms, and make goods and services increasingly relevant to marketplace demand (Aldoseri et al., 2024; Jam et al., 2014). In addition, increased use of AI-powered innovation means increased demand for companies to use AI in developing their goods and services. Thus, this study considers AI-facilitated concept development and its potential for increased efficiency, reduced development cycles, and increased marketplace reaction.

Research Question and Objectives

The current study examines whether AI-facilitated concept development decreases development times and improves responsiveness to the market. The study has three overall objectives to address this issue:

Investigate the role of AI-powered concept creation in minimising development cycles. Jorzik et al. (2024) argue that AI-powered business model innovation reduces development times through the determination of market opportunity and ideation simplification.

Examine how AI promotes heightened responsiveness in the marketplace through rapid prototyping and decision-making with a basis in data. Haleem et al. (2022) state that AI-powered marketing strategies build strong customer relations through personalised experiences with predictive analysis.

Identify the weaknesses and constraints of AI in innovation and product development. As Perifanis (2023) theorises, despite added business value, companies face governance, resource coordination, and strategical implementation.

Research Gap and Justification

Existing research tends to target specific AI applications and not its overall contribution towards efficiency and responsiveness in terms of its impact on development cycles and time-to-market efficiency. Most studies strongly emphasise AI's contribution to automation, predictive analysis, and design optimisation but not its overall contribution to shortening development cycles. AI aids in supply chain optimisation, but its contribution towards efficiency in terms of time-to-market is not yet understood, according to Joel et al. (2024). There is a lack, therefore, of a general examination of AI's contribution towards simplifying the overall development process through concept generation with AI.

Furthermore, there is little work on AI's function in decision-making and its function in enhancing adaptability in the marketplace. Babina et al. (2024) note that AI-facilitated development is concentrated in big companies and aids in industry concentration. Nevertheless, the specific processes through which AI aids decision-making and marketplace positioning must be understood in detail. This paper analyses AI-facilitated insights and rapid prototyping in developing flexible development and marketplace positioning.

Furthermore, there is a lack of coherent research on AI-facilitated innovation processes and organisational behaviour. Ukoba et al. (2024) state that AI has immense potential to aid decision-making in intricate systems, an example being renewable energy. These models have not, however, been used for new product development and ideation. The study builds on our understanding of AI's transformational potential in organisational behaviour by investigating its potential to speed up ideation and reduce the time used in new product development.

Therefore, this work is supported by its contribution towards a new field of studies in AI application in new product development, reaction in the marketplace, and responsiveness in organisations. By closing gaps in present studies, this article brings valuable information to organisations interested in leveraging AI-facilitated concept creation for productivity, shorter times to market, and competitiveness in transforming industries.

Literature Review

The Role of AI in Product Development

AI is emerging as a driving force for new product development in modern times, changing how companies develop, iterate, and launch new products. Ahmed & Ahmed (2023) believe that AI-enabled product development is imperative in overcoming competition in the marketplace, shorter life cycles for goods, and quick technological innovation. Organisations utilising AI in new product development (NPD) accelerate innovation processes and make fact-based intelligence and algorithm-guided choices. AI techniques, such as generative adversarial networks (GANs) and natural language processing (NLP), enable concept development and can be leveraged by companies to effectively identify potential product concepts (Babina et al., 2024). For example, engineers can create ideal car aerodynamics and fuel efficiency with fewer runs of prototyped cars through AI-enabled predictive design software in the automotive industry.

Ogundipe et al. (2024) believe AI accelerates prototyping via simulation and testing. Iterative testing via prototyping is a slow and expensive practice (Aldoseri et al., 2024; Jam et al., 2018). AI-powered digital twin technology, in contrast, helps companies simulate real-life scenarios with fewer prototypes. AI simulations for forecasting material performance and aircraft structure optimisation, even before actual production, can represent such productivity in aeronautics manufacturing (Aagaard and Tucci, 2024; Jam et al., 2019). AI interventions in food production also drive consumption and ingredients' optimisation for optimised taste and nutrition in the food sector (Zatsu et al., 2024; Jam et al., 2016). AI grants companies a competitive edge and agility through its capacity to respond dynamically to demand.

In addition, AI-powered development permits cross-sector use cases. Perifanis (2023) affirms that AI simplifies productivity and redefines business models through new analysis, enabling organisations to coordinate development with changing consumer trends. AI, for instance, speeds up drug development in the pharmaceutical industry by identifying chemical structures with high therapeutic potential, thereby shortening the traditional R&D timelines. As such, AI

plays a revolutionary role in product development, promoting responsiveness, accuracy, and efficiency across a wide range of industries.

AI and Efficiency in Development Cycles

A key benefit of AI-based concept generation is that it shortens development cycles, improving product quality and time to market. AI transforms business models as it simplifies development processes, allowing firms to stay ahead of the competition by bringing new products to market quickly, argue Aagaard and Tucci (2024). AI-facilitated predictive analysis empowers early ideation at an early stage through the examination of massive datasets in a quest to identify trends in the marketplace, preferences, and technological feasibility (De Silva & Alahakoon, 2022). For example, AI tools in apparel use machine learning to predict trends in a given period and, thus, enable rapid customising of goods for consumption demand.

Moreover, According to Belhadi et al. (2021), AI-powered automation maximises efficiency through fewer iterative design processes. AI-facilitated generative software such as Autodesk's Dreamcatcher allows engineers to specify constraints, and AI creates ideal solutions with minimal intervention. This function reduces prototype iterations significantly, improving cost-effectiveness and development velocity. In electronic engineering, AI-facilitated software for design verification detects defects in semiconductor production at early stages, reducing production defects and rework time (Husein et al., 2024). All these examples present AI's capabilities in simplifying workflows, optimising the distribution of resources, and maximising efficiency.

AI also accelerates testing and approval of a product. Elahi et al. (2023) state that deep learning algorithms and computer vision powered quality assurance in new-age manufacturing, and they identify defects during real-time production, minimising production downtime. AI-based checking is a standard procedure in the automotive industry. These computers provide a manufacturing accuracy guarantee (Trabelsi, 2024). AI-based test tools like Selenium and Test.ai validate code during software development and minimise debugging procedures to a great extent. AI-enabled process efficiency is the foundation of contemporary product development through timely, cost-saving, and quality market delivery.

AI and Market Responsiveness

AI enables organisations to promptly act on changing demands and competitive pressures, facilitating marketplace responsiveness. AI-enabled capabilities like analysis, automation, and relational tools improve an organisation's responsiveness to the evolving markets and propel innovation and success in a firm, argue Sullivan and Wamba (2024). Firms can make anticipatory changes to their strategies via AI predictive analysis, which is particularly important for market trend forecasting. In the food industry, for example, AI algorithms read consumption patterns and forecast future dietary needs, allowing firms to provide new meals in advance (Zatsu et al., 2024).

Furthermore, according to Kumar et al. (2024), AI has revolutionised marketing with real-time strategic decision-making and personalised insights, improving responsiveness and customer engagement. AI-facilitated early incorporation of customer feedback helps companies make real-time improvements in new-product concepts, minimising development cycles and improving responsiveness to marketplace needs. AI-facilitated analysis maximises production planning and supply chain operations in company production, providing rapid time-to-market for new offerings (Joel et al., 2024). All these resonate with the dynamic capability model, whose

premise is that real-time adaptations in turbulent environments matter most.

Meanwhile, according to Huang and Rust (2021), AI capabilities such as mechanical AI, thinking AI, and feeling AI make it easier for organisations to respond to the marketplace through information collection automation, processing of intelligence in the market, and enhancing relations with buyers. AI technology helps organisations respond to demand fluctuations for goods and services, particularly in environments for digital transformation (Aldoseri et al., 2024). For example, AI-facilitated supply chain optimisation in the automotive industry helps companies forecast demand fluctuations and adjust production (Husein et al., 2024).

AI's capacity for increased market responsiveness can be seen in industries such as food science and manufacturing through predictive analysis and real-time information processing. However, there are a few downfalls, including information and ethical bias; therefore, it must have supervision. Organisations implementing AI must have responsible AI use and efficiency to build confidence and viability in increasingly changing markets.

Challenges and Ethical Considerations

AI concept development is also accompanied by ethical issues that businesses must successfully navigate. AI has ethical implications regarding bias, accountability, and transparency, particularly in decision-making, Gupta et al. (2024) say. AI concepts can be biased by producing discriminatory results via biased training datasets (Wu et al., 2020). For instance, imbalanced datasets can lead to undue preference of customers in predictive marketing, favouring a particular group over the majority (Naz & Kashif, 2024).

Moreover, the transparency of AI algorithms makes it difficult for humans to have control over the justification for decisions (Osasona et al., 2024). Where AI-created values yield unethical outcomes or generate a failure in the marketplace, accountability suffers, and transparency problems arise (Gerke et al., 2020). For example, AI-aided drug development in the medical field has been criticised for algorithm bias, which can make drugs for less prevalent diseases gain preference over lucrative ones (Guan et al., 2022). Organisations must have built processes for human intervention to make AI decisions morally and socially responsible to guard against such faults.

Meanwhile, AI's role in contributing to industry concentration and competitive powers, respectively, has fueled concerns about monopolisation and less variety in the marketplace, according to Jorzik et al. (2024). By granting companies a boost in information access, AI-powered product development can make them competitive and exclude small entrants (Al-Kfairy et al., 2024). For instance, large IT companies use AI to streamline processes and build barriers for future entrants (Aagaard & Tucci, 2024). Having fair AI governance policies in place can drive innovation and level out competition for all involved.

Ethical aspects of AI concept development extend beyond accountability and fairness and include broader social implications, such as information security and privacy concerns. For instance, patient information security concerns arise when AI is adopted in medical care, and heightened regulation has been necessitated (Mennella et al., 2024). AI capabilities for observing and analysing consumer behaviour have marketing implications regarding such privacy concerns (Haleem et al., 2022). Sound ethical frameworks must diffuse such problems and ensure the long-term fitness of AI in organisational decision-making. Concept development addresses its ethical and competitive dimensions, driving innovation and agility in the marketplace (Sanchez

et al., 2024). Enterprises demand a balanced model with AI potential and ethical constraints in developing long-term business success and trust in AI-concept-created offerings in AI-concept development.

Methodology

Research Design

The current work utilises an interpretivism research philosophy in a study of AI concept creation and its contribution to organisational effectiveness and time-to-market. Interpretivism is applicable in that it can delve in detail into AI's contribution to decision-making, contextual factors, and organisational behaviour (Leitch et al., 2019). In contrast to positivism's objective testing and measurement of hypotheses, interpretivism can allow for AI's and humans' subjectivity and complexity in organisations (Black, 2006). Similarly, with its combination of objective and subjective factors, pragmatism is not in harmony with this work's purpose of in-depth analysis of humans and AI's collaboration in a consequence-free environment (Sanchez et al., 2022).

The research adopted an inductive approach, with theory and frameworks developed from AI case studies and observation of AI. Unlike the deductive approach, testing a hypothesis, induction is better placed to represent new observations about AI's evolving role (Woiceshyn & Daellenbach, 2018). In search of a best-fit explanation through incomplete information, abductive theory was not adopted because in-depth development over hypotheses refinement is an issue for this study. Besides, a qualitative, not quantitative, research journey was pursued to facilitate a rich investigation of AI processes and organisation decision-making (Turner et al., 2021). Quantitative approaches, with numerical information and generalizability through statistics orientation, could not capture AI's sophisticated rollout in organisations (Borgstede & Scholz, 2021).

Data Collection Techniques

This study adopted secondary sources' content analysis, specifically a systematic review of peer-reviewed articles and industry reports in academic databases such as Scopus and Web of Science. By doing so, high-quality studies can be assured, and a proper evaluation of the AI-concept generation's contribution towards efficiency and time-to-market (Busetto et al., 2020). Unlike primary collection methods such as ethnography, case studies, interviews, and even focus groups, content analysis portrays a broader picture by collating present knowledge (Naeem et al., 2023). As rich and valuable, ethnography and case studies can consume a lot of time and lack generalizability for trends in an industry (Abuhamda et al., 2021). Besides, selection criteria prioritised studies published in the last five years (2019–2024) focusing on AI's contribution towards product innovation, efficiency, and decision-making. Elimination criteria disqualified non-peer-reviewed sources, studies not explicitly focused on AI in an organisation, and studies with no basis in fact-finding. By taking a systemic route, such a selection maximises the research's validity and reliability (Lo et al., 2020).

Data Analysis Techniques

The study adopted thematic analysis to categorise AI's impact regarding responsiveness in the marketplace and product development. The thematic analysis allows one to identify emerging trends and recurring themes in various AI cases, offering a systematic approach to collating qualitative information (Naeem et al., 2023). There were six phases in the process: (1) getting to know data through reading reports and reading literature, (2) creating first codes for AI use, (3) searching for efficiency, time-to-market, and decision-making, (4) checking for theme coherence,

(5) defining and naming themes for clarity, and (6) generating a concluding report for collating insights (Turner et al., 2021). Cross-sector comparison facilitated testing and comparing AI trends in terms of adaption in various industries, offering robustness in thematic analysis and strengthening the study's conclusion through generalizability (Verhoef & Casebeer, 1997).

Research Ethics

Ethical considerations played a dominant role in this study, particularly regarding integrity in research, accuracy in information, and copyright in intellectual property rights. Since the study is secondary, approval for research regarding human subjects' approval was not warranted. Nevertheless, for dependability and confirmability, only reliable, peer-reviewed sources have been considered (Borgstede & Scholz, 2021). Transparency and replicability have been maintained through documentation of selection and rejection criteria, extraction processes, and thematic codes (Busetto et al., 2020). Bias in the interpretation of information was avoided through reflexivity, such that biases of the researcher did not disproportionately affect findings (Leitch et al., 2019). Besides, AI ethics, particularly bias and transparency in AI decision-making, have been considered concerning AI ethics to present a balanced view towards responsible use of AI (Osasona et al., 2024). Academic rigour in the study is maintained through such ethical compliance and by contributing positively towards AI in organisational behaviour discourse.

Results and Discussion

Theme 1: AI's Contribution to Reducing Development Cycles

Reviewed studies have a common theme: AI has helped reduce product development times through rapid prototyping, iterative refinement, and testing via automation. AI-facilitated concept creation rapidly brings ideation to marketplace offerings, and companies can become competitive in emerging industries with it. With machine learning (ML) algorithms, generative design, and NLP, companies can simplify designs and make performance forecasts, minimising costly redesigns (Ogundipe et al., 2024; Elahi et al., 2023).

Studies also confirm that AI rapid prototyping has hastened the design phase through simulation and performance testing automation. For example, AI optimises production planning and predictive maintenance efficiency in innovative production, reducing downtime and accelerating product iterations (Elahi et al., 2023). Similarly, AI-enabled digital twin technology creates real-time information regarding product viability, reducing costly and time-consuming physical prototyping (Aldoseri et al., 2024). It is a common practice in industries such as aeronautics and automotive, with AI-enabled generative design having optimised parts for efficiency and manufacturability (Ahmed & Ahmed, 2023; Bhuiyan et al., 2024).

Comparing these with previous studies, Aagaard and Tucci (2024) confirm that AI integration in business models enables efficiency through technology alignment with strategic objectives. Besides, De Silva and Alahakoon (2022) confirm AI's role in governing the entire AI life cycle, including its development and production, with efficient workflows. On the other hand, traditional product development processes rely a lot on iterative methods, which results in long time-to-market and additional costs. However, even with a significant improvement in efficiency, data privacy and AI model transferability concerns arise, and robust governance frameworks become imperative (De Silva & Alahakoon, 2022; Khan et al., 2022; DESMITA et al., 2019).

Theme 2: AI's Role in Enhancing Market Responsiveness

Reviewed studies validate a common theme: AI enables marketplace responsiveness via real-time

adaptability in product design concerning shifting demand and marketplace trends. With predictive analysis and incorporation of information about consumers, AI-powered frameworks allow the determination of emerging demand, and companies can respond promptly (Husein et al., 2024). AI can interpret big datasets, including social media, feedback, and purchasing behaviour, and companies can respond effectively and promptly to marketplace demand (Trabelsi, 2024; Moschogianni et al., 2024; Al-Noor et al., 2016).

Moreover, case studies reveal AI success in adaptive product development. For instance, AI-powered market intelligence software helps companies streamline pricing, forecast demand fluctuations, and customise offerings, maximising consumer interaction (Aldoseri et al., 2024). AI-facilitated supply chain optimisation, in addition, maximises responsiveness through forecasting disruptions and reorienting logistics, aided in studies in supply chain resilience (Belhadi et al., 2021). By synergising AI with the supply chain, companies such as PT. Pelita Media Nusantara have maximised transparency in the supply chain and removed inefficiencies, directly impacting time-to-market (Husein et al., 2024; Achmad et al., 2022; Shikida et al., 2017; Dokhan et al., 2016).

Comparatively, Ahmed and Ahmed (2023) argue that AI facilitates competitive advantage by enabling continuous learning and iterative product innovation. Whereas AI model biases and regulatory issues have to be addressed in order not to produce unwanted distortions in the marketplace (Osasona et al., 2024; Nagata et al., 2019), Aagaard and Tucci (2024) emphasise AI-facilitated business model innovation in a quest for competitiveness in transforming industries. Despite such concerns, AI's contribution towards marketplace responsiveness is critical in supporting companies in dealing with uncertainty and sustaining competitive advantage in a digital economy.

Theme 3: Challenges in AI-Driven Concept Generation

Reviewing research confirms that AI-concept development comes with a variety of challenges, most specifically in terms of ethics, bias in information, and human intervention. As argued by Gupta et al. (2024), in an attempt to bypass mistakes and repercussions, AI will require proper supervision through humans. As much as AI can enhance productivity, independence in decision-making can result in poor product design faults. For instance, Tesla's use of AI in developing autonomous cars has been surrounded by security concerns, and humans have a key role in critical phases.

Also, data bias is a persistent problem in AI applications, like concept development, as stated by Al-Kfairy et al. (2024). Since AI learns from previous information, biases may occur and enhance AI-concept output. Biassed AI tends to favour one group over another unintentionally, diminishing market inclusivity. That is particularly a problem when designing consumer products. For instance, applying face recognition AI in businesses globally provokes ethical questions about its racial bias.

Meanwhile, Wu et al. (2020) observe that trust, accountability, and transparency for buyers represent AI-concept development's most important ethical concern. Organisations must implement ethical AI frameworks for AI-designed products to obey legislation and social conventions. For example, organisations must have governance structures to provide fairness and accountability, and European Union AI legislation puts a high value on ethically utilising AI. If such controls do not occur, AI-concept development can cause intervention via legislation and loss of one's reputation.

Research has established that organisations that use AI in goods and service innovation must balance automation and human innovation in pursuit of optimum output. In an organisation's

pursuit of becoming flexible in response to market changes, leveraging AI-enabled automation, analytical, and relational capabilities can increase flexibility, Sullivan and Wamba (2024) state. A model that balances AI and human capabilities is crucial in averting over-reliance on AI. Over-reliance on AI can suppress human innovation and creativity. In creating long-term competitive advantage, such a strategic balance enables AI to work in tandem with human ingenuity and not replace it.

Theme 4: AI-Driven Concept Generation Vs. Traditional Development Cycles

Different studies have established that AI ideation is less flexible, ineffective, and slower than traditional development processes. AI development accelerates development via iterative design and predictive analysis automation, according to an argument proposed by Mennella et al. (2024). AI-powered models can evaluate enormous datasets at high velocity in generating viable ideas, unlike traditional development processes when ideation and testing processes run manually. For instance, via analysis of future demand and prediction and analysis of preference for a customer, Nike utilises AI in developing shoes through automation and reduced development times.

In addition, Babina et al. (2024) say that by instantaneously sensing shifting trends, AI-driven concept development makes the marketplace more responsive. Protracted testing and iterative refinement stages plague traditional product cycles, taking ages to launch them onto the market. However, failure can be minimised in likelihood via AI algorithms for modelling customer feedback and the performance of a product before it is manufactured. For example, by forecasting molecular behaviour, AI speeds up drug development in the pharmaceuticals sector, thus shortening R&D cycles.

Concurrently, according to Aldoseri et al. (2024), AI impact and AI adoption vary at an industry level, too. AI, for instance, has transformed marketing and supply chain management sectors, but its effect is less immediate in sectors with high-regulation requirements, including finance and healthcare. For example, AI-powered generative car structures in car production save prototyping time by generating optimised car structures without hands-on intervention. AI use, nevertheless, is not easy in the legal field, where compliance restrictions prevail.

Research, as cumulatively analysed, for instance, Kumar et al. (2024), confirms that AI marketing techniques apply intelligence in terms of data to make the processes of creating goods easier. Traditional marketing techniques rely on surveys and focus groups, but these processes consume a lot of work and involve biases. AI marketing, in contrast, employs predictive analysis to assess consumer behaviour and, in return, yields a concentrated creation of goods. With this transformation, companies can make it easier for them to align their goods with their desired goods and gain increased market share and loyalty in terms of customers.

Conclusion and Recommendations

Summary of Key Findings

AI-driven concept development shortens product development times and allows for a high level of responsiveness to the marketplace. Through AI-powered analysis and ML algorithms, AI accelerates ideation, maximises product concepts, and automates prototyping (Ogundipe et al., 2024; Abbas et al., 2021). That one feature alone creates a shorter time-to-market, with companies in a position to respond promptly to changing requirements in terms of consumers. AI's predictive feature maximises resource planning, reducing market-mismatched risks (Babina et al., 2024; Liao et al., 2019).

Furthermore, as in its use in marketing, supply chain management, and business model innovation, AI creates salience in the marketplace through quick adaptability (Sullivan & Wamba, 2024; Fitriana, 2022). AI can produce consumer-inspired designs for emerging trends by processing much information (Kumar et al., 2024). Real-time feedback integration through AI-facilitated prototyping also creates a perfect fit between a product and a marketplace (Ahmed, 2023; Tung, 2018). Even with its use, AI will require human intervention and high-quality information to allow for moral discernment and ideation (Gupta et al., 2024).

While AI concept development generates strategic value, organisations must counterbalance human direction and imagination to realise its full potential. Overall, the empirical analysis identifies that investments in AI positively correlate with sales and innovation-fuelled growth, with most value accruing to larger organisations (Babina et al., 2024; Husain et al., 2021).

Managerial and Practical Implications

Organisations must search for a model combining AI-facilitated insights with human imagination to apply AI for strategic innovation. Organisations have to apply AI for ideation, prototyping, and testing in the marketplace and use human professionals to validate and build out AI-designed work (Al-Kfairy et al., 2024; Chen et al., 2018). Such a model maximises efficiency with no sacrifice regarding specific creative instincts AI cannot produce.

Building a continuous learning environment will allow workers to transition to AI-powered workflows so that AI tools and human groups can work harmoniously (Mennella et al., 2024). Organisations must invest in high-value datasets to boost AI predictive capabilities (Guan et al., 2022). Governance frameworks must be developed to counteract bias and ethics in AI-powered decision-making (Sanchez et al., 2024; Giwanatara et al., 2021).

Best practices in a balance of AI and human creativity include cross-functional collaboration and iterative development. Businesses need to take AI-generated prototypes as a starting point and encourage teams to build on designs further using qualitative feedback. AI-powered marketing campaigns can further optimise product visibility and consumer engagement so that innovations can reach the target audience at the target time (Huang & Rust, 2021; Sissing et al., 2017). Businesses that leverage AI responsibly with human oversight will achieve a long-term competitive advantage.

Future Research Directions

Future research must deal with the long-term impact of AI-driven innovation on organisational designs. AI's increasing role in decision-making raises questions about workforce dynamics, leadership roles, and organisational agility. Studies must explore how AI-driven automation affects employee tasks, skill requirements, and innovation management in firms. Another promising avenue is AI-human collaboration in creative industries. Research must look for ways to make AI complement human creativity and not replace it, particularly in design, marketing, and entertainment. Investigating models for AI-human collaboration that maximise efficiency will yield important information about productivity improvement and innovation stimulation. Lastly, future research must address AI's ethical aspects in new product innovation and idea generation. As AI makes more autonomous choices, transparency, accountability, and bias must be addressed. The development of legal frameworks and ethical standards will make AI advances conform to societal values and business ethics. In conclusion, creating such research in an era of digitalisation will foster sustainable growth and allow organisations to steer through the continuously changing landscape of AI-enabled innovation.

References

Aagaard, A., & Tucci, C. (2024). AI-Driven Business Model Innovation: Pioneering New Frontiers in Value Creation. Springer EBooks, 295–328. https://doi.org/10.1007/978-3-031-57511-2_10

Abbas, M. Z., Rehman, M., & Alobidyeen, B. (2021). The effects of social media marketing activities of apparel brands on consumers' response and intentions to buy: The mediating role of brand equity. *Journal of Administrative and Business Studies*, *7*(3), 1-23.

Abuhamda, E., Ismail, I. A., & Bsharat, T. R. (2021). Understanding Quantitative and Qualitative Research Methods: A Theoretical Perspective for Young Researchers. International Journal of Research, 8(2), 71-87.

Achmad, F. S. (2022). Waste management an Islamic perspective. *Journal of Advanced Research in Social Sciences and Humanities*, *7*(4), 164-174.

Ahmed, M. R., & Ahmed. (2023). Artificial Intelligence and Product Development. Social Science Research Network. https://doi.org/10.2139/ssrn.4534559

Aldoseri, A., Al-Khalifa, K. N., & Hamouda, A. M. (2024). AI-Powered Innovation in Digital Transformation: Key Pillars and Industry Impact. Sustainability, 16(5), 1790. https://doi.org/10.3390/su16051790

Al-Kfairy, M., Mustafa, D., Kshetri, N., Insiew, M., & Alfandi, O. (2024). Ethical Challenges and Solutions of Generative AI: An Interdisciplinary Perspective. Informatics, 11(3), 58–58. https://doi.org/10.3390/informatics11030058

Al-Noor, M., Elazomi, A., Babiker, A., & Babiker, A. M. (2016). Prevalence of hepatitis C virus antibodies among blood donors in Omdurman region in Sudan. *Journal of Advances in Health and Medical Sciences*, *2*(1), 28-33.

Babina, T., Fedyk, A., He, A., & Hodson, J. (2024). Artificial Intelligence, Firm Growth, and Product Innovation. Journal of Financial Economics, 151(1), 103745–103745. https://doi.org/10.1016/j.jfineco.2023.103745

Belhadi, A., Mani, V., Kamble, S. S., Khan, S. A. R., & Verma, S. (2021). Artificial Intelligence-Driven Innovation for Enhancing Supply Chain Resilience and Performance Under the Effect of Supply Chain Dynamism: An Empirical Investigation. Annals of Operations Research, 333. Springer. https://doi.org/10.1007/s10479-021-03956-x

Bhuiyan, M. R. I. (2024). Examining the digital transformation and digital entrepreneurship: A PRISMA based systematic review. *Pakistan Journal of Life and Social Sciences*, *22*(1), 1136-1150.

Black, I. (2006). The Presentation of Interpretivist Research. Qualitative Market Research: An International Journal, 9(4), 319–324. https://doi.org/10.1108/13522750610689069

Borgstede, M., & Scholz, M. (2021). Quantitative and Qualitative Approaches to Generalization and Replication–A Representationalist View. Frontiers in Psychology, 12(1), 1–9. NCBI. https://doi.org/10.3389/fpsyg.2021.605191

Busetto, L., Wick, W., & Gumbinger, C. (2020). How to Use and Assess Qualitative Research Methods. Neurological Research and Practice, 2(1), 1–10. https://doi.org/10.1186/s42466-020-00059-z

Chen, J. (2018). The Application of tree-based ML algorithm in steel plates faults identification. *Journal of Applied and Physical Sciences*, *4*(2), 47-54.

De Silva, D., & Alahakoon, D. (2022). An Artificial Intelligence Life Cycle: From Conception to Production. Patterns, 3(6), 100489. https://doi.org/10.1016/j.patter.2022.100489

DESMITA, N., & MACHRUS, M. A. (2019). His strength is my strategies: Experience of an English teacher in Indonesia teaching English for hyperactive students in inclusive class. *Journal of Advanced Research in Social Sciences and Humanities*, *4*(2), 66-73.

Dokhan, T., Shebani, N., & Zaet, A. (2016). Relationship of bolton's ratios and tooth-size discrepancy. *Journal of Advances in Health and Medical Sciences*, *2*(1), 34-41.

Elahi, M., Afolaranmi, S. O., Lastra, M., & Pérez, A. (2023). A Comprehensive Literature Review of the Applications of AI Techniques Through the Lifecycle of Industrial Equipment. Discover Artificial Intelligence, 3(1). https://doi.org/10.1007/s44163-023-00089-x

Fitriana, R. (2022). Impact of tax avoidance and resource & development outlay on financial performance of the firms from non-financial sector of Pakistan. *Journal of Administrative and Business Studies*, *8*(1), 15-28.

Gerke, S., Minssen, T., & Cohen, G. (2020). Ethical and Legal Challenges of Artificial Intelligence-Driven Healthcare. Artificial Intelligence in Healthcare, 1(1), 295–336.

Giwanatara, G., & Hendrawan, D. (2021). Juridic review of legal protection for health personnel in radiology in relationship with legal assurance. *Journal of Advances in Humanities and Social Sciences*, *7*(2), 59-63.

Guan, H., Dong, L., & Zhao, A. (2022). Ethical Risk Factors and Mechanisms in Artificial Intelligence Decision Making. Behavioral Sciences, 12(9), 343. https://doi.org/10.3390/bs12090343

Gupta, A., Raj, A., Puri, M., & Gangrade, J. (2024) Ethical Considerations in the Deployment of AI. Tuijin Jishu/Journal of Propulsion Technology, 45(2).

Haleem, A., Javaid, M., Qadri, M. A., Singh, R. P., & Suman, R. (2022). Artificial Intelligence (AI) Applications for Marketing: A Literature-Based Study. International Journal of Intelligent Networks, 3(3), 119–132. ScienceDirect. https://doi.org/10.1016/j.ijin.2022.08.005

Huang, M.-H., & Rust, R. T. (2021). A Strategic Framework for Artificial Intelligence in Marketing. Journal of the Academy of Marketing Science, 49(1), 30–50. Springer. https://doi.org/10.1007/s11747-020-00749-9

Husain, H., Shaibur, M. R., & Al Muzahid, M. (2021). Economic efficiency of benapole port and socio-economic profiles in surrounding areas, Bangladesh: An analytical approach. *Journal of Advances in Humanities and Social Sciences*, *7*(1), 28-37.

Husein, M., Rajagukguk, J. R., & Putranto, K. E. (2024). The Role of Artificial Intelligence in Improving the Efficiency of the Company's Supply Chain. International Journal of Engineering Science and Information Technology, 4(4), 156–172. https://doi.org/10.52088/ijesty.v4i4.596

Jam, F. A. (2019). CRYPTO CURRENCY–A NEW PHENOMENON IN MONETARY CIRCULATION. *Central Asian Journal of Social Sciences and Humanities*, *4*(1), 39-46.

Jam, F. A., Rauf, A. S., Husnain, I., Bilal, H. Z., Yasir, A., & Mashood, M. (2014). Identify factors affecting the management of political behavior among bank staff. *African Journal of Business Management*, *5*(23), 9896-9904.

Jam, F. A., Singh, S. K. G., Ng, B., & Aziz, N. (2016). Effects of Uncertainty Avoidance on Leadership Styles in Malaysian Culture, , *International Journal of Advance Business and Economics Research*, 1*4*(8), 7029-7045.

Jam, F. A., Singh, S. K. G., Ng, B., & Aziz, N. (2018). The interactive effect of uncertainty avoidance cultural values and leadership styles on open service innovation: A look at malaysian healthcare sector. *International Journal of Business and Administrative Studies*, *4*(5), 208-223.

Joel, O. S., Oyewole, A. T., Odunaiya, O. G., & Soyombo, O. T. (2024). Leveraging Artificial Intelligence for Enhanced Supply Chain Optimisation: A Comprehensive Review of Current Practices and Future

Potentials. International Journal of Management & Entrepreneurship Research, 6(3), 707–721. https://doi.org/10.51594/ijmer.v6i3.882

Jorzik, P., Klein, S. P., Kanbach, D. K., & Kraus, S. (2024). AI-Driven Business Model Innovation: A Systematic Review and Research Agenda. Journal of Business Research, 182, 114764–114764. https://doi.org/10.1016/j.jbusres.2024.114764

Khan, M. A., Khan, U. N., Jamali, A. K., & Jamshed, J. (2022). The Factors Contributing to a Corporation's Demise: An Analysis of Enron. *Journal of Management Practices, Humanities and Social Sciences*, *6*(2), 15-21.

Kumar, V., Ashraf, A. R., & Nadeem, W. (2024). AI-Powered Marketing: What, Where, and How? International Journal of Information Management, 77, 102783–102783. ScienceDirect. https://doi.org/10.1016/j.ijinfomgt.2024.102783

Leitch, C. M., Hill, F. M., & Harrison, R. T. (2019). The Philosophy and Practice of Interpretivist Research in Entrepreneurship. Organisational Research Methods, 13(1), 67–84. Sagepub.

Liao, Y. H., Li, H. H., & Xie, Z. H. (2019). Study of virtual reality and IoT for exploring the Deep Sea. *Journal of ICT, Design, Engineering and Technological Science*, *3*(1), 11-14.

Lo, F.-Y., Rey-Martí, A., & Botella-Carrubi, D. (2020). Research Methods in Business: Quantitative and Qualitative Comparative Analysis. Journal of Business Research, 115(1), 221–224. https://doi.org/10.1016/j.jbusres.2020.05.003.

Mennella, C., Maniscalco, U., Pietro, G. D., & Esposito, M. (2024). Ethical and Regulatory Challenges of AI Technologies in Healthcare: A Narrative Review. Heliyon, 10(4), e26297–e26297. https://doi.org/10.1016/j.heliyon.2024.e26297

Moschogianni, G. (2024). Interplay between Digital Marketing, Business Analytics and Innovation Capability: A Case of Greece SMEs. *Journal of Management Practices, Humanities and Social Sciences*, *8*(2), 24-37.

Naeem, M., Ozuem, W., Howell, K. E., & Ranfagni, S. (2023). A Step-by-Step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative Research. International Journal of Qualitative Methods, 22(1), 1–18. Sagepub. https://doi.org/10.1177/16094069231205789

Nagata, K. (2019). Website evaluation using cluster structures. *Journal of Advances in Technology and Engineering Research*, *5*(1), 25-36.

Naz, H., & Kashif, M. (2024). Artificial Intelligence and Predictive Marketing: An Ethical Framework from Managers' Perspective. Spanish Journal of Marketing - ESIC. https://doi.org/10.1108/sjme-06-2023-0154

Ogundipe, D. O., Babatunde, S. O., & Abaku, E. A. (2024). AI and Product Management: A Theoretical Overview from Idea to Market. International Journal of Management & Entrepreneurship Research, 6(3), 950–969. https://doi.org/10.51594/ijmer.v6i3.965

Osasona, F., Amoo, O. O., Atadoga, A., Abrahams, O., Farayola, O. A., & Samson, B. (2024). Reviewing the Ethical Implications of AI in Decision-Making Processes. International Journal of Management & Entrepreneurship Research, 6(2), 322–335. https://doi.org/10.51594/ijmer.v6i2.773

Perifanis, N.-A. (2023). Investigating the Influence of Artificial Intelligence on Business Value in The Digital Era of Strategy: A Literature Review. Information, 14(2). MDPI. https://doi.org/10.3390/info14020085

Sanchez, J. I., Bonache, J., Paz-Aparicio, C., & Oberty, C. Z. (2022). Combining Interpretivism And Positivism in International Business Research: The Example of The Expatriate Role. Journal of World Business, 58(2), 101419. https://doi.org/10.1016/j.jwb.2022.101419

Sanchez, T. W., Brenman, M., & Ye, X. (2024). The Ethical Concerns of Artificial Intelligence in Urban Planning. Journal of the American Planning Association, 1–14.

https://doi.org/10.1080/01944363.2024.2355305
Shikida, M., & Yagi, K. (2017). A Method for Supporting Medical-Interview Trainings Using Wearable Smart Glasses. *Journal of ICT, Design, Engineering and Technological Science*, *1*(2), 37-41.
Sissing, J., Dlamini, N. N., & Johnston, K. (2017). Using m-commerce to achieve strategic objectives in South African retail organizations. *Journal of Applied and Physical Sciences*, *3*(1), 7-16.
Sullivan, Y., & Wamba, S. F. (2024). Artificial Intelligence and Adaptive Response to Market Changes: A Strategy to Enhance Firm Performance and Innovation. Journal of Business Research, 174, 114500. https://doi.org/10.1016/j.jbusres.2024.114500
Trabelsi, M. A. (2024). The Impact of Artificial Intelligence on Economic Development. Journal of Electronic Business & Digital Economics, 3(2). https://doi.org/10.1108/jebde-10-2023-0022
Tung, C. M. (2018). Vertical integration for smart manufacturing-The dynamic capability perspective. *Journal of Advances in Technology and Engineering Research*, *4*(2), 70-78.
Turner, D., Ting, H., Wong, M. W., Lim, T.-Y., & Tan, K.-L. (2021). Applying Qualitative Approach in Business Research. Asian Journal of Business Research, 11(3). https://doi.org/10.14707/ajbr.210111
Ukoba, K., Olatunji, K. O., Adeoye, E., Jen, T.-C., & Madyira, D. M. (2024). Optimising Renewable Energy Systems Through Artificial Intelligence: Review and Future Prospects. Energy & Environment, 35(7). https://doi.org/10.1177/0958305x241256293
Verhoef, M. J., & Casebeer, A. L. (1997). Broadening Horizons: Integrating Quantitative and Qualitative Research. The Canadian Journal of Infectious Diseases, 8(2), 65–66. https://pmc.ncbi.nlm.nih.gov/articles/PMC3327344/
Woiceshyn, J., & Daellenbach, U. (2018). Evaluating Inductive Vs Deductive Research in Management Studies. Qualitative Research in Organizations and Management: An International Journal, 13(2), 183–195. ResearchGate. https://doi.org/10.1108/QROM-06-2017-1538
Wu, W., Huang, T., & Gong, K. (2020). Ethical Principles and Governance Technology Development of AI in China. Engineering, 6(3). https://doi.org/10.1016/j.eng.2019.12.015
Zatsu, V., Shine, A. E., Tharakan, J. M., Peter, D., Ranganathan, T. V., Alotaibi, S. S., Mugabi, R., Muhsinah, A. B., Waseem, M., & Nayik, G. A. (2024). Revolutionising the Food Industry: The Transformative Power of Artificial Intelligence–A Review. Food Chemistry X, 24, 101867–101867. https://doi.org/10.1016/j.fochx.2024.101867