

WHITEPAPER

FUTURE OF DESIGN AND ITS IMPACT

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Executive Summary

We are all familiar with instances of bad product and service design—like the USB plug that seems to fit only on the third attempt, how banks handle identity fraud, the stressful experience of catching connecting flights at various airports. Conversely, we also recognize iconic designs such as the Swiss Army Knife, the straightforward Google home page, and the immersive Disneyland visitor experience. These examples underscore the pivotal role that robust design plays in both revolutionary and enduring commercial success across physical, service, and digital domains.

In navigating the complexities of our rapidly evolving world, understanding the future has become a challenging yet indispensable task. This whitepaper serves as a guide to shed light on key Megatrends that are poised to shape the future of digital design. It encourages a perceptual shift, urging readers to recognize that the future is already unfolding around them.

So, how can companies consistently deliver exceptional designs with each new launch, and what value does design bring? We have identified a few **mega-trends that will shape future of design:**

Expanded Role of AI

Rise of Voice Interfaces & Conversations Design

Data-Driven Decision-Making

Sustainability as a priority

Designing for Accessibility

Human-centered Design Approach

MEGA TRENDS IN DESIGN

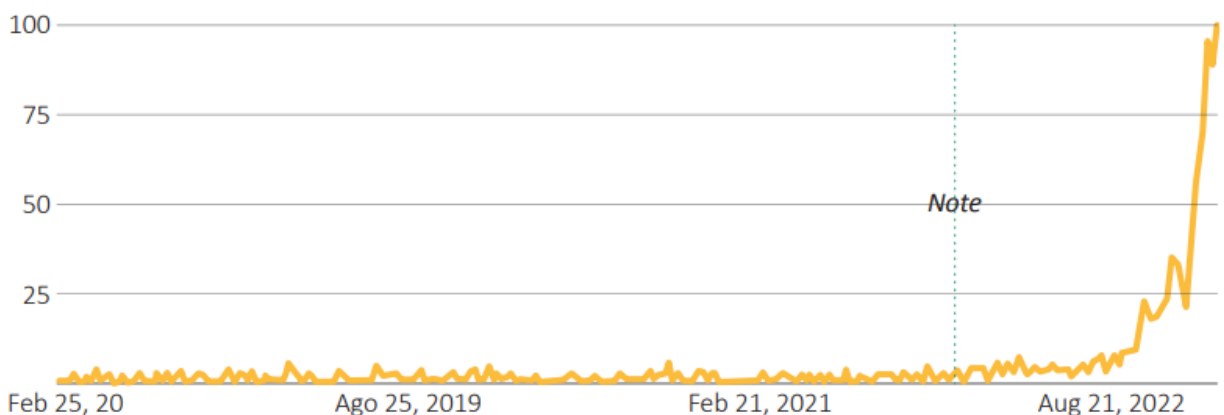
Mega Trends in Design

1. Expanded Role of Artificial Intelligence (AI)

The role of Artificial Intelligence (AI) is set to expand further. AI has already brought about transformative changes in numerous industries, and product design is no different. Over the upcoming years, AI is expected to assume an even more substantial role in the realm of digital product design. Leveraging AI, designers will have the capability to scrutinize user data, discern user preferences, and craft personalized experiences. Furthermore, AI stands to assist designers in automating specific design tasks, thereby diminishing the time allocated to repetitive and routine design work.

Within five days of its release at the end of 2022, ChatGPT, conversational AI based on large-scale language models, had more than 1 million users; by January 2023, it had 100 million users. ChatGPT is conversational AI that can answer questions and write poetry and even program code in any language. There has been an overwhelming increase in the popularity of generative AI search keywords on Google since 2022, with two spikes in search volume in August and November of 2022, which is when Stable Diffusion and ChatGPT went public, respectively.

Google trend for Generative AI Keywords



Mega Trends in Design

1.1 Breakout of Generative AI

Generative Artificial Intelligence (AI) is emerging as a transformative mega trend in the field of design. This innovative approach leverages advanced algorithms to autonomously produce design elements, enabling designers to explore a vast array of possibilities and uncover unique creative solutions. Unlike traditional design processes, Generative AI encourages a symbiotic collaboration between human creativity and machine intelligence. By analyzing patterns, understanding user preferences, and adapting to evolving trends, Generative AI holds the potential to revolutionize how designers conceptualize and execute their visions. As this trend gains momentum, it promises to reshape the landscape of design by offering novel insights, streamlining workflows, and fostering unparalleled levels of innovation in diverse creative domains.

Generative Artificial Intelligence Use Cases According To Industry							
	Automotive & Vehicle Manufacturing	Media	Aarchitecture & Engineering	Energy & Utilities	Healthcare Providers	Electronic Product Manufacturers	Pharmaceutical
Drug Design							●
Material Science	●			●		●	
Chip Design						●	
Synthetic Data	●		●	●	●	●	●
Generative Design (Parts)	●		●				●

Source: Gartner

Mega Trends in Design

1.1 Breakout of Generative AI

Ethical Considerations

Generative AI is confronted with numerous acknowledged limitations, particularly in the context of ethical considerations. Concerns surrounding the ethical use of AI have surfaced due to potential personal and societal harm resulting from issues such as the misuse or abuse of AI systems, flawed design practices, and the influence of biased data on learning processes. Specifically, in the domain of AI generating text, detecting instances of hateful or violent language in the training data proves challenging, given its small proportion compared to other data and its integration with slang.

The complexity is compounded by varying cultural interpretations of such language. There is a growing effort to address these concerns, evident in the increasing number of ethics papers within academia. This ethical scrutiny extends beyond generative AI to AI in general, recognizing the potential for far-reaching damage and necessitating the formulation of appropriate measures and plans. The responsible use of AI, particularly in applications like ChatGPT, where it impacts decision-making and products affecting people, is becoming a paramount focus. Specific risks associated with ChatGPT use must be documented, and organizations employing ChatGPT are urged to use AI responsibly for the generated outputs. As ChatGPT may produce inaccurate content, known as hallucination, incorporating human validation into the process becomes crucial. Adopting responsible AI paradigms and creating trustworthy AI involves maintaining human involvement throughout the lifecycle use.

Mega Trends in Design

2. Growing Popularity of Voice User Interface (VUI)

The rising popularity of digital assistants like Siri, Alexa, and Google Assistant is poised to propel Voice User Interface (VUI) into greater prominence within digital product design. The prevalence of these digital assistants is contributing to the increased adoption of VUIs, offering users a more natural and intuitive experience. This trend is expected to persist, as evidenced by the 2023 product design landscape, showcasing the enduring relevance of voice-activated features. Whether it involves voice navigation functionality for basic typing features or other applications, VUI is establishing itself as a lasting and integral element in the realm of digital product design services.

The adoption of Voice User Interface (VUI) has experienced an increase in recent times. A study conducted in 2022 by Insider Intelligence indicated that 2.9 million Americans are utilizing voice assistants. Additionally, Statista forecasts substantial growth in the global voice recognition market, projecting an increase from \$10 billion in 2020 to nearly \$50 billion in 2029.

VUIs capitalize on Automatic Speech Recognition (ASR) and Natural Language Processing (NLP) to facilitate user interactions with devices, applications, or services through voice commands. This functionality enables hands-free navigation, thereby enhancing accessibility, particularly for individuals with disabilities such as vision impairments or limited mobility.

Mega Trends in Design

3. Data-Driven Decision-Making

Every day, the world produces 5 exabytes of data. That's equivalent to 2.5 quintillion bytes, or 2.5 billion gigabytes. By 2025, we will be producing data at a rate of 463 exabytes per day. To put that into perspective: in 2009, the world's entire digital storage capacity was 'just' 487 exabytes. By tomorrow's standards, we'd fill that volume in under two days.

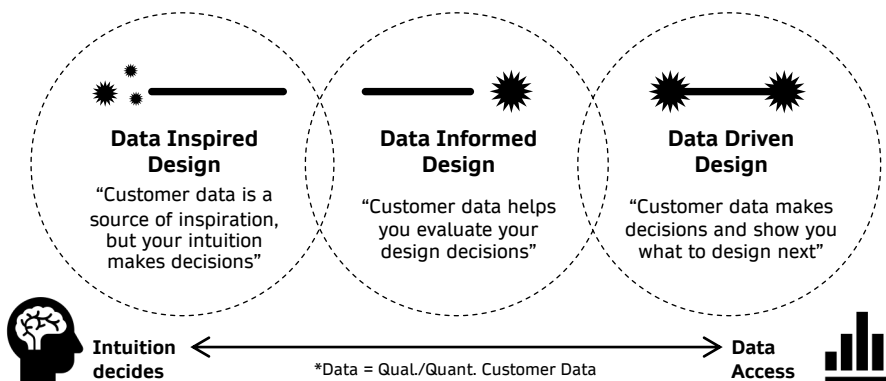
While only 3 of the 10 most valuable enterprises were actively taking a data-driven approach in 2008, that number has risen to 7 out of 10 today. From Apple to Microsoft, from Facebook to Amazon—they all rely on data to drive their key decision-making processes.

Data-driven approach allows organizations to study viable ideas and users' pain points, ensuring that your project is moving in the right direction."

On top of that, data-driven companies experience over 30% annual growth.

Data-driven decision-making combines qualitative and quantitative data to get a holistic view of your users; only with this comprehensive understanding help make genuinely well-informed design choices and strategies.

The Influence of Data on Design



Mega Trends in Design

4. Sustainability as a Priority

Sustainability is set to take center stage as a paramount consideration in the creative realm, reflecting a heightened awareness of the environmental impact associated with product development. Amid this trend, designers will face the imperative of devising innovative solutions to ensure their products align with sustainability goals. This entails a comprehensive approach to minimize energy consumption, incorporate sustainable materials, and extend product lifecycles. The shift towards sustainability in product development is indicative of a broader commitment within the design industry to contribute positively to environmental well-being, reflecting an ethos that prioritizes longevity, reduced energy usage, and eco-friendly material choices in crafting the products of the future.

In a 2019 survey conducted by Accenture, customers were asked about their purchasing motivations when choosing between businesses. Unsurprisingly, price and quality remained the top considerations, suggesting a lasting trend. However, the survey also highlighted a growing focus on corporate sustainability from the consumer's perspective, as evidenced by noteworthy statistics:

- 83% of respondents consider it important for companies to produce reusable or recyclable products.
- 72% reported an increase in their purchases of eco-friendly goods compared to five years ago.
- Over 50% expressed a willingness to allocate additional funds for products that are reused or recycled.

Mega Trends in Design

5. Designing for Accessibility

As per the World Health Organization, a significant disability is prevalent in 1 in 6 individuals globally, encompassing conditions like visual, auditory, motor, or cognitive impairments. Among these individuals, 43% state that concerns related to accessibility and inclusivity frequently lead to them discontinuing online interactions. It is imperative that user experience design, as suggested by its name, prioritizes the end-user, considering the diverse needs of all potential end-users. Consequently, inclusive design becomes essential.

Prioritizing inclusivity and accessibility stands as a fundamental imperative in product design. Designers must proactively ensure that their creations cater to individuals with disabilities, emphasizing easy navigation, usability, and interaction. This involves crafting products that are thoughtfully designed to accommodate a diverse range of users, irrespective of physical abilities or limitations.

The WebAIM Million report for 2022 conducted an analysis of the leading one million websites to identify accessibility issues. The key findings include:

- Homepages witnessed increased complexity from 887 elements in 2021 to 955 elements in 2022, marking a 7.7% rise.
- Approximately 1 out of every 19 elements on a homepage presented challenges for users with disabilities.

Mega Trends in Design

6. Human-centered Design Approach

The "human-centered design" approach, a pivotal methodology in contemporary product design, places the needs of real individuals at the forefront of the creative process. This philosophy is set to play a crucial role in shaping future trends in product design, emphasizing that novel technologies should transcend being merely innovative ideas and, more importantly, function seamlessly in real-world scenarios. This approach is underscored by two fundamental principles applied to every project: acknowledging that humans make mistakes, and ensuring that the user experience (UX) is inherently self-explanatory, requiring no additional training or guidance for effective use. This commitment to human-centered design reflects an ethos that seeks to create products seamlessly integrated into users' lives, prioritizing usability and a user-friendly experience.

In the current customer-centric, digitally-driven landscape, the success or failure of your business hinges on UX design. A 2022 global study by IDC indicated that, by 2027, an estimated 41% of a typical company's revenue will be generated from digital products. In response to this trend, 43% of technology leaders express their intention to expedite the delivery of innovative digital solutions in the upcoming years. This underscores the critical need to remain informed about emerging UX design technologies and trends.

DIGITAL BY DESIGN – INDIA'S VISION

Digital by Design in India

The emergence of significant opportunities in India, particularly through government initiatives like "Make in India," "Digital India," "Clean India," and "Smart City," has opened a new era for substantial design interventions. Design is recognized as a crucial force, acting as a catalyst for sustainable competitive advantage for businesses and the nation, humanizing large-scale government initiatives. It's considered the "New Now," playing a central role in transforming how we live, create, and communicate.

Designovation – Make in India

The synergy between design, innovation, and growth extends beyond the creation of new products or technology, encompassing enhancements to everyday products that result in reduced costs, improved usability, and the identification of new business prospects. Companies that integrate design into their processes tend to achieve greater success compared to those that do not. The strategic use of design correlates with higher growth rates, addressing the crucial question of determining what products to create and ensuring their market viability. Importantly, design plays a pivotal role in enabling manufacturers to transition from conventional and low-cost business models to becoming high-value solution providers.

Designpreneurs – Startup India

The significance of design is paramount for startup success. The design process guides startups in envisioning the functionality, appearance, positioning, and overall impact of their offerings, providing not only tactical advantages in the marketplace but also a strategic, long-term vision for sustained success and growth.

Digital by Design in India

Designlives – Smart Cities

Our urban centers, often regarded as engines of growth, face significant challenges due to rapid urbanization and the strain on infrastructure caused by population pressure. Design assumes a crucial role in revitalizing our cities, breathing life back into them. Its potential lies in enhancing the urban environment, fostering a deeper emotional connection for residents. Design's pivotal contribution extends to collaborative and integrated decision-making processes, particularly focused on productive and human-centered solutions. Through practices like Co-Design, people can actively and creatively participate in shaping the future of cities and the services they offer.

Designserv – Digital India

A crucial shift is emphasized, urging a transition from a sole focus on production to a more comprehensive integration of both products and services. The adoption of participatory design methods, where citizens actively engage in designing solutions to their problems, aligns with Digital India's objective of addressing challenges through technological advancements. The proficiency of design in adeptly, aesthetically, and empathetically synthesizing diverse elements and ideas emerges as a critical factor for the success of Digital India in resolving complex issues.

Designlearn – Design Education

The shifting dynamics in society, technology, and work necessitate a fundamental reinvention and reevaluation of our approach to education. The future of education is anticipated to move away from rigid structures, potentially freeing itself from current constraints. Learning will extend beyond traditional campuses, with varying durations of courses and the emergence of nano degrees, allowing individuals to acquire knowledge based on immediate needs and personal preferences. A transformative collaboration between industry and academia is envisioned, marking a departure from conventional practices.

DESIGN AND ITS OPERATING CONTEXT IN THE AGE OF AI

Design and its Operating Context in the Age of AI

The exploration of AI's impact on design unfolds across two analytical levels—practice and principles. At the practice level, the focus is on the phenomenology of design within a specific context, encompassing the process (how decisions are made) and the object of design (the novel solutions created). In contrast, design principles delve into the underlying philosophy that informs the act of designing, constituting an ontology of what design represents.

The principles of design, particularly in organizational contexts, are explored through the lens of Design Thinking. This perspective emphasizes three essential factors:

- 1. People-Centered Innovation (Empathy):** Design-driven innovation stems from understanding problems through the user's perspective, driven by empathy rather than technological advancements.
- 2. Abductive Problem Solving (Creativity):** Design adopts a creative approach to problem-solving, distinguishing it from other managerial practices. It imagines the new rather than choosing from existing alternatives.
- 3. Iterative Development (Prototyping):** Abductions are continuously adapted and improved through fast testing cycles, with prototypes acting as a playground for learning and refinement.

In traditional operating models, design principles are applied sequentially: products are designed for user segments, manufactured at scale, and then delivered for use. In contrast, the advent of AI introduces the concept of "AI Factories," where problem-solving loops autonomously make specific design decisions in real-time. These loops, informed by continuous data collection and learning capabilities, replace human effort, offering scalable and adaptable solutions without the need for redesign. The human role shifts to designing the foundations for these problem-solving loops.

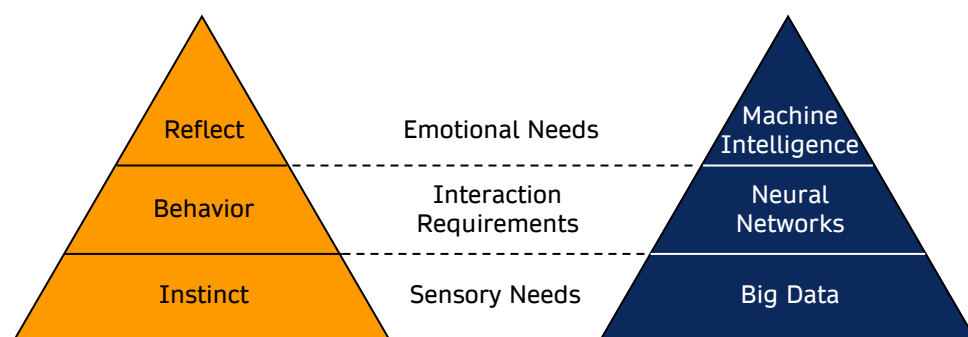
AI led Conversational Design

Lately, **conversational design** has emerged as a particularly intriguing field within AI. We've witnessed significant advancements since the early days of ELIZA and PARRY, both rooted in the Turing test conceptualized by Alan Turing.

Marina Zukhova, a PhD student, conducted a research study exploring human online communication through a controlled experiment. The study specifically investigated the utilization of emoticons and emojis in text communication across various domains using GPT-3.5, the initial model that was deployed. Noteworthy findings were observed, particularly in the classification outcomes, revealing intriguing results among Gen Z and Millennial bots.

Gen Z participants generally expressed a more favorable perception of the Gen Z bot, contrasting with a negative outlook toward the other bot. An intriguing aspect of the research emerged when certain Gen Z participants interacted with the bot as if it were human. Frustration ensued when the bot failed to grasp the context of a song reference during the conversation, highlighting a notable instance where participants expected a more human-like understanding.

Designing for such experiences requires an understanding of the demographics, persona and the affordance criteria of such groups. We can look at one such model called the Attention, Interest, Desire, and Action (AIDA) model where the modeling of AI was done to measure and improve UX through AI led design by the following mapping shown in the image below:



Use Case : Netflix

Netflix: A Data-Driven Design Thinking Machine

Netflix's transformative impact on the media landscape is rooted in its AI-centric operating model. The essence of Netflix lies in its software infrastructure, leveraging big data and AI to personalize the user experience and curate content. Netflix's design process involves machine learning techniques within problem-solving loops. These algorithms, resembling aspects of the design process, predict outcomes by analyzing user behavior. Three main approaches are employed:

- 1. Supervised Learning:** Mimicking expert decision-making, this method involves creating labeled datasets and iteratively improving predictions based on user actions.
- 2. Unsupervised Learning:** Operating without preconceptions, this approach discovers natural groupings in data, facilitating insights into user behavior and preferences.
- 3. Reinforcement Learning:** This paradigm involves exploring and exploiting solutions based on feedback. Balancing exploration and exploitation, reinforcement learning is integrated into the iterative process of human design.

A notable example of Netflix's design innovation lies in the personalization of movie recommendations. Reinforcement learning, particularly multi-arm bandit algorithms, is employed to balance exploration (randomizing visuals) and exploitation (improving visuals based on user preferences), dynamically enhancing the user experience.

Netflix's transition from a DVD shipment model to a streaming service in 2007 marked a pivotal moment. With streaming, Netflix gained the ability to track the full user experience, enabling the design of problem-solving loops that create a unique solution for each user in real-time. The result is a staggering "33 million different versions of Netflix," showcasing the extreme personalization made possible by AI-enabled design.

Use Case : Airbnb

The traditional hospitality model, marked by heavy investments in real estate and labor-intensive processes, faced challenges in delivering personalized experiences. Two key factors contribute to Airbnb's design success. Firstly, the platform offers an unprecedented breadth of design options, boasting three million unique rooms across 190 countries and 80,000 cities. This variety surpasses the capabilities of traditional asset-intensive businesses. Secondly, Airbnb leverages AI to connect this diversity to the needs of individual users.

- 1. AI-Driven Personalization:** Since 2016, Airbnb has been collecting extensive data on user interactions. The data science team logs user activities, preferences, and behaviors during the booking flow. AI processes this data to create personalized solutions for each user, closing the problem-solving loop instantaneously. This dynamic interaction ensures that every user receives a tailored experience during each interaction with the platform.
- 2. Two-Sided Platform and Problem-Solving Loops:** As a two-sided platform interacting with both guests and hosts, Airbnb employs distinct problem-solving loops for each user type. An example highlighted is how Airbnb dynamically designs accommodation prices in real-time based on various factors and hosts can accept the AI-engine to refine their prices within a range.
- 3. Scalability and People-Centeredness:** Airbnb's AI-driven design strategy enables independent problem-solving loops for both sides of the platform, overcoming traditional models' limitations in balancing different stakeholder requirements. The case underscores the pinnacle of people-centeredness, providing dynamic, personalized solutions that continually evolve through constant iteration—something unattainable through traditional design practices.

Use Case : BHASHINI – Govt. of India initiative

Conversational design involves creating interfaces and interactions that mimic natural, human-like conversations. Governments globally have been adopting conversational design, particularly in the form of chatbots and virtual assistants, to enhance citizen engagement and improve service delivery.

In India, the Ministry of Electronics and IT (MeitY) recently announced its Bhashini program to enable easy access to the Internet, digital services and more content for all Indians in vernacular languages. Such services are valuable for providing information, disseminating government announcements, and ensuring inclusivity in digital interactions.

AI-Driven Solutions:

1. Platform Development: Similar to other successful government initiatives like UPI, CoWin, and ONDC, Bhashini emphasizes leveraging public digital assets for creating AI models. The platform will enrich Indic language AI models, covering translation, speech-to-text, text-to-speech, image-to-text, and more.

2. Universal Language Contribution API (ULCA): ULCA, developed by the Ministry of Electronics and Information Technology, acts as a standardized API and open scalable data platform. It houses datasets, models, and benchmarks for Indian languages, contributing to language AI technologies.

3. Bhasha Daan: An integral part of Project Bhashini, Bhasha Daan is an initiative to crowdsource language inputs for Indic languages. This open-source initiative allows various stakeholders, including NGOs and startups, to run campaigns for decentralized and customized data collection.

DESIGNING PAYMENT EXPERIENCES - FINTECH

Designing Payment Experiences

In the contemporary digital era, the landscape of payment technology has undergone a rapid transformation. The progression from traditional cash and card transactions to digital wallets and cryptocurrencies has been accelerated by the influential force of Artificial Intelligence (AI).

Several key areas highlight the substantial influence of AI in the industry:

- **Fraud Detection and Prevention:** AI algorithms scrutinize vast volumes of transaction data in real-time, identifying unusual patterns and flagging potentially fraudulent transactions. This not only safeguards consumers but also results in substantial cost savings for businesses by mitigating financial losses.
- **Enhanced Customer Experience:** AI-powered chatbots and virtual assistants offer instant customer support, facilitating seamless interactions and elevating the overall user experience. They adeptly handle inquiries, guide users through transactions, and provide personalized product recommendations.
- **Predictive Analytics:** AI algorithms leverage historical transaction data to predict consumer behavior and preferences. This information proves invaluable for businesses, allowing them to tailor marketing strategies and offerings, thereby increasing customer engagement and driving sales.
- **Automation of Routine Tasks:** AI plays a pivotal role in automating repetitive tasks such as invoice processing and reconciliation. This not only reduces human errors but also streamlines financial operations for businesses.
- **Credit Scoring and Risk Assessment:** AI-driven credit scoring models analyze diverse data sources to assess individual or business creditworthiness more accurately. This empowers lenders to make well-informed decisions and extend credit to underserved populations.

Designing Payment Experiences

Conversational AI in Fintech

While the payment industry has made significant strides in digitalization, adopting cutting-edge technology remains in its early stages. Conversational Payments powered by artificial intelligence (AI) is a groundbreaking innovation poised to elevate customer experience and streamline payments for merchants and banks:

- **Conversational Payments:** Conversational payments leverage AI capabilities to provide a seamless and convenient payment journey for users. Imagine interacting with customer support to inquire about a bill and having the option to make a payment within the chat, eliminating the need for additional banking apps. This article delves into how Conversational AI transforms the payment landscape, focusing on both voice and text-based applications.
- **Voice and Text as a Foundation:** In the current digital landscape, customer-business interactions primarily occur through text and voice. Conversational AI in payments targets both domains, aiming to shorten payment cycles and enhance user experiences. Unlike traditional payment mechanisms, Conversational AI acts as more than just a payment module; it evolves into a financial advisor, facilitating account management, providing banking offers, and more.
- **Conversational Payments through Voice:** Voice commerce, estimated to reach \$80 billion by 2023, represents a significant segment of conversational payments. Users can initiate payments through voice-activated applications, with the transaction journey involving user authorization and confirmation messages for both parties. While prominent players like Mastercard and JP Morgan are exploring Conversational AI through platforms like KAI, challenges such as security concerns and accent recognition hinder mass adoption.

DESIGNING CITIZEN SERVICES- GOVERNMENT

Designing Citizen Services

In the ever-evolving landscape of public service delivery, governments worldwide are realizing the paramount importance of aligning services with citizens' needs. Acknowledging this, many government agencies are turning to Design Thinking, a human-centered approach, to revolutionize the design and delivery of citizen services. Successful implementation of Design Thinking by customer-centric government agencies, providing a comprehensive roadmap for enhancing citizen satisfaction and operational efficiency.

Measuring Citizen Satisfaction:

Understanding citizens' needs is the cornerstone of effective service delivery. Instead of asking citizens to rank service aspects directly, agencies should adopt a more nuanced approach. Citizens are asked to rate each service across different drivers, allowing for a more accurate assessment.

Understanding the Entire Citizen Journey:

Agencies can identify crucial journeys by segmenting customers and analyzing dissatisfaction areas. Developing maps of citizen journeys, encompassing multiple channels and touchpoints, provides a holistic perspective. Linking citizen journeys to internal processes helps identify and prioritize pain points, paving the way for targeted improvements.

Translating Improvement Opportunities:

The translation of improvement opportunities into tangible solutions is the next crucial step. Front-end initiatives, such as proactive notifications and status updates, manage demand and reduce costs. Enhancing the functionality of self-serve channels aligns with citizens' growing preference for online services.

By adopting a citizen-centric approach grounded in Design Thinking principles, government leaders can usher in a new era of public service delivery.

Designing Citizen Services

Public Safety: Transforming Security and Emergency Response

As the landscape of threats to public safety evolves rapidly, AI emerges as a tool capable of leveling the playing field for governments. Beyond crime prevention, AI proves instrumental in streamlining routine administrative tasks, delivering advanced analysis that surpasses human capabilities.

Preventative Policing:

Predictive policing programs leverage AI to trace ties between individuals, and analyze criminal histories, to predict and prevent crimes. The UK Government's National Data Analytics Solution (NDAS) employs AI to assess the risk of individuals committing or becoming victims of violent crimes, enabling proactive intervention.

Supporting Criminal Investigations:

ShotSpotter technology in South Africa aids in combating wildlife poaching and gun violence by providing real-time data and alerts to law enforcement, contributing to successful convictions and increased gun recovery.

Combating Terrorist Threats:

The **UK Home Office's** AI tool detects terrorist propaganda with high accuracy, preventing extremist content from going online and disrupting recruitment channels. AI is utilized in identifying suspicious banking activities associated with terrorist financing.

Responding to Natural Disasters:

Governments worldwide use AI to detect and predict natural disasters, assess potential impacts, and determine effective mitigation strategies. **India's** flood warning system, developed in partnership with Google, utilizes AI technologies and geospatial mapping to provide timely alerts and minimize the impact of flooding.

DESIGNING PATIENT EXPERIENCES- HEALTHCARE

Designing Patient Experiences

There has been a growing emphasis on comprehending and enhancing the patient experience within healthcare systems. The improved patient experience yields meaningful outcomes such as enhanced safety, reduced complications, improved care for medical conditions and surgical outcomes, lower readmission rates, and improved survival rates in certain cancers.

To bridge the gap between measuring patient experience and applying solutions to enhance it, a design-thinking approach to problem-solving is needed. Design thinking employs a human-centered design ethos, leveraging the full spectrum of innovation. Although widely used in competitive industries, it has recently gained recognition in healthcare for providing creative, interdisciplinary, and patient-centered solutions.

The design-thinking process prioritizes deep empathy for end-users, understanding their desires, experiences, and challenges to address unmet needs in the patient experience. In healthcare, patients and their families are the users, and the unmet needs represent negative aspects of the patient experience. Few practical applications include:

1. The Cleveland Clinic utilized design thinking to revamp its patient portal, resulting in increased user-friendliness and positive feedback.
2. The Mayo Clinic applied design thinking principles to transform its waiting rooms into more comfortable and stress-reducing spaces, incorporating features like nature-themed TVs and comfortable seating.
3. The Geisinger Health System employed design thinking to launch a program facilitating patient comprehension of their care, incorporating educational materials, videos, and one-on-one nurse consultations. Patients engaging in this program reported feeling more informed about their care and more confident in managing their health. In summary, design thinking, by aligning solutions with patient needs, stands out as a powerful tool for making healthcare more patient-centric and efficient.

Conclusion

The importance of design has been recognized globally. World-leading economies, including China, India, Malaysia, Singapore, South Korea, and the US, are increasingly focusing on design and elevating design innovation to a strategic level, evident as the “design policy race arm” comes to the fore. Meanwhile, the World Design Organization is leading to shaping a global framework of design policy aiming to achieve a range of Sustainable Development Goals (SDGs) beyond the simple business objective of local economic progress and industrial competitiveness normally found in most national and regional policies. Considering that innovation is essentially a problem-solving process and design is largely diffused and widely applied to solve everyday problems, it can be said that there’s no innovation without design. Innovation, viewed as a problem-solving process, is intricately linked to design, dispelling the notion that design's role is limited to driving aesthetics. Instead, design has the potential to drive technological breakthroughs by integrating with research and development (R&D).

Simultaneously, technology continues to be a primary catalyst for change in the world. Technology advances give businesses, governments, and social-sector institutions more possibilities to lift their productivity, invent or reinvent offerings, and contribute to humanity’s well-being. While it remains difficult to predict how design and technology trends will play out, executives can plan better by tracking the development of digital design trends, anticipating how companies might use them, and understanding the factors that affect innovation and adoption.

Looking ahead

We expect changes like these are poised to accelerate and intensify in the coming years, mirroring the trajectory observed over the approximately three decades since the advent of the internet revolution. These transformations are not only set to reshape the competitive landscape but will also wield increasingly potent effects on society. The expected trajectory foresees a continuation and intensification of the transformative impact witnessed since the inception of the internet revolution.

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ABOUT CII

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. With its extensive network across the country and the world, CII serves as a reference point for Indian industry and the international business community.

www.cii.ininfo@cii.in

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