



# UX of AI

How to marry the two  
for ultimate success?

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# Introduction

Artificial intelligence (AI), in the simplest of terms, is a part of computer science concerned with building technology that can perform tasks typically requiring 'real' (human) intelligence.

Which tasks would these be?

It could involve weighing multiple alternatives against one another, integrating new information into existing data structures, deriving inferences from qualitative or quantitative data, or estimating probabilities.

AI procedures vary in terms of the level of execution and monitoring they require, that is, in the extent to which they require human intervention or support before performing an action.

Examples of some prominent AI technologies include –

**Big data analytics,**

which is used to automate information gathering and evaluation. What it does is retrieve voluminous data from diverse sources and evaluate it to answer specific queries or conduct statistical evaluations.

**Machine learning,**

which is a method of data analysis used to identify patterns in unstructured data sets. This helps machines or systems to make decisions based on those patterns.

**Neural network-based deep learning,**

which integrates and selects information across several logical layers of an electronic information network. Artificial neural networks comprise multiple layers of mathematical routines which classify and arrange data into new sets to find the most accurate parameters or solutions.

It is through the application of technologies such as these that AI executes complex tasks like Natural Language Processing (NLP), for instance. NLP is the understanding and translation of human language into other languages and codes, or computer vision, i.e., the visual perception, analysis, and understanding of optical environmental information.

When we look at the phases of software design – conducting research and defining requirements, to designing it, testing it, developing it, followed by release and maintenance – it becomes apparent that AI can be applied to improve the process and eliminate many of the major challenges that this process has been facing.



**Chapter 1**

**AI and User Experience –  
How AI impacts User  
Experience**

Software design is the process of shaping technology based on a deep understanding of human needs. And, there is a commonality to be found between User Experience (UX) design and AI.

If AI gains its learnings by continuously leveraging data, so does UX design, which is an iterative process of optimizing the product based on testing and feedback.

Here's how the two fields can complement each other –

User experience design is crucial to the application and delivery of AI-based experiences in software products; whereas AI can augment UI-UX processes with automation, research assistance, and personalized recommendations.

Today, AI is making its presence felt in product design through various avenues such as –

## Automating mechanical tasks at great speeds

AI-based automation can help in reducing the load of repetitive UI/UX design tasks such as transforming design sketches into code automatically akin to basic-code platforms that are able to convert wireframes into code.

*This can result in time-saving, efficient benefits such as,* Quicker mockups with AI-powered prototyping using tools such as Uizard, which applies AI, to generate native mobile applications directly from sketches and even helps generate code from the sketch.

Fewer errors, as AI helps maintain consistency across the platforms and limit errors of human oversight, especially in instances of taxing routine jobs in software development such as debugging or data entry.

Build large-scale products with the help of preset modules/templates. Test new ideas even with a budgeted investment of time or money, such as conducting a structured analysis of complex data pools to identify patterns and meaningful information clusters.



## 02

# Analyzing voluminous data sets to procure insights, identify patterns, and customize user experiences

User-centricity is non-negotiable in UX design. Delivering experiences based on user needs that also align with the business goals is the primary purpose of UX design.

AI technologies can assist UX design in this regard through the following ways -

- > Quicker analysis of voluminous data to come up with patterns, trends, and insights.
- > Dynamic testing of specific aspects of the user experience based on user characteristics.
- > Hyper-personalisation through millions of permutations and combinations that is truly useful to users.

## 03

# Simulating cognitive processes to enable decision-making

Automation can lend a helping hand to enhance the scope of improving the design quality, resulting in better, more sophisticated designs.

*Some examples include -*

Optimizing choices based on the user's past behavior, AI can shortlist options, enabling a better, more pleasurable user experience. It can save the user from being overwhelmed by a sea of options.

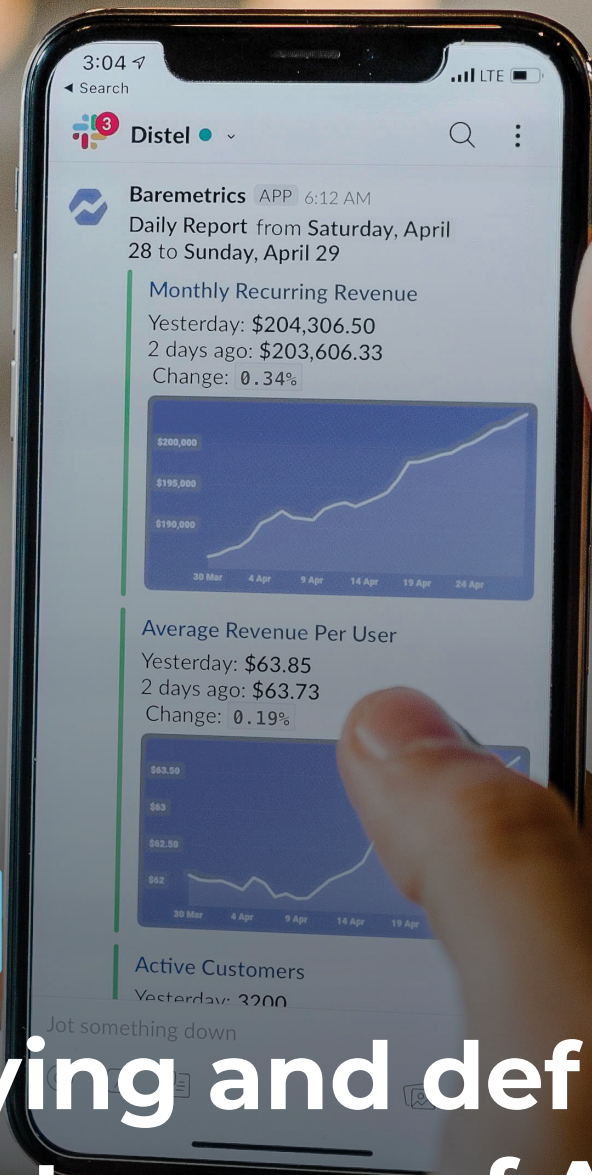
Predictive UX powered by AI can help anticipate user actions based on an analysis of past behavior and help create more intuitive user experiences.

With all these possibilities, it is also important to acknowledge that AI algorithms are “mind tools,” not actual minds. The successful application of AI hinges more on the study of human psychology than big data and powerful algorithms. AI applications must reflect realistic conceptions of user needs and human psychology and not just algorithmic outputs.

In the words of design pioneer  
Don Norman, AI needs to  
**“accept human behavior the  
way it is, not the way we  
would wish it to be.”**

## Chapter 2

# Identifying and defining the right usage of AI in enterprise software



AI and automation are transforming businesses across industries, conjuring novel opportunities through intelligent automation. For example, a majority of companies are changing the way they deliver customer service by deploying AI-powered chatbots. Salesforce Einstein makes use of predictive intelligence, NLP, and machine learning to power many Salesforce features such as answering customer queries or routing and data-driven insights.

Ada is another AI-powered chatbot used by brands like Shopify and MailChimp. It integrates with most messaging channels and customer service software, which is a useful feature to send customized content to your customers, collect feedback, and report on your bots' time, effort, and cost savings. [Ada's chatbot](#) has helped AirAsia to reduce its wait time by **98%** in 4 weeks.

Manufacturing units are making use of machine learning to rapidly analyze fresh data to identify patterns and anomalies. Any machine in the manufacturing plant working at reduced capacity can be identified via a machine learning algorithm and notify decision-makers to take reparative action.

Self-driving cars are contextualizing data gathered via their sensors - for instance, the distance of peripheral objects, their own speed, and using that to predict where they will be in the next moments - all thanks to deep neural learning.

But for all its fascinating and revolutionary uses pushing the rush to adopt AI-powered technologies, business owners and decision-makers should first answer the questions,

*'Is it right for my business? Do we have a problem that can be solved by AI?'*

“Look at how you are using technology today during critical interactions with **customers** — **business moments** — and **consider how the value of those moments could be increased.**

Then apply AI to those points for additional business value.”

- Whit Andrews

Distinguished VP Analyst, Gartner

## The benefits of AI: Is it necessary?

AI does offer rich opportunities to introduce personalization and differentiation by classifying data and making predictions at a higher speed and volume than humans. However, companies that focus solely on AI-powered automation can face failure as compared to those that apply AI to augment human decision-making and interactions.

*IBM's Watson for Oncology was a software based on data derived from hypothetical cancer patients rather than real cases. Therefore, it ended up delivering erroneous, deeply dangerous cancer treatment advice. [Source](#)*

*Amazon.com's AI-based recruitment project was designed with the intention of picking the best out of the thousands of applications that came their way. The algorithm was based on engineering job applicant résumés and benchmarked against current engineering employees. The results received were skewed heavily in favor of white, male applicants based on the algorithm as it had "learned" that candidates who seemed whiter and more male were more likely to be good fits for engineering jobs. [Source](#)*



It does not make sense to implement a relatively new technology such as AI and automation just because it's there for the offering. Instead, businesses have to first identify a problem that needs to be fixed, assess all options to solve it and pick AI automation only if it makes absolute business sense to use it.

A 2018 survey by [Spiceworks](#) reveals **50%** of organizations have not implemented AI as they did not find an appropriate use case for it. Another **29%** noted that security and privacy concerns made them reconsider AI adoption, with concerns around costs following close behind. Going by this data, the challenge of integrating this technology stems from a fear of the unknown, rather than anything practical.

There are ample examples of AI-supported technology that exists in consumer and niche cases - smart devices and personalization, to name a few - but there aren't as many easily implementable solutions built for the enterprise yet. Business leaders are now aware of the shortcomings of the traditional models in a continuously disrupted business environment.

**“Those in the C-suite must reengineer their operations in a way that embraces AI,”** says Frank Palermo, global head, digital solutions, Virtusa. “A good starting point would be for organizations to automate much of their ‘drudge’ work, and focus instead on providing tailored, personalized products and services that satisfy customers and meet growing expectations.”

It is a gross fallacy of businesses to consider AI as a singular, all-encompassing technology. On the contrary, the AI technology of today is the result of several amalgamated technologies (e.g. computer vision, Natural Language Processing, and more).

There isn't a single AI technology as such, but it exists in the form of computers identifying images or processing voice commands to deliver the best options for a customer, to driverless vehicles.



Our team at Koru recently bagged the prestigious **iF Design Award 2021 for our design of an integrated telehealth Electronic Health Records (EHR) tool**, enhancing its existing capabilities to help providers deliver top-notch healthcare in a convenient, stable, secure, and timely manner. Clinician burnout has been a concern for ages, with the Covid-19 pandemic aggravating it further.

Our telehealth integrated-EHR focused on **eliminating communication barriers by implementing AI-powered Natural Language Processing (NLP)**. This helped in simplifying accents and offered real-time translations with enhanced accuracy. It cut down on lengthy hours spent on documentation, as physicians would now refer to notes and transcripts and not rely on memory, thus making the data more authentic, reducing the potential for error.

With these pressures out of the way, providers became more focused on the actual interaction and delivered a better experience to the patient. Our entry scored highest on impact from the jury as improving care standards and clinicians' burnout was our primary motive.

Thus, it is imperative that product leaders identify critical business intersections where AI automation can be of true help. Simply, AI and automation — like some other emerging technologies — will allow businesses to cut costs, boost productivity by freeing up workers from more mundane tasks, increase agility and flexibility, and spur innovation.

When done right - with high emphasis on the 'right' - implementing this technology will allow businesses to boost revenues, product lines and offer differentiated customer experiences.



## Chapter 3

# Smart applications of AI across businesses

Enterprise adoption of AI has been moving along rapidly albeit in a cautious manner. As of now, AI is being put to use in tasks such as planning, predictive maintenance, and chatbots deployed for customer service.

With growing AI adoption, what are businesses doing to limit risks and remain on top of their game? Here's how AI adoption is transforming the way business leaders think.

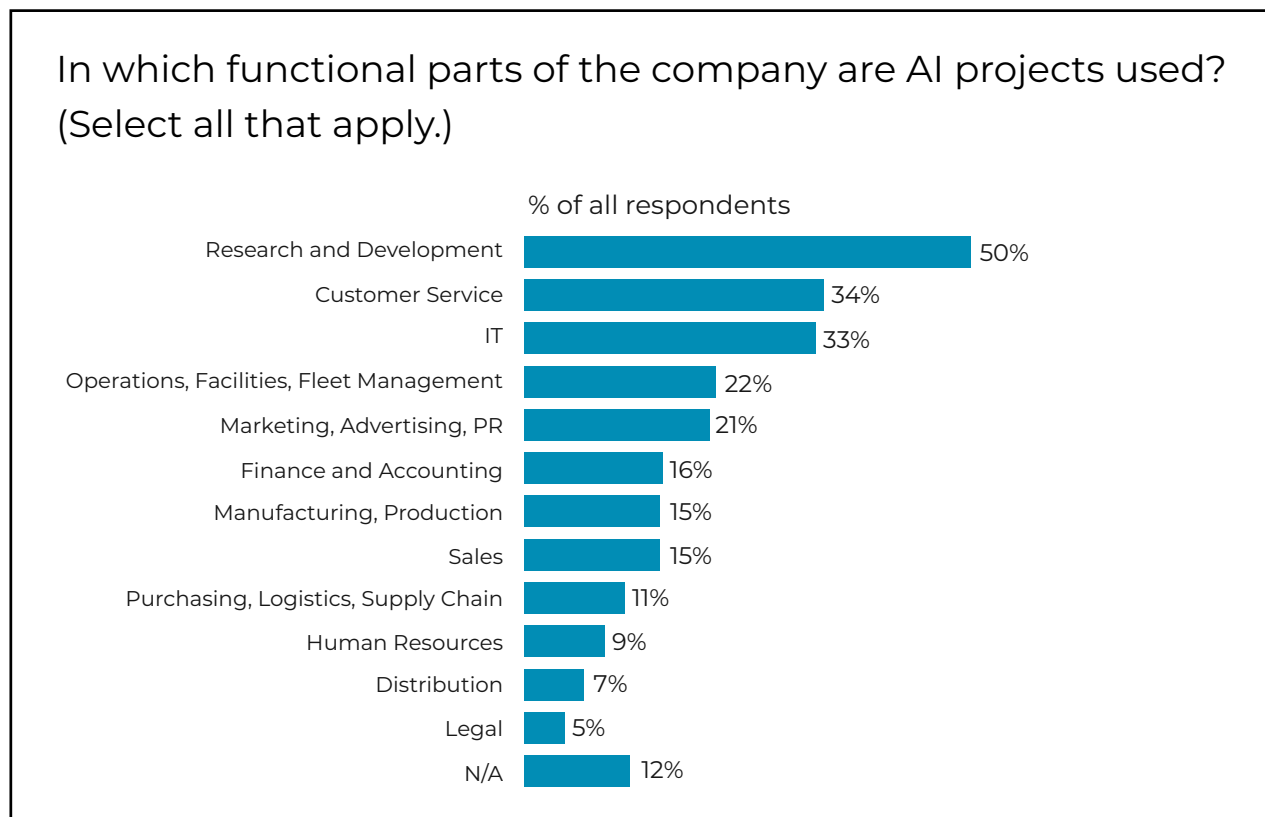
**84%** of C-suite executives want to leverage AI to achieve their growth objectives. However, **76%** reported facing questions on how to scale.

**Three out of four** C-suite executives feel that AI needs to be scaled in the next five years, or risk going out of business.

Among the companies featured, those that are strategically scaling AI report nearly **3 times** the return from AI investments compared to those pursuing siloed proof of concepts.

**[Source: Accenture's AI: Built to Scale](#)**

We have seen AI deployed across a wide spectrum of use cases to solve business problems—like managing and automating IT infrastructure, gathering new insights about customers, identifying and responding to cyber threats, guiding medical decisions, and actually improving the hiring process. AI is increasingly being integrated into the fabric of businesses.



### Source

AI adoption is fairly limited as of now as many businesses are struggling to overcome the barriers and scale benefits. But it is also apparent that the “early adopter” phase is coming to a close.

“Many pharma executives are thinking about AI in terms of cost savings and efficiency. When you’re running a massive organization that has hundreds of active clinical trials costing millions of dollars, there are low-hanging fruit that are not necessarily scientifically complex where **AI can save the organization hundreds of millions of dollars.**”

- Ron Alfa,

Senior VP of translational discovery,

Recursion Pharmaceuticals



**The IDC predicts that global spending on AI stands to double over the next four years, growing from \$50.1 billion in 2020 to more than \$110 billion in 2024.**

Two of the foremost causes driving AI adoption are providing an optimized customer experience and increasing employee productivity. In fact, the leading use cases for AI which include automated customer service agents, sales process recommendation and automation, automated threat intelligence and prevention, and IT automation reflect this.

These four use cases will represent nearly a third of all AI spending this year. Some of the fastest-growing use cases are automated human resources, IT automation, and pharmaceutical research and discovery. [Source](#)

Novel uses for AI are growing—everything from creating the rules for new sports to composing music to finding missing children. [Source](#)

Here are two real-world examples of companies pushing boundaries and taking AI applications to the next level:

Recursion Pharmaceuticals is using AI as a microscope to quickly and inexpensively ascertain the difference between large data sets of healthy and diseased cells in order to discover new compounds for drugs. [Source](#)

Florida Power & Light is deploying AI across its operations to ensure a more reliable and efficient electric grid. The goal is to better manage the utility's increasingly complex networks and incorporate more renewable energy sources. [Source](#). AI is the technology that will help businesses to be agile, innovate, and scale.

The companies that become 'AI-powered' will have the ability to synthesize information (using AI to convert data into information and then into knowledge), the capacity to learn (using AI to understand relationships between knowledge and apply the learning to business problems), and the capability to deliver insights at scale (using AI to support decisions and automation).



Chapter 4

**What does the future for  
AI-infused UX look like?**

AI and UX design have evolved as disciplines that are quite distinct from each other. However, there is encouraging evidence pointing to the fact that AI technology can help enrich a user interface in interesting, useful ways, as is evident with the use of smart assistants such as Siri and Alexa.

Adaptive user interfaces (AUIs) such as these employ elements of AI to enhance the user experience. AUIs help in identifying and automating frequent tasks, for instance, when an email recognizes a phone number and lets users initiate a call with a tap on the number. These bits of low-risk AI make things easy for users and perhaps deliver some level of delight.

Similarly, enterprise users spend numerous hours using business process applications, often having to perform certain repetitive tasks day in, day out. For example, those in procurement have to order the same supplies from the same vendors, healthcare providers have to repeatedly retrieve clinical information, and lawyers have to keep referring to contracts they are drawing up based on incoming emails.

AUIs can take note of prior actions and automate the most frequent, repetitive tasks, freeing users' time and attention to focus on decisions that require actual human intelligence and efforts.

The **“adaptive system”** in computer science refers to a process in which **an interactive system adapts its behavior to individual users based on information acquired** about its user(s), the context of use, and its environment.

The idea of AUIs as a way to enhance user experience has been talked about over the past 3 decades. Advances in AI in the subsequent decade and the transition to online interfaces have helped create the perfect environment for the concept to manifest in the real world.

This technology is just now starting to spill over into enterprise and business process systems. For example, users of email technology are now able to enjoy actionable entities in their messages, such as turning events as reminders via a calendar entry, or phone numbers that can initiate a call when clicked.

Specific features such as these have moved into the enterprise through customer relationship management (CRM) systems, which now also recognize and highlight common entities like phone numbers and meeting information, speeding workers' interactions.

Adaptive design is about paying attention to the context and identifying user patterns. Consider the case of a supermarket app that might identify the monthly shopping lists of frequent customers and offer them discounts on frequently-bought items or notify them when their favorite items are on sale or are back in stock.

The key to creating an adaptive experience lies in combining smart device sensor data, network connectivity, and analysis of user behavior. When these capabilities come together, we not only understand the context of use but also anticipate what the user needs at a particular moment.

Owing to the nature of their work, UX designers have to always consider things from the users' perspective. This places them in the perfect position to identify use cases where an AUI might be beneficial. They can identify situations that affect a large number of users, those that may occur frequently or may have to be performed repeatedly.

AUIs have another significant and distinctive advantage as compared to other AI ventures, which is that the user is always a part of those interactions.

AUIs are a confluence of a machine's capability to record actions and automate tasks based on the user's understanding of context. Collectively, this combined intelligence capitalizes on automation while at the same time lowering the risk of the machine's actions.

A web browser is built in a way to correctly identify the user's personal data while filling online forms. The browser fills in as many elements as permissible and leaves it to the user's discretion to identify any elements it may have filled in incorrectly.

If the user corrects or edits any information that has been auto-filled, it is registered as additional information to help the AUI improve its performance.

Thus, AUIs are a complementary addition to other innovation approaches which boost efficient and error-free information processing. Easy execution is one of the more persuasive advantages of AUIs, which uses a limited-risk version of AI to have a significant impact.



# Conclusion

Across industries, enterprises are going through a profound shift with regards to AI adoption. AI poses opportunities and challenges in equal measure. Access to technology, data, and information is common to all enterprises, but it would be interesting to know how each one uses that information—and to what effect. It is crucial for enterprises to understand the parameters that will define their individual and collective success.

**Enterprise AI cannot be treated as a trend bandwagon** to jump on or something to be leveraged for standalone projects and use cases. The will to become a true AI enterprise can be realized by successfully scaling and employing robust data methodology at all levels and treat it as an organizational asset pivotal to the success of the business, regardless of the industry.



## **Banshi Mehta**

CEO & Founder, Koru UX Design

With over a decade of experience in the field of User Experience, Banshi Mehta is the Founder and CEO of Koru UX Design. A self-driven leader, she aspires to transform workforces through her work. Guiding, mentoring, and leading a team of over 35 passionate UX, UI, and front-end development professionals, she has empowered many businesses.

**“UX-ify workplaces”** is her motto. She believes that the User Experience for the workforces should be tailored to meet the needs of employees, managers, and business owners. A better Enterprise UX will not only result in a happier work environment, but also boost performances, productivity, and subsequently the revenues.

Apart from work, her interests include traveling, fine dining, reading, and socializing with like-minded people. An engineer from Bharti Vidyapeeth, she is a Certified Usability Analyst from Human Factors International (HFI) with an eye for detail.

A focused entrepreneur and a proficient UX consultant, Banshi is passionate about disruptive ideas and technologies that can help people be their best selves at work.

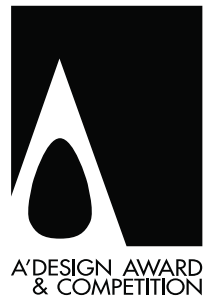
# About Koru UX Design

**Koru is an award-winning User Experience (UX) design agency specializing in enterprise applications.**

We partner with a range of companies from SaaS products to enterprise applications to help them increase the ROI from their products through our expertise in UX. Our team of passion-driven professionals has successfully designed and delivered over 450 projects across industries and geographies.

We believe that people deserve to love their jobs. The users of enterprise applications and products want flexible, intuitive, and easy-to-adopt software that helps them do their job better. However, many current applications do not offer that experience. Our undertaking for being an enterprise UX design company is infusing a user-centric approach to these systems to manifest the boons of the information age.

Today, our reach spans 8 million users across the USA with our solutions built for healthcare, finance, telecom, manufacturing, and travel. In 2021, our Integrated Telehealth Solution design was recognized with iF Design Award for User Interface design and A' Design Award (Silver) 2021 for Interaction design. To enquire how we can work together to designing better products, email us at [sales@koruux.com](mailto:sales@koruux.com)



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