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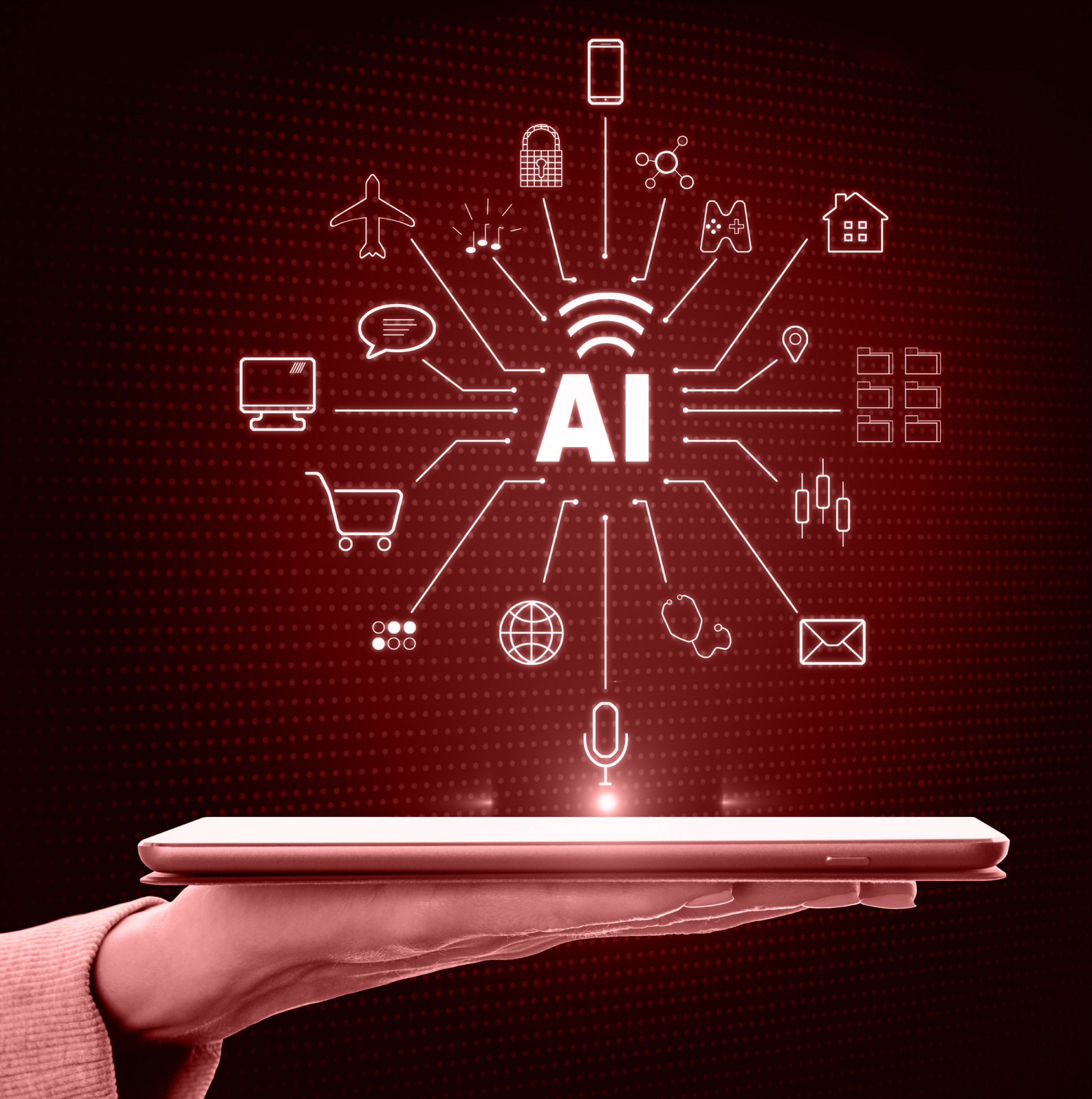
AI ADOPTION INDEX

Tracking India's Sectoral Progress on AI Adoption



Ecosystem Partners

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Dr. Rohini Srivathsa
National Technology Officer

Microsoft

With acceleration in digitalization and the explosion of data, adoption of AI is also increasing. AI is now empowering people and organizations across India and the world to achieve more. As industries scale and grow, it will be important to measure and fully understand the impact that technologies like AI are creating across critical sectors and the overall economy. We are happy to partner with NASSCOM in this initiative as we launch the AI Adoption Index for India. The index will enable organizations to understand and leverage the full potential of AI and help drive large-scale innovation and digital transformation.

Mr. Gaurav Iyer
Head of Advanced Digital Solutions

EXL

NASSCOM's AI Adoption index will allow companies to benchmark where they are on the AI maturity curve versus enterprises across industries. It will allow businesses to get insights and best practices from successful AI deployments across use-cases, functions and value chains. In addition, the AI Adoption Index will allow AI solutions service providers and their ecosystem to understand gaps and build new capabilities and solutions that deliver outsized business outcomes.

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AI ADOPTION INDEX

Dr. Chandrasekhar Balasubramanyam
VP and Head of Data Sciences, Analytics and AI

Capgemini

AI Adoption Index is a must today to understand the current landscape and to prepare for the future challenges. The AI Adoption Index helps us with a measurable metric to estimate the resources required to take on the new challenges to stay advanced in the market.

Vijay S Bhaskaran
Artificial Intelligence Leader

EY Building a better working world

AI Adoption Index will provide a benchmark for organizations to effectively strategize their AI ventures with adequate focus on budget planning, operations streamlining and in-house talent building. The Index will help shape a culture to innovatively, and responsibly harness the value AI can potentially unleash.

FOREWORD

Artificial Intelligence (AI) will power India's TECHADE and assist in realising a multitude of ambitions. A decade ago, the world was discussing the theoretical possibilities of AI; today, we're witnessing many of those theories become reality. The world is entering a revolutionary period wherein AI adoption will surge, affecting companies and society in ways that were previously only imagined in science fiction.

AI is transformative in nature as compared to previous technologies, and businesses are beginning to see its potential. Over the previous five years, Indian markets have experienced enormous progress in AI-related strategy, talent development, infrastructure, and data readiness. From here on out, the growth narrative will only get better. As we read this paper, AI is hard at work, saving lives, transforming global supply chains, making financial services robust, and disrupting shopfloor operations, among other things. Many leaders believe AI to disrupt their business offerings, customer experience and operations.

NASSCOM, along with EY and with support from Microsoft, EXL and Capgemini, has developed a first of its kind AI Adoption Index for India. The study intends to assess AI adoption in India and dive deep into the four key sectors which are leading India's AI story - BFSI, CPG and Retail, Healthcare, and Industrials and Automotive. The index has been designed to assess India's AI maturity keeping a holistic view in mind. The overall score is calculated based on performance across six dimensions which cover aspects related to AI strategy, investments, talent, technology and data readiness, innovation, and ethics and governance, Based on the aggregate score, the index rates enterprise maturity on a four-point scale and categorises it as Explorer, Enthusiast, Expert, or Evangelist.

We anticipate that this study will be instructive and valuable while serving as a guide to help you experience the Indian AI growth story. Most importantly, we hope the study will be instrumental in helping you navigate your AI journey in an informed manner.

Sangeeta Gupta
Senior Vice President
NASSCOM

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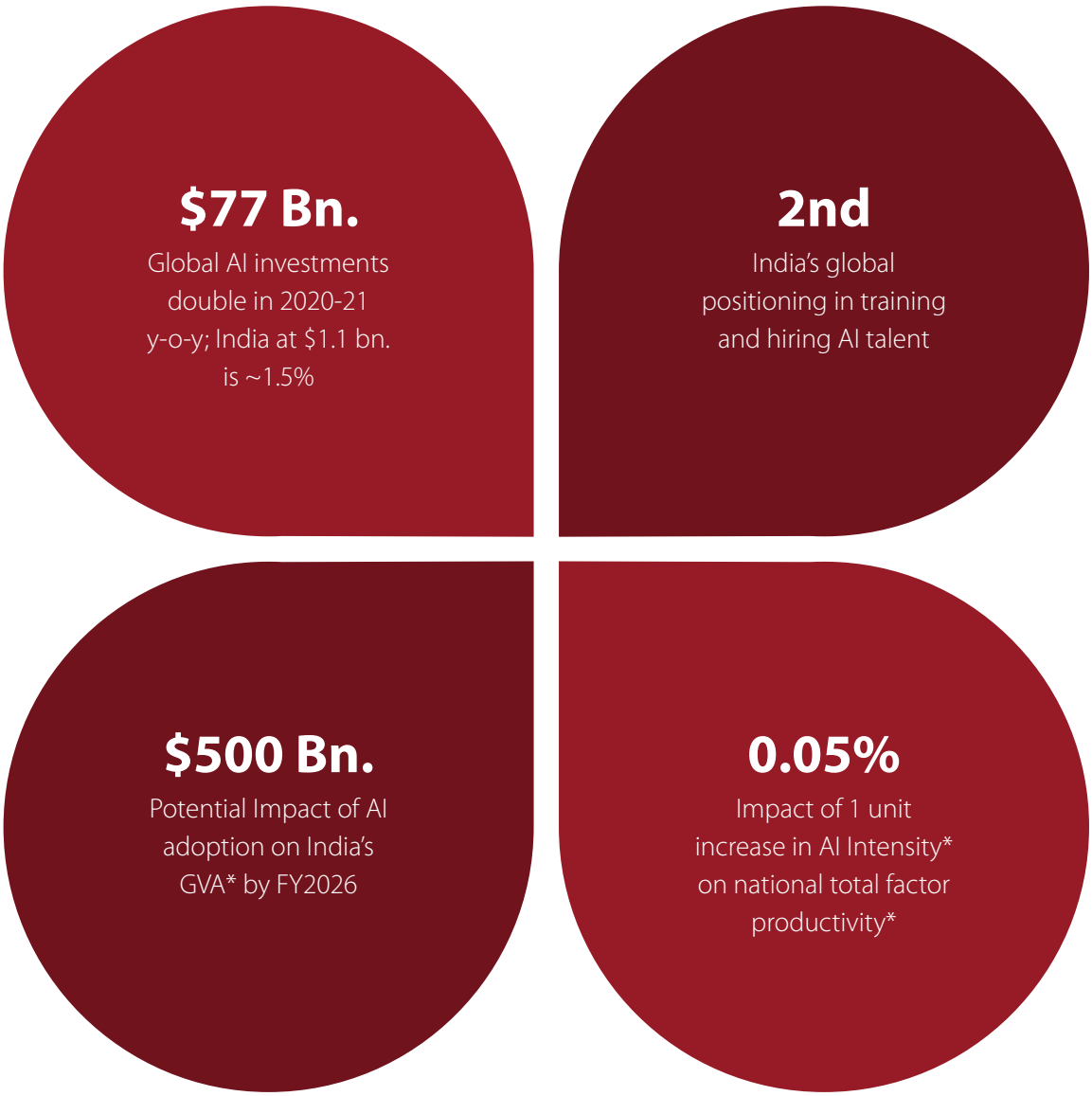
1. India's Digital Economy in this Techade Depends on World-Leading AI Focus



- Global AI investments include investments by end-users and technology solutions providers
- AI Intensity = Spend on AI as percent of IT Budget or Annual Revenue
- Total Factor Productivity is a 'residual' term that can explain how factors other than capital and labour, such as investments in R&D, improvements in firm level capabilities and technologies, can trigger growth.
- GVA is Gross Value Added

2. The NASSCOM AI Maturity Index is a First in India to Assess Enterprise Adoption

AI's projected potential needs a reality check against actual implementation. NASSCOM's AI Maturity Index aims to measure and analyze the preparedness of Indian enterprises in converting the AI opportunity into tangible economic value, year-on-year.

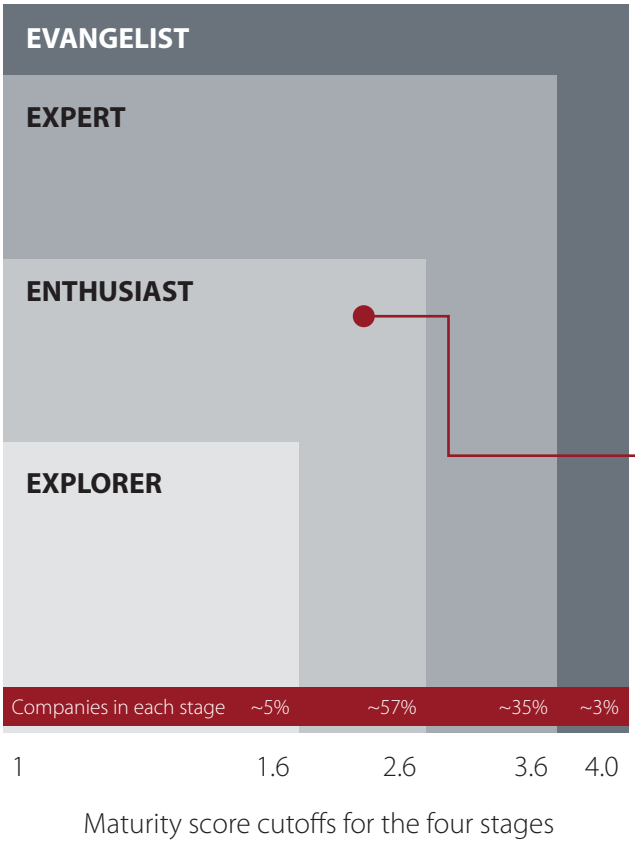
NASSCOM AI Adoption Index – Dimensions and Demographics

	BFSI, CPG and Retail, Healthcare and Industrials and Automotive
	Six core dimensions of AI adoption performance
	4 maturity stages – Explorer, Enthusiast, Expert, and Evangelist
	350 end user enterprise surveys; ~30 executive interviews

With AI adoption, the four sectors of BFSI, CPG & Retail, Healthcare, and Industrials & Automotive, are likely to contribute 60% of the net new value add of $500 bn. by FY2026.

3. Enterprise AI maturity evolution is mapped to a four-stage journey, across a four-point scale, with majority enterprises at the middle stages of evolution

Maturity Stages and Distribution



Maturity score cutoffs for the four stages

Maturity Stage Definition

Evangelist: Exceptional focus on integrating AI strategy, budgeting, and AI governance with corporate-level strategies, internal talent building, and executing highly scalable AI use cases

Expert: Greater enterprise focus on cross-silo AI use cases is evident in at-scale AI projects, with budgets up to 25% of IT budgets, formal internal reskilling and acquihiring, and emphasis on data standards and a well-documented AI audit framework

2.45
India's Aggregate AI Adoption Maturity

Enthusiast: Emerging functional alignment is seen in choice of use cases, AI strategy and budget allocation, but legacy and silo-ed data adds to the still limited and informal budget challenge, limiting scale-up and outcome assessment

Explorer: Ad-hoc AI strategy and budgets, as focus rests on PoCs, but with limited planning, legacy IT, not adequate data, it is PoC paralysis

4. In the 2022 AI adoption assessment, India scores a 2.45 on 4, at an Enthusiast level, suggesting the long way ahead to "making AI real"

- **<15%** have enterprise AI strategy embedded into corporate strategy
- **67%** spend **<10%** of IT budget on AI; mostly ad-hoc budgeting
- **50%+** still need adequate data at a BU level to develop data standards
- **<40%** have started building dedicated teams for AI, particularly CoEs
- **59%** approach innovation in AI by incubating startups; academic partnerships lag
- **60%** have some form of documented AI audit standards

5. Sectors seem to converge on overall AI maturity, but greatly diverge in the choices that led them to this maturity, suggesting the need for sector-specific strategies ahead

BFSI
AI Maturity:
2.42

- 70% companies have a well-defined AI strategy
- 82% have active PoCs or specific use cases
- 73% focus on innovation with AI
- 55% leverage AI for improved customer service
- 72% allocate <10% of IT budget to AI projects

CPG and Retail
AI Maturity:
2.51

- 62% companies have a well-defined AI strategy
- 75% have active PoCs or defined use cases
- 70% focus on revenue growth with AI
- 57% leverage AI in sales and marketing
- 60% allocate <10% of IT budget to AI projects

Healthcare
AI Maturity:
2.35

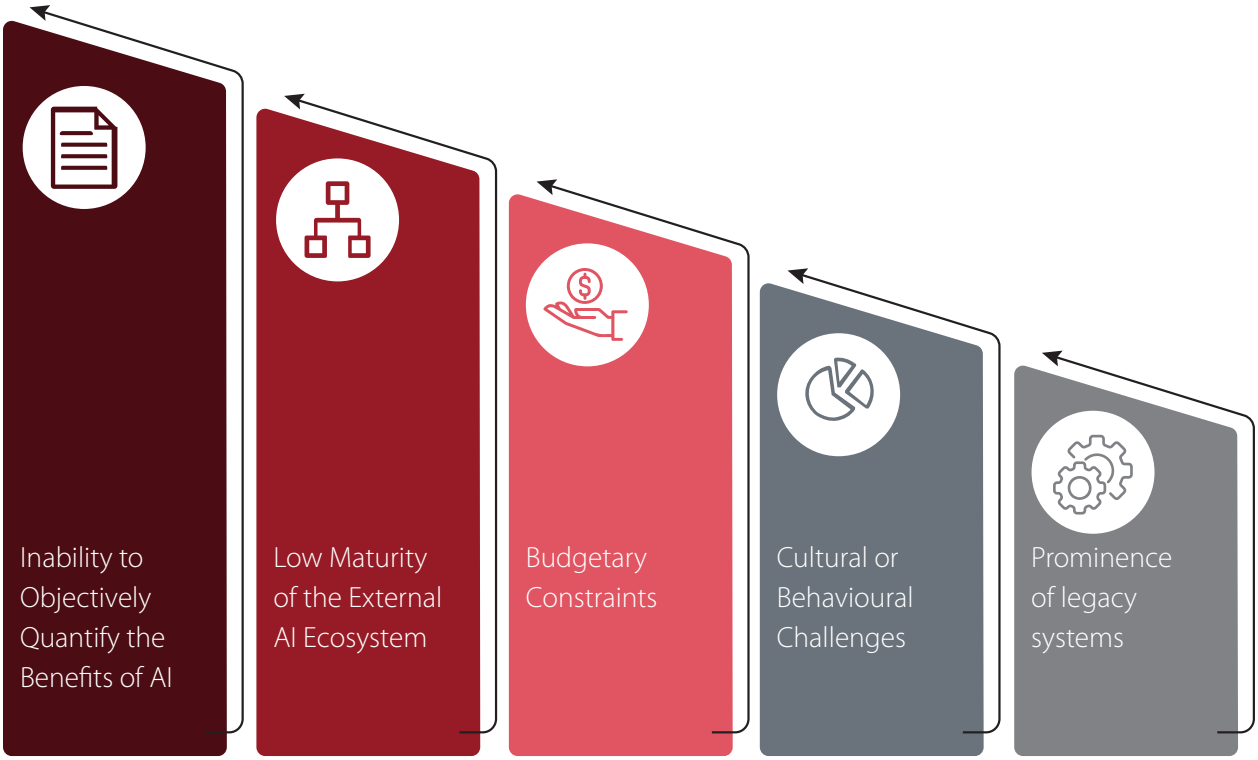
- 55% have a well-defined AI strategy
- 70% have active PoCs or defined use cases
- 67% focus on cost optimization with AI
- 62% leverage AI in product/service development
- 70% allocate <10% of IT budget to AI projects

Industrial & Automotive
AI Maturity:
2.52

- 78% companies have a well-defined AI strategy
- 67% are testing AI PoCs or limited use cases
- 68% focus on cost optimization with AI
- 56% leverage AI in production & operations
- 58% allocate <10% of IT budget to AI projects

6. Maturity scores for Data and Technology dimension, and also the impediments to AI adoption, reveal that the inability to continually assess AI value delivery, coupled with legacy IT and discordant technology decision-making, is stalling AI@scale

Impediments to AI Adoption



Where Mature Enterprises Differ

35% companies track return on digital investments and PoC-to-production time

~45% track the advanced digital RoI metrics, such as the marginal cost of digital project scalability

<25% report budget concerns when starting or scaling AI projects

<20% have legacy systems and cultural resistance issues, suggesting better alignment between IT and Business on technology decisions. Further, 75% have standardized data across the enterprise

7. Fixing Technology and Data Silos, Lack of AI Expertise, Limited Lab-to-Market Success, and A Culture of Inadequate Assessment is Crucial to Greater AI Adoption

Making AI Mature in India

Continual Impact Assessment of AI Projects

Mature AI adopters define and integrate digital transformation metrics into the overall business outcomes framework, rather than focus only on project-based RoI

Integrating Technology and Business Architecture

Enterprises must reimagine technology investments around future business architecture using integrated, modular, open-source technology and data strategy

Streamlining IT and Business Alignment to Weed Out Legacy

Business functions see greater merit in AI, but are challenged by legacy IT provisioning processes, leading to limited cooperation, shadow IT, and failed AI initiatives

Continual Upskilling in AI Technologies "and" Domain

Majority focus is on entry-level AI. At-scale initiatives need continual upskilling combining cutting-edge tech with specific domain to carve out high-impact use cases

Effective Lab-to-Market for Value-Driven Innovation

Lab-to-market time, strategies, and partnership models are important, and so is the identification of use cases that fit into this innovation construct

1

THE ROLE OF AI IN SHAPING INDIA'S TECHADE

AI'S PRIMACY IN SHAPING INDIA'S TECHADE

India's Techade Hinges on World-Leading AI Adoption

Global Artificial Intelligence (AI) investments have more than doubled between 2020 and 2021, to a high of $77 bn. in 2021, from $36 bn. in 2020. While the scope of AI-driven opportunities is discussed widely, it is equally important to focus on India's preparedness in converting AI's potential to tangible national value.

A General Purpose Technology (GPT), AI packs transformational impact for India due to a rich and diverse data economy. Large-scale investments funnelled into making the country digital-ready over the past decade have strengthened India's ability to address societal and environmental problems and drive equitable growth.

India's digital economy goals are inextricably linked to AI adoption

India's ambitious trillion-dollar digital economy and $5 tn. GDP goals by FY2026-27 have a strong correlation to maturity of AI adoption. There is a positive and significant correlation between usage of AI and the growth of Total Factor Productivtiy (TFP). NASSCOM's research "Implications of AI on the Indian Economy" postulates that a unit increase in AI intensity can increase the Total Factor Productivity growth by 0.05%*.

Tracking AI adoption is key to building focused solutions

Having established the correlation between AI usage and its net effects on the economy, it is seen that serious attempts have not been made to track and assess the adoption of AI and related technologies at the enterprise level in India. This index is the first detailed assessment of AI adoption trends in India, beginning with four key sectors that could contribute ~60% of AI's potential value-add of $450-500 bn to India's GDP by 2025.

India starts from a lower base compared to its global peers, and though the current rate of AI investments in India is growing at a CAGR of 30.8%, and poised to reach $881 mn. by 2023, it will still represent just 2.5% of the global AI investments of $340 bn. This is in contrast with India's leadership in the rate of AI skill penetration—3.09 times the global average between 2015 to 2021 and the rate of private investments in AI that is 4th highest globally.

$67 bn.

Immediate term effect on India's GDP with one unit rise in AI intensity at the end-user level

AI intensity = AI spend/total sales

$450-500 bn.^

Potential value-add from AI use to India's GDP by 2025 (pre-COVID estimates) on the back of an integrated data utilization strategy

~60% of AI-led value-add expected from

- Consumer Goods & Retail
- Banking, Financial Services & Insurance (BFSI)
- Energy & Industrials
- Automotive Manufacturing
- Healthcare

Why a new Index?

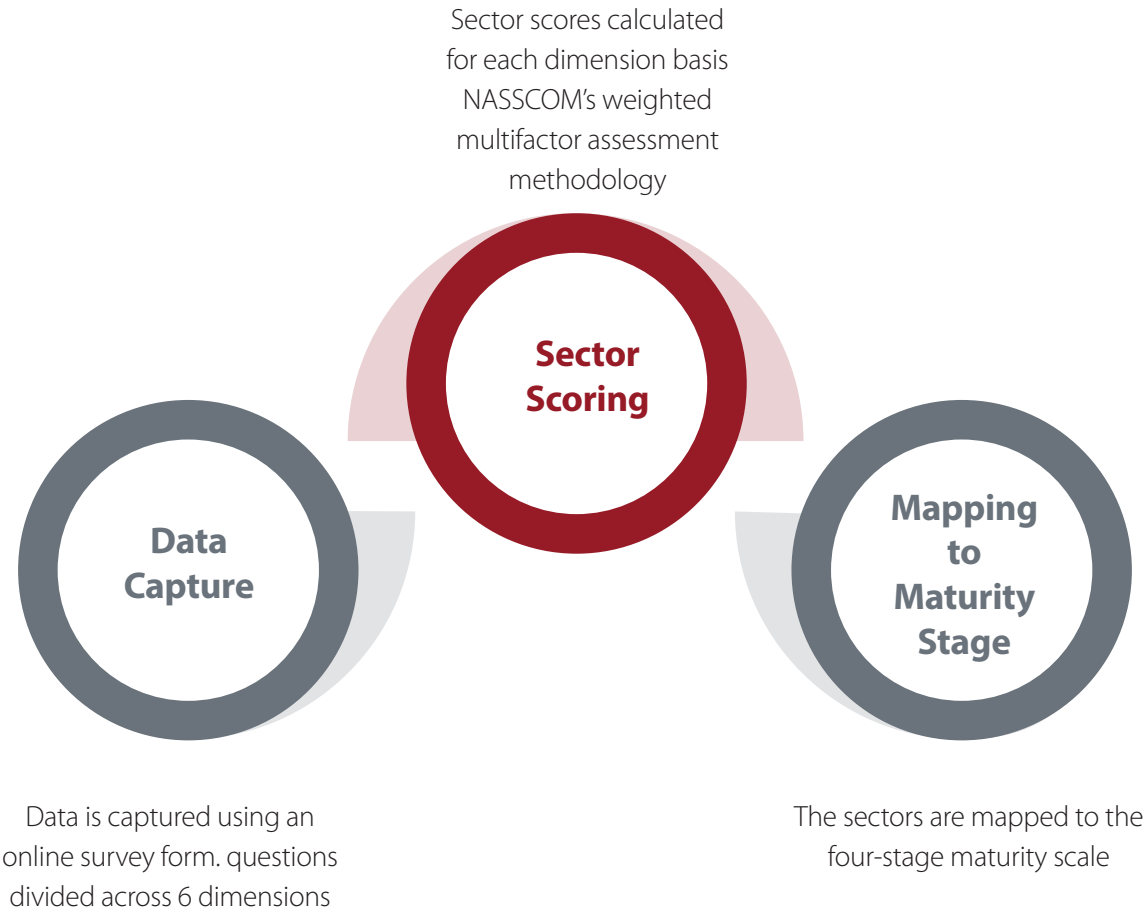
The NASSCOM AI Adoption Index aims at introducing AI maturity assessment for end-user enterprises, starting with four core sectors, and potentially working up the sectoral diversity and comprehensiveness of the index in its future versions to reflect India's advances in this space.

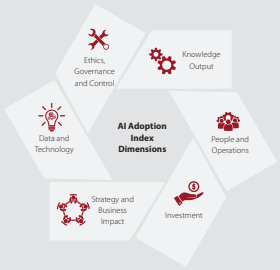
The AI Adoption Index Overview

The **NASSCOM AI Adoption Index** is India's first enterprise-level AI adoption report. The Index tracks and measures the rate of AI penetration among enterprises in India and arrives at a composite score both at the country-level and also at the sector level.

Further, based on the scores, the sectors are positioned on a 4-stage maturity scale, where each stage on the scale denotes a specific level of maturity. This enables a fair-view judgment of the relative positioning of the sectors not only in terms of their advancements but also serves as a comparative base for inter-sector comparison.

Stages of the AI Maturity Study





Comprehensive 6-dimension Assessment Framework

350 responses + 30 interviews + Desk Research

BFSI

Healthcare

CPG & Retail

Industrials & Automotive

Covering four core sectors of the Indian economy

Key challenges and sector-level recommendations

NASSCOM AI Adoption Index Framework

India's first enterprise-side (buyer) AI Adoption Index

- Indian MNCs
- Global MNCs
- Start-ups
- Scale-ups
- PSUs
- Educational/Research Institutes

Statistically significant respondent groups

Four-Stage Maturity Framework

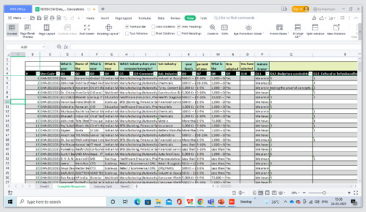
1 EXPLORER

2 ENTHUSIAST

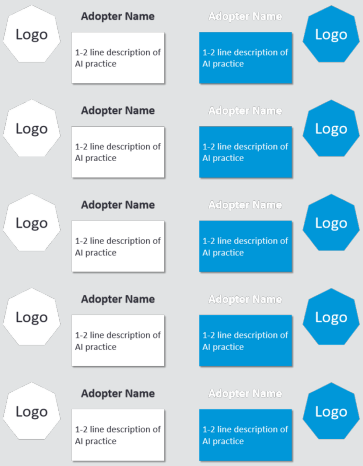
3 EXPERT

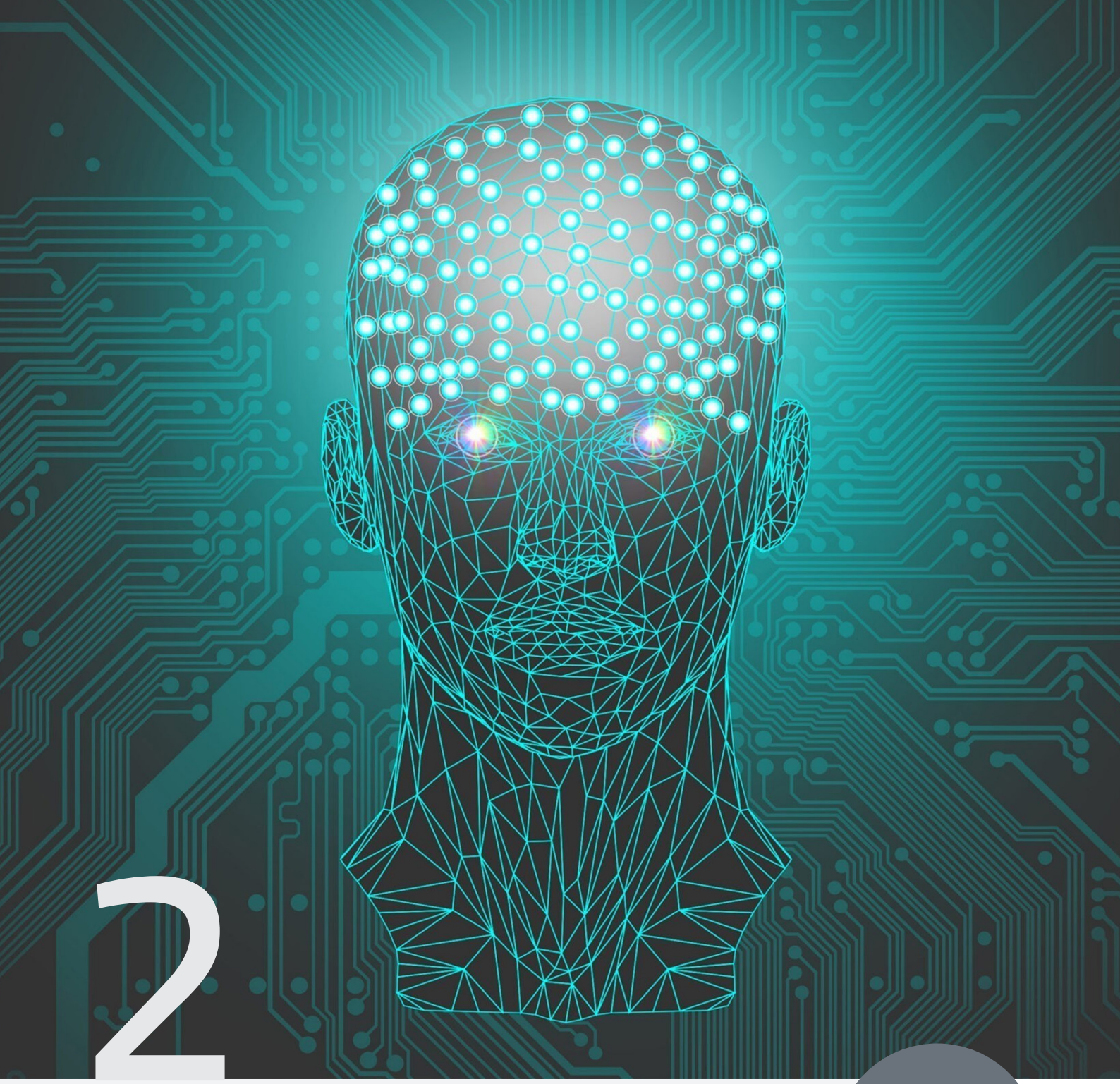
4 EVANGELIST

33-set Survey Questionnaire



Compendium





2

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Stanford University defines Artificial Intelligence as:

"the Science and Engineering of making Intelligent Machines, specially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable"

"The most profound technologies are those that disappear. They weave themselves in to the fabric of everyday life until they are indistinguishable from it"

Mark Weiser,
1991, "The Computer for the 21st century"

Artificial Intelligence is transformative in nature, different from other technologies

Aritificial Intelligence has rightly been termed as a General Purpose Technology or GPT. This stems from AI's transformation ability to impact every aspect of human life - both personal as well as societal. Today, the application areas of AI span multiple sectors helping societies and governments to solve pressing global issues.

There are multiiple defintions for Artificial Intelligence, depending upon its uses - commerical or academic.

NASSCOM's report "Implications of AI on the Indian Economy" (2020) adapts Russell and Norvig's framework from their 2009 book "Artificial Intelligence: A Modern Approach'

The Framework defines AI across four broad dimensions:

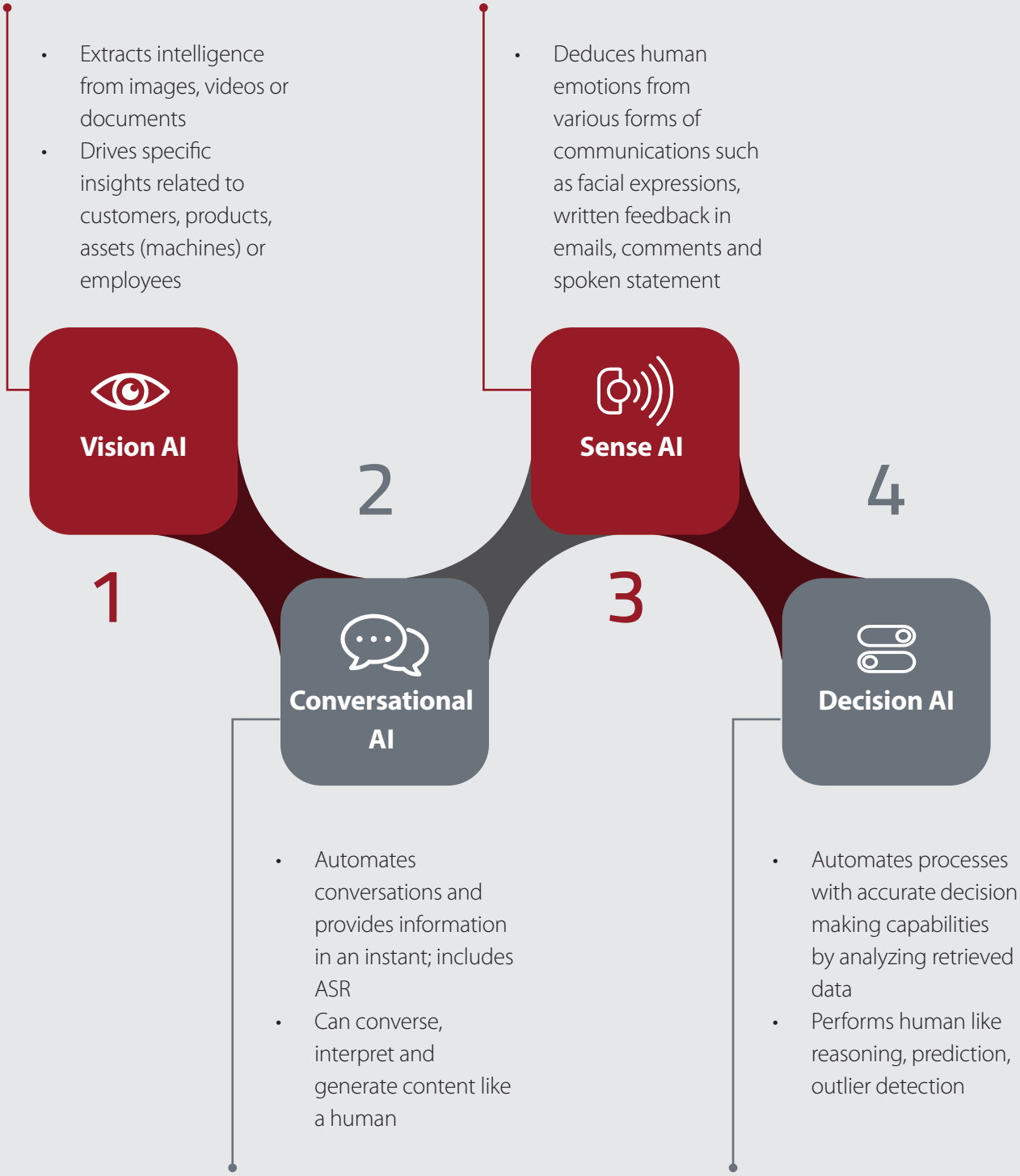
Thinking Humanly
Cognitive Science

Acting Humanly
NLP, Knowledge Representation, Automated Reasoning

Thinking Rationally
Syllolism, Logic

Acting Rationally
Rational Agent Models

TYPES OF AI



Source: EY

AI ADOPTION INDEX

NASSCOM AI Adoption Index

The aim of the AI Adoption Index is to assess whether India is on track to achieve the vision of AI contributing significantly to Indian economy by FY2026. Hence, to ensure well-rounded assessment, six dimensions have been identified to evaluate the progress across factors from strategy to implementation to supporting ecosystem and impacting policies.

Strategy and Business Impact

Defines organizations' AI strategy, driving force behind AI adoption, focus areas for use cases and impact observed

- Driving force for AI adoption
- Development of AI strategy
- Process and productivity improvement
- Business impact

Investment

Sheds light upon the organization's dedicated budget allocation and planning for AI initiatives along with primary areas for spend

- Leadership willingness to invest in AI
- Investment in AI R&D
- Amount of investment in AI adoption and implementation

People and Operations

Highlights decision-making mechanism, AI implementation and talent management strategies

- Number of new AI jobs created
- Upskilling/reskilling initiatives
- PM methodology and implementation
- Organization structure

Data and Technology

Assesses organizations' application and data readiness for AI development and deployment

- Sophistication of AI technology
- Number of AI use cases
- IT readiness for AI
- Data management practices

Knowledge Output

Gauges if companies are focusing on innovation in AI and associated approaches taken to drive knowledge development

- Number of AI patents/ publications
- New innovations in AI space

Ethics, Governance and Control

Focuses on responsible use of AI by means of ethics and governance frameworks and compliances in place

- Responsible and ethical AI practices
- Audits and control mechanisms for AI implementations

The Index Formulation and Maturity Stages

Across the six dimensions, targeted questions to assess the AI maturity of the respondents, were weighted using a multifactor model to arrive at the AI Adoption Index that revealed four stages of maturity on a 4-point scale – from the lowest Explorer, to Enthusiast, Expert, and the most mature Evangelist stages. Detailed interviews with select industry leaders, along with secondary research, were used to corroborate survey findings and understand in-depth patterns. The chart below captures the stage-wise journey along the critical parameters that are helping enterprises lay the foundation for bigger and bolder AI initiatives – AI strategy, budgets, PM methodology, talent, core IT readiness, and AI governance.

New entrant figuring out how to use effectively AI

Beyond Proof-of-Concepts to drive AI adoption in organization

Collaborated with industry disruptors to implement AI solutions

Most mature in AI adoption, focusing on democratization of AI

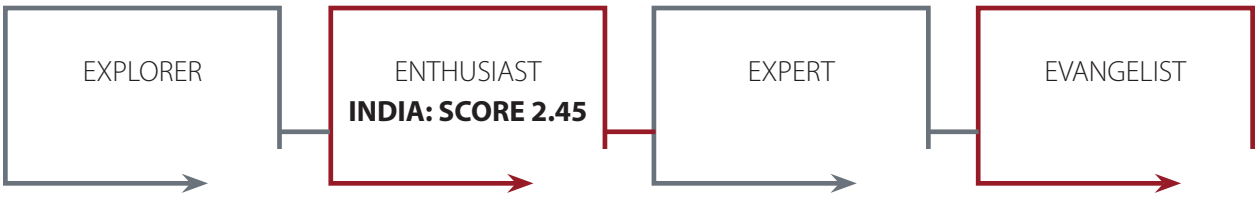
AI Maturity Parameters	Explorer	Enthusiast	Expert	Evangelist
AI Strategy	No strategy, AI PoCs are ad-hoc	Ad-hoc to functionally aligned	Functional AI strategy	Enterprise-scale, embedded into corporate strategy
AI Budget	No budgets, to max 5% of IT budget	1-10% of IT budget	5-25% of IT budget	>25% of IT budget
Talent Strategy	AI experts on contract/ gig model	AI experts on contract/ gig model	Combination of gig and internal skilling	Internal retraining and upskilling
AI Project Management strategy	No process, or plan towards designing one	Designing a PM methodology for AI projects	BU PMO, with enterprise funding and approval	Enterprise PMO for funding, approval and initiation
Data Readiness	Inadequate data, in silos	Silo-ed BU level data	BU-level data standardization	Enterprise-wide standardized data
Technology Stack	Legacy Applications stack	Co-existence of legacy and modernized stack	Modernized Applications stack	Modernized Applications stack
Audit and control	No risk management and AI audits in place	Ad-hoc monitoring, formal process in design	Formal risk strategy focused on compliance	Integrated ERM with continuous review

3

INDIA'S AI JOURNEY

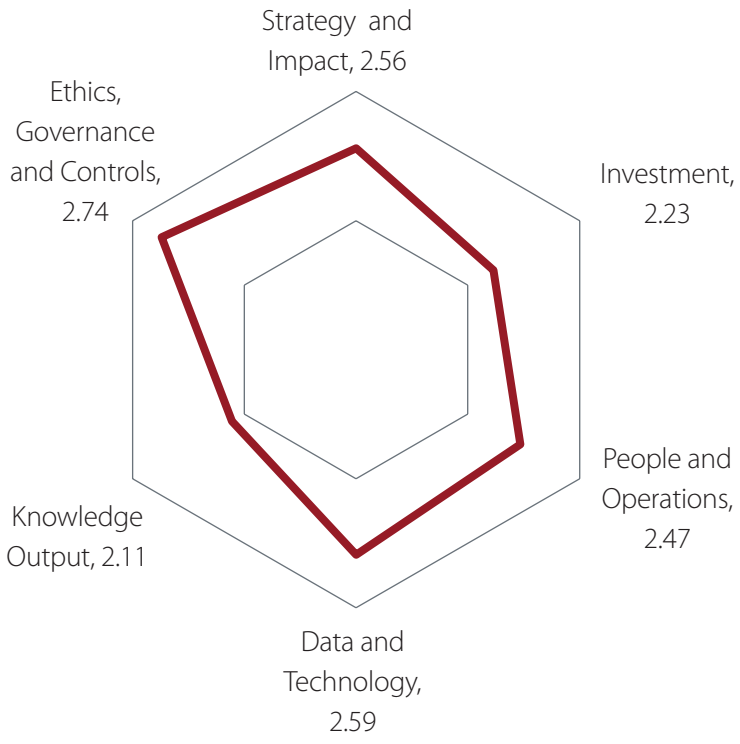
INDIA'S AI JOURNEY

Indian organisations acknowledge the value that AI can unlock for them. As majority of the players have already embarked on their AI journey and formulated a vision for AI, large scale and innovative developments can be expected in the near future.



In line with the India's AI maturity score, majority of the organisations showcase the following characteristics across key AI parameters.

- AI Strategy: Function Level
- AI Budget: Ad-hoc or basic
- Talent Strategy: Gig model, with a shift towards developing inhouse AI talent
- AI Project Management Strategy: Designing/Partially implemented
- Data Readiness: Transitioning to standardized data
- Technology Stack: Modernised
- Audit and Control: Well documented frameworks



Key Insights of the Study

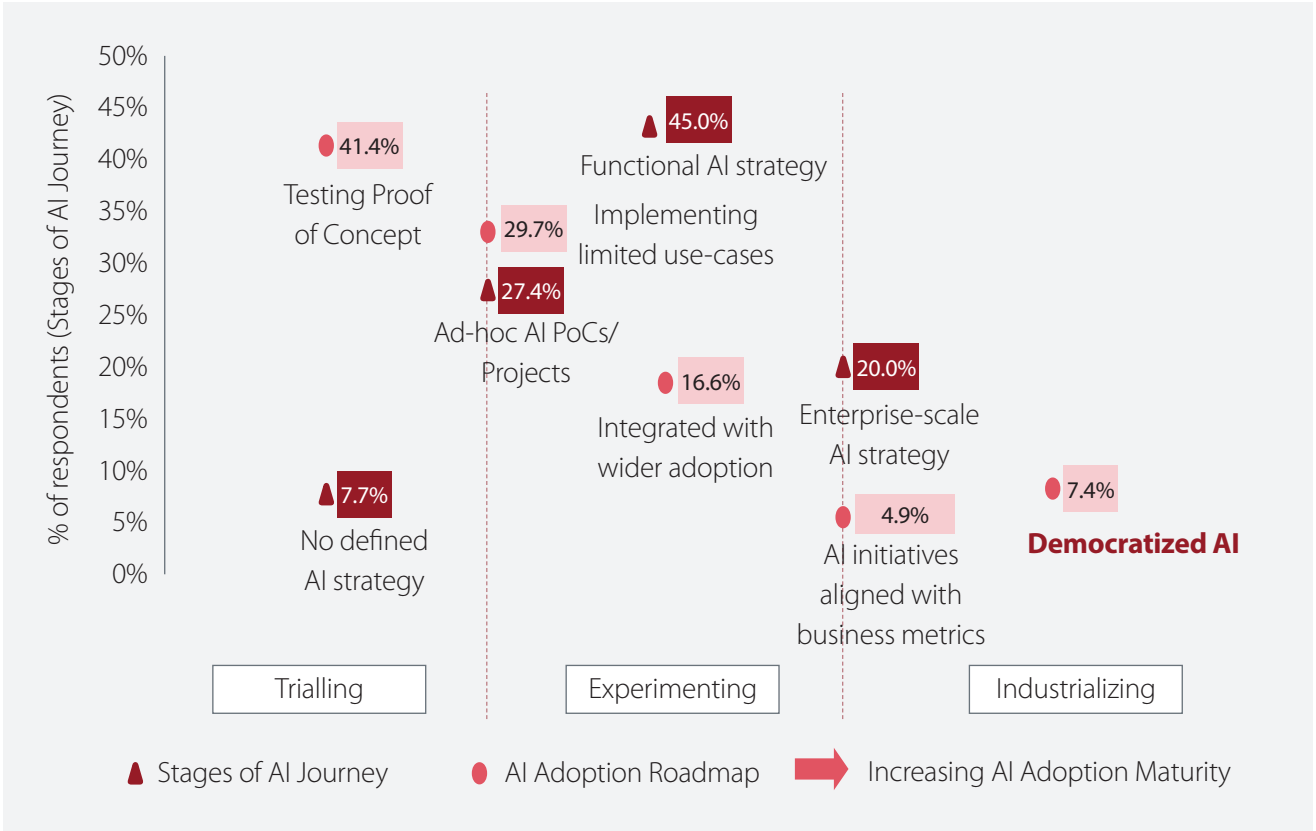
Strategy & Impact	65%	of organisations have AI strategy defined either at a functional or enterprise level
	47%	Respondents have only PoCs or limited AI use case implementation
Investment	68%	of organisations have an ad-hoc or basic AI budget
	64%	of respondents spend about 1-10% of IT budget on AI
People & Operations	52%	either have no PM methodology for AI or are still designing one
	44%	organisations have designated teams for AI initiatives
Data & Technology	44%	either have inadequate or silo-ed data, limiting them from scaling AI solutions
	>80%	organisations have designated teams for AI initiatives
Knowledge output	59%	of organisations approach AI innovation via start-up incubation and in-house AI labs
	40%	CAGR of AI patent filing observed in last 5 years[3]; driven primarily by academic and research institutes
Ethics, Governance & Controls	60%	possess audit and control frameworks to mitigate risk and drive continuous improvement
	59%	have a well defined ethics framework in place enabling them to use AI responsibly

STRATEGY AND IMPACT

Score : 2.56

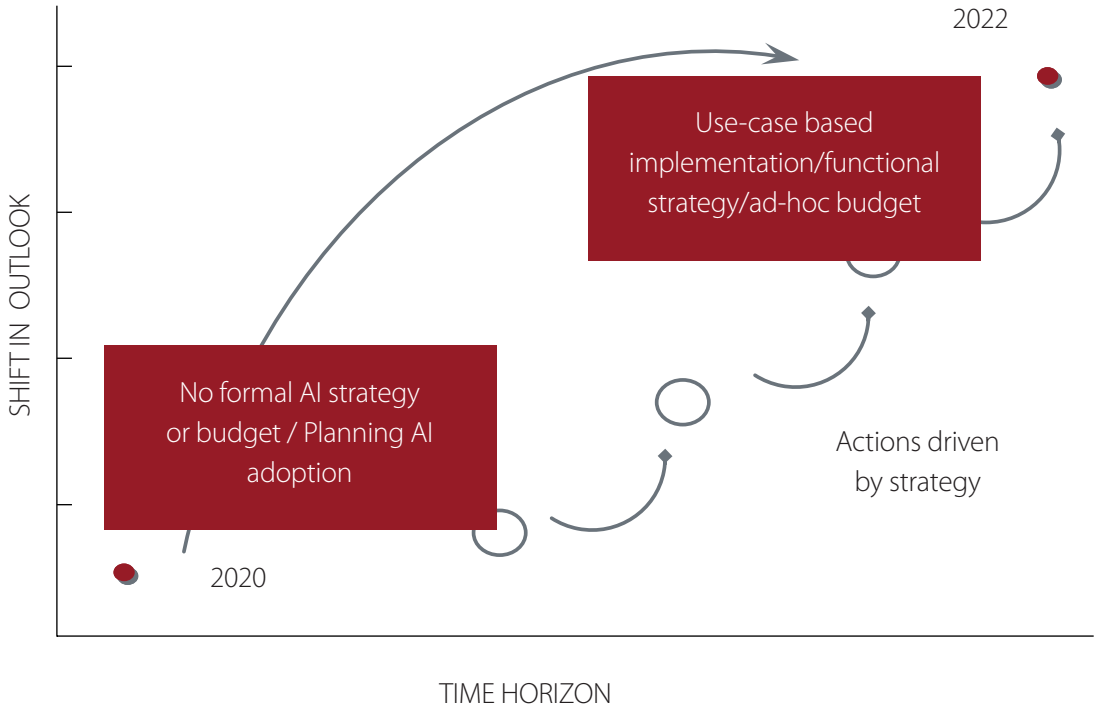
1. Ad-hoc AI use case implementation across organisations
2. Increased leadership focus on AI
3. Rising focus of AI as a tool for innovation and growth

1. Ad-hoc AI use case implementation across organisations



Majority of Indian organisations are transitioning towards the middle stage of maturity with defined AI strategy and implementation of limited use-cases with a vision to scale up these solutions.

2. Increased leadership focus on AI



Increasing digitisation post COVID appears to be a driving factor for this shift [4]

3. Rising focus of AI as a tool for innovation and growth

Optimisation Growth Innovation

Although optimisation is the primary driver for AI adoption, a shift towards innovation and growth has been noted. This is in line with expansion of AI from back office roles to customer centric ones.

Key Takeaways

1

Increasing formal approach to AI adoption

- Companies are moving from 'no defined AI strategy' to testing PoCs and implementing limited use-cases

2

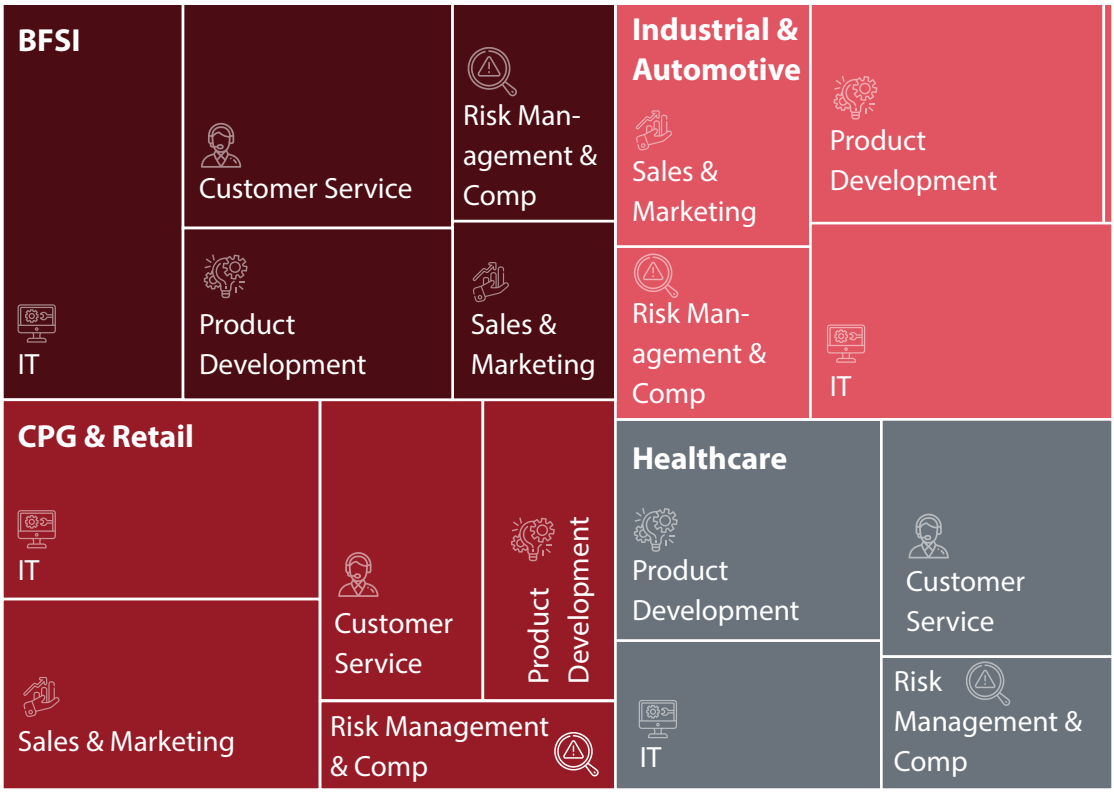
Process Optimization is still the biggest driver for adoption of AI

- The leading adoption driver for AI continues to be optimisation
- With increasing maturity and clearer and visible RoI, the focus shifts to innovation and growth

3

IT, Product Development and Customer Service are the top business functions with multiple AI use-cases

Top 5 Business Functions witnessing AI intervention



The box size represents the size of AI investment by the function within the respective sector. As can be seen, functional prioritization for implementing AI differs across sectors.

Key Findings

1. Companies are moving beyond just **cost considerations** to adopt AI

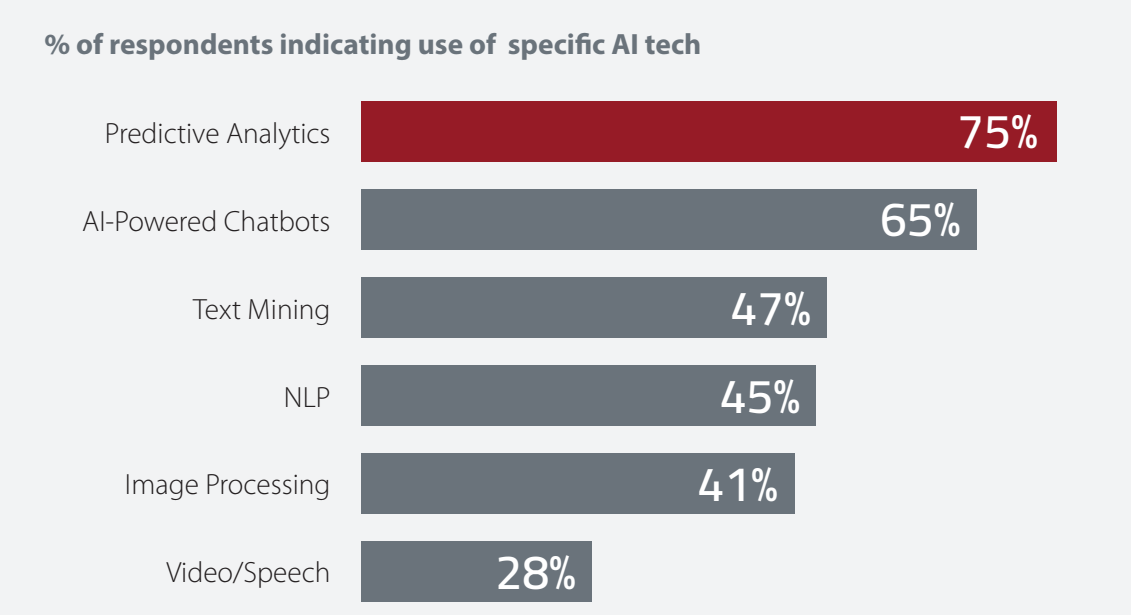
2. There is a growing focus on **achieving customer-centric** goals leveraging AI

3. **Larger** organizations are driving innovation with AI, helped by dedicated budgets, resources and alignment with broader objectives

4. The Retail sector is banking on AI to drive growth (70%), while AI-led innovation is driven by the BFSI (65%) and Healthcare (60%) sectors

5. **Predictive Analytics** and **Chatbots** are the most widely-used, spanning different business functions

6. Quantifying the business impact of AI adoption (59%) remains a key bottleneck, followed by low maturity of the enabling ecosystem (56%). Budgetary constraints comes in as the third biggest challenge (55%)



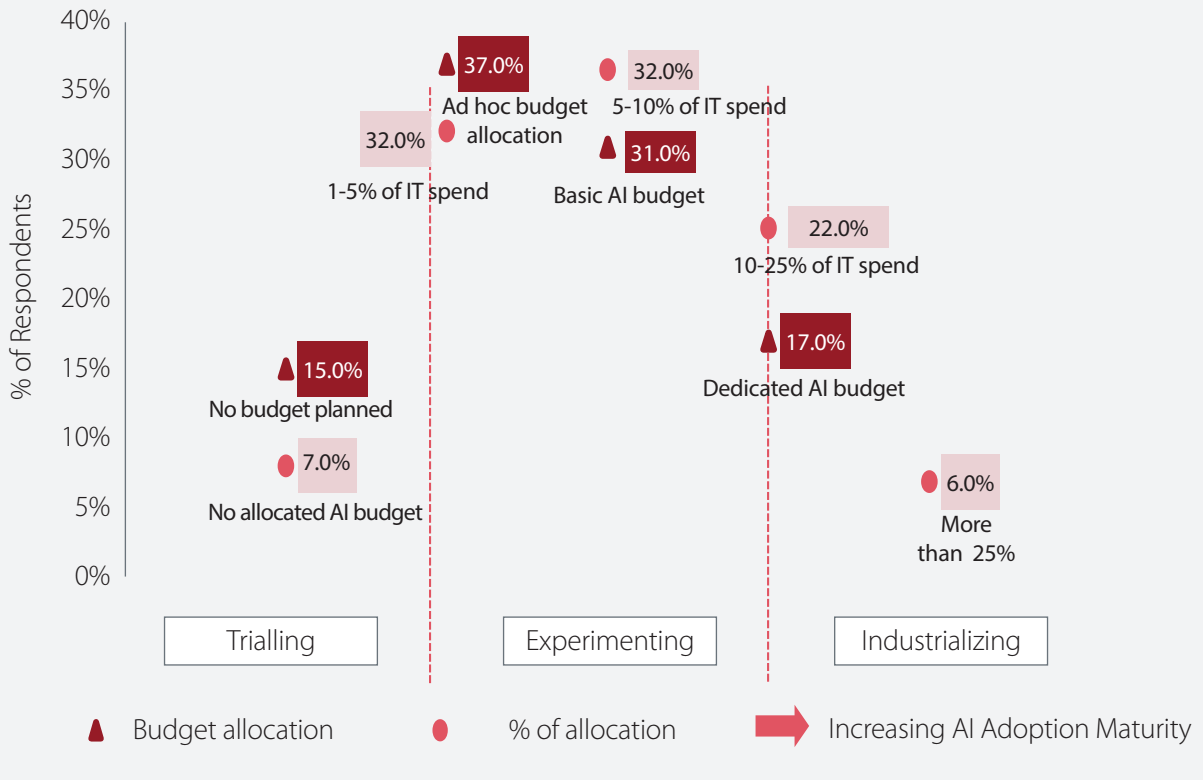
INVESTMENT

Score : 2.23

1. Ad-hoc budget allocation for AI initiatives
2. Inhouse AI solution development over plug and play
3. Rising importance of Opex in AI investment approach

1. Ad-hoc budget allocation for AI initiatives

Budget allocation trends



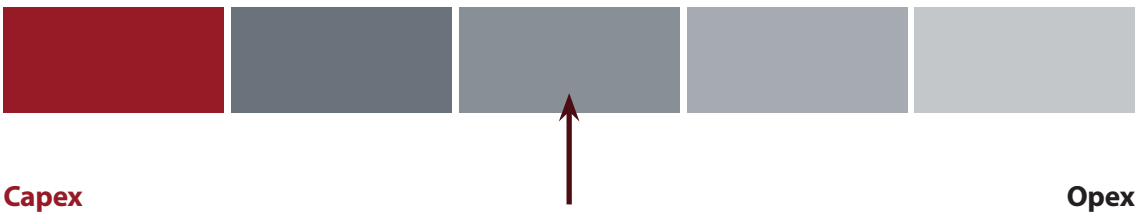
Majority of the organisations in the intermediate stage of AI maturity have need-based or basic AI budget allocations leading to lower percentages of IT spend on AI. It still is a shift from 2020 when vast majority of corporations did not have an AI budget.

2. Inhouse AI solution development over plug and play

Inhouse development **Off-the-Shelf**

A correlation between maturity and focus on inhouse AI development was noted. Organisations who are still testing the waters with AI, prefer plug and play solutions while more mature ones use inhouse products.

3. Rising importance of Opex in AI investment approach



Capex **Opex**

Organisations have realized that adequate accounting for both capex and Opex is important for effective investment planning for AI initiatives; contrary to the earlier popular belief of Opex being low for AI.

PEOPLE & OPERATIONS

People

Score : 2.47

1. India a Global talent hub for AI
2. Demand for AI talent much higher than supply
3. Firms rely on contracting while they build internal AI talent

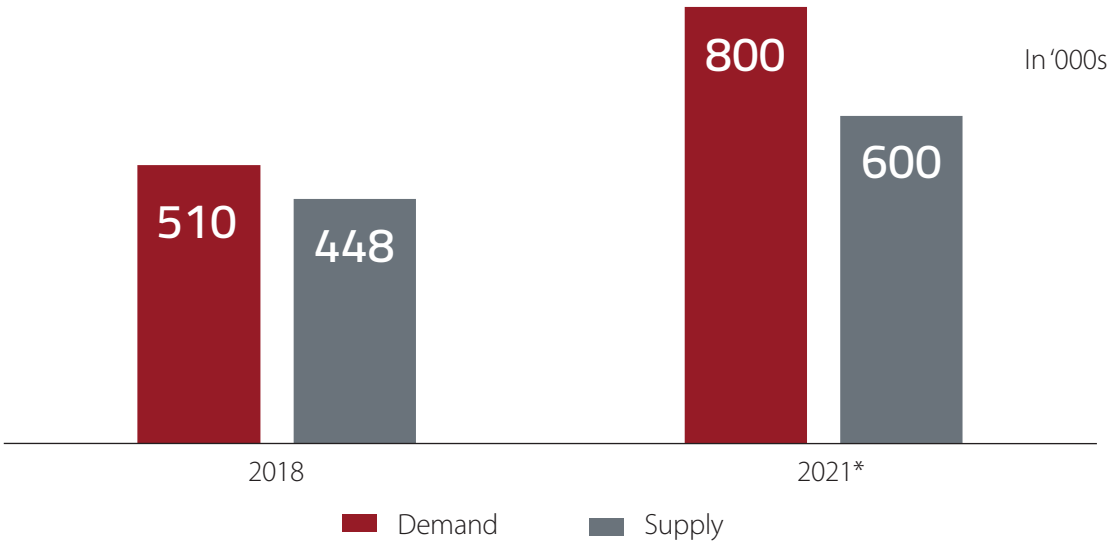
1. India a Global talent hub for AI

With a burgeoning number of STEM graduates and digital natives, India is one of the biggest talent hubs for AI. There are over 40+ GCC's focused on AI/ ML in India.[5]

Bangalore ranks **fifth** amongst the top global AI hotspots[6]

2. Demand for AI talent much higher than supply[7]

Rapid growth in AI applications has led to a surge in hiring for AI professionals. While the talent pipeline has grown over, rapid jump in **talent demand has caused a supply demand gap**



The demand and supply numbers are aggregate and include both tech and non-tech sectors. The analysis was conducted in 2018. Updated AI talent numbers in the tech sector specifically will be available in our upcoming 2022 AI Skills Report

3. Firms rely on contracting while they focus on building internal AI talent

Top 3 AI talent strategies

> Focus is on hiring fresh university talent and reskill for AI to address attrition challenges with such high demand skill sets, along with initiatives such as rotational programs and salary reviews as well
>
> **Senior executive at a leading pharma company**

TALENT BUILDING SUPPORTED BY

Educational Institutions

STEM graduates in India with AI/ML curriculum (2020-21) – 10,000-15,000 [7]

Government Policies

National education policy (2020) places special emphasis on AI and AI has been made a part of class IX curriculum[8]

PEOPLE & OPERATIONS

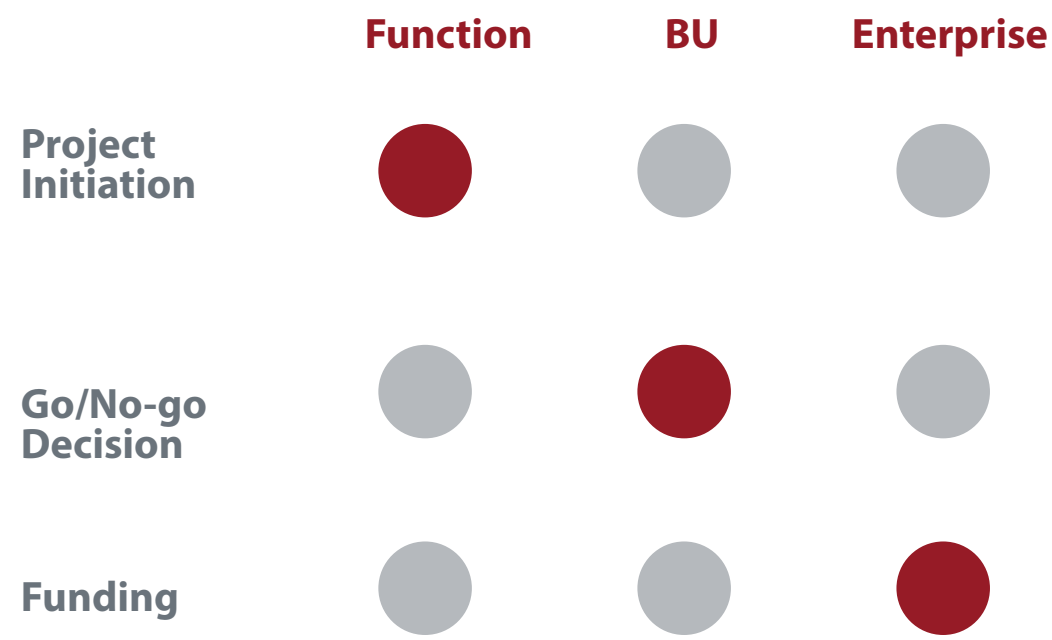
Operations

Score : 2.47

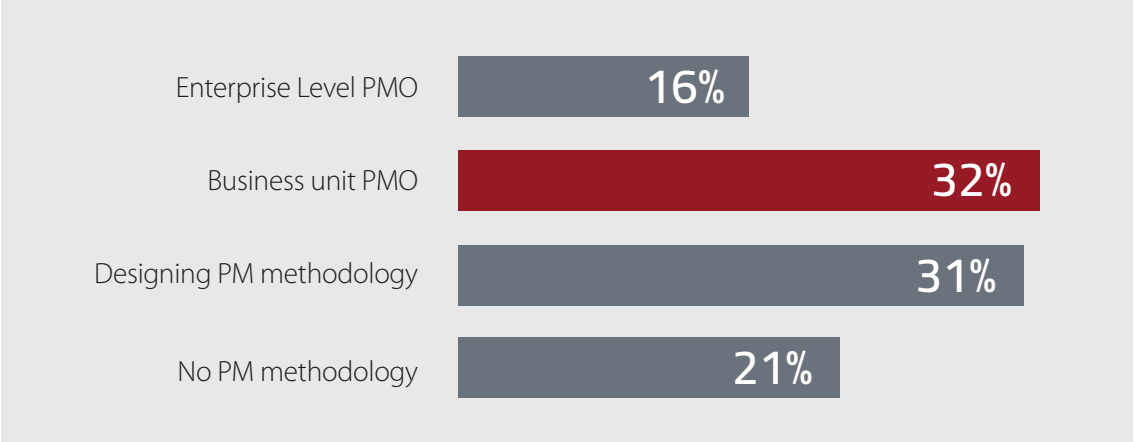
1. AI funding managed at enterprise level
2. Increased emphasis on PMO set up for effective AI delivery
3. 34% firms have designated cross functional AI team structure with 25% relying on contractors

1. AI funding managed at enterprise level

Project planning in majority organizations is distributed across organization levels with AI solution identification at function level, decision to proceed at BU level and financing managed centrally. Enterprise level funding allows for impact assessment and alignment with ongoing initiatives.

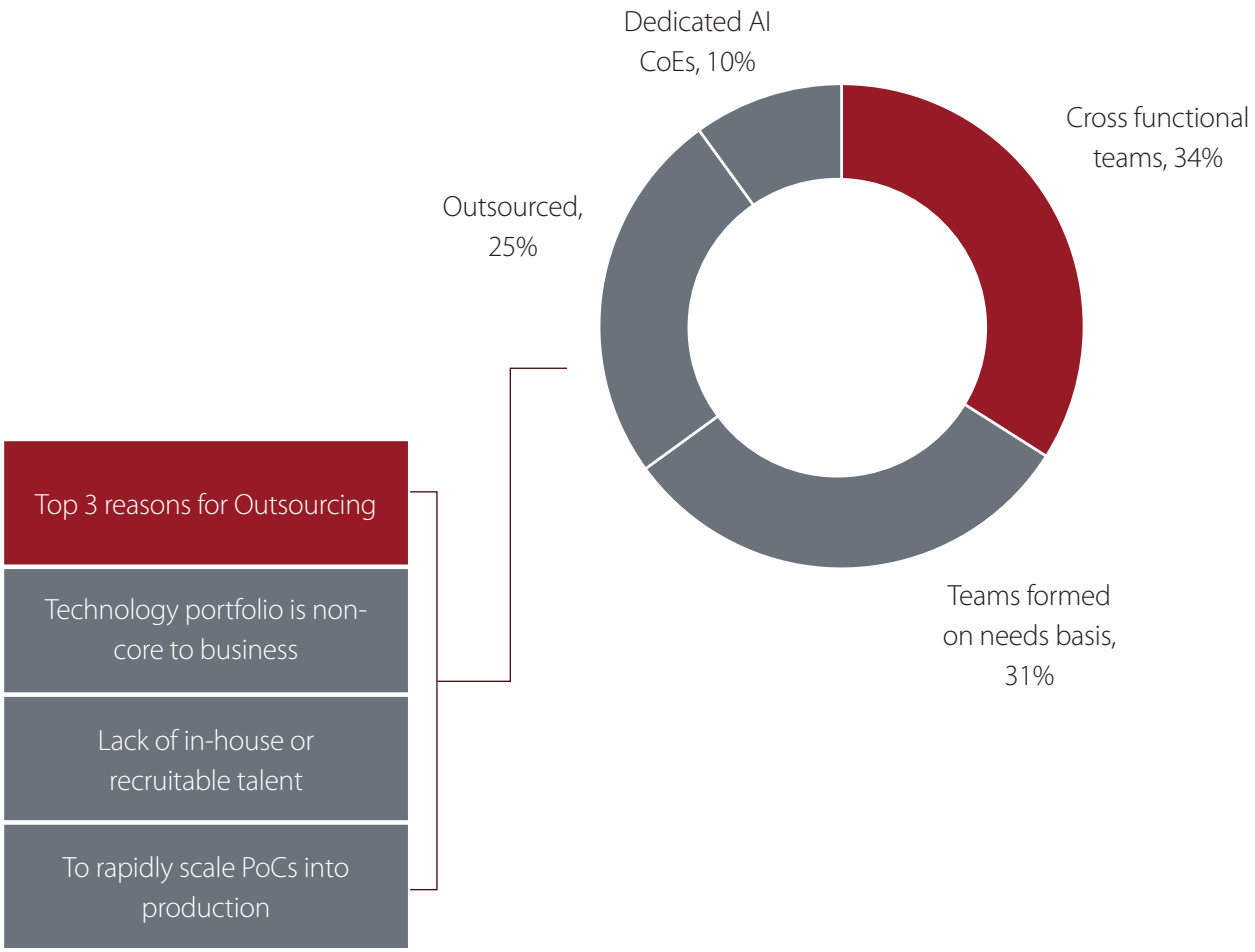


2. Increased emphasis on PMO set up for effective AI delivery



A positive corelation between company size and structured AI initiatives is seen - larger organisations are more likely to have a PMO.

3. 34% firms have designated cross functional AI team structure while 25% rely on contractors



DATA & TECHNOLOGY

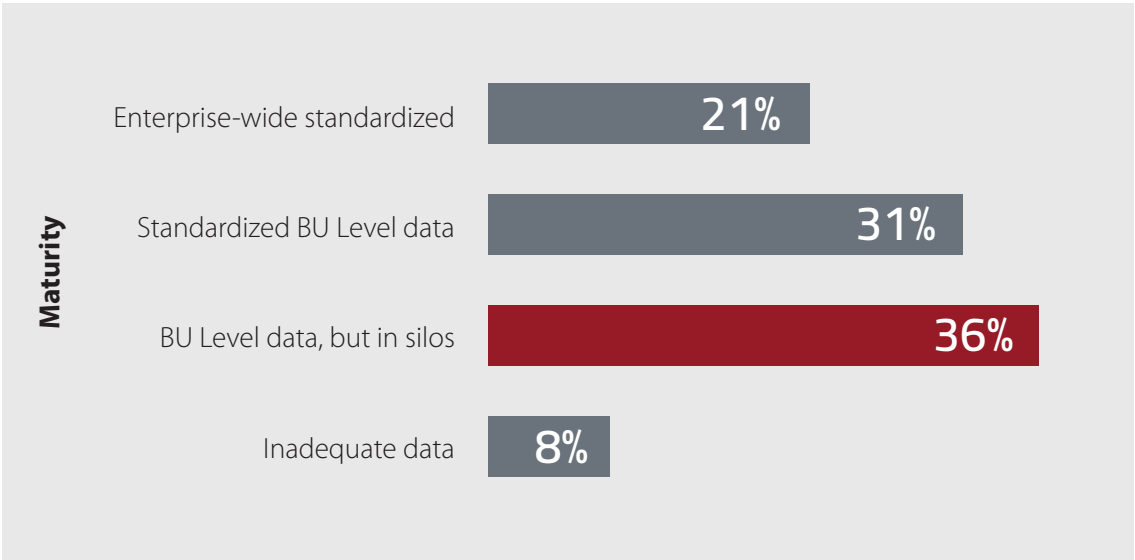
Score : 2.59

1. Focus on data standardisation for accelerated AI adoption
2. Modernisation of Tech stack and Cloud for rapid scalability
3. Chatbots and predictive analytics leading the charge

1. Focus on data standardisation for accelerated AI adoption

1 out of 2 organisations surveyed have standardisation and data readiness at either BU or enterprise level.

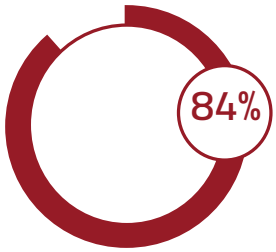
Majority of organisations interviewed also indicated a shift towards an enterprise wide data lake in the near future to improve data readiness and access.



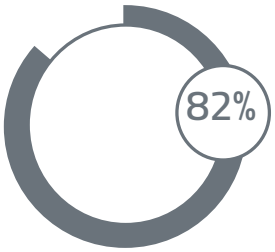
2. Modernisation of Tech stack and Cloud for rapid scalability

A trend of modernisation of tech stack and shift towards Cloud allowing for rapid scalability and an enterprise wide AI implementation.

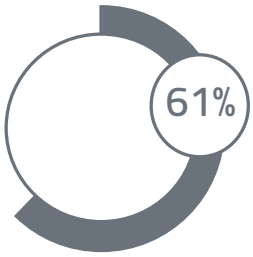
Shifting data ownership towards customers calls for effective security norms to handle and store customer sensitive data



84% use On-cloud/ Hybrid for Deployment



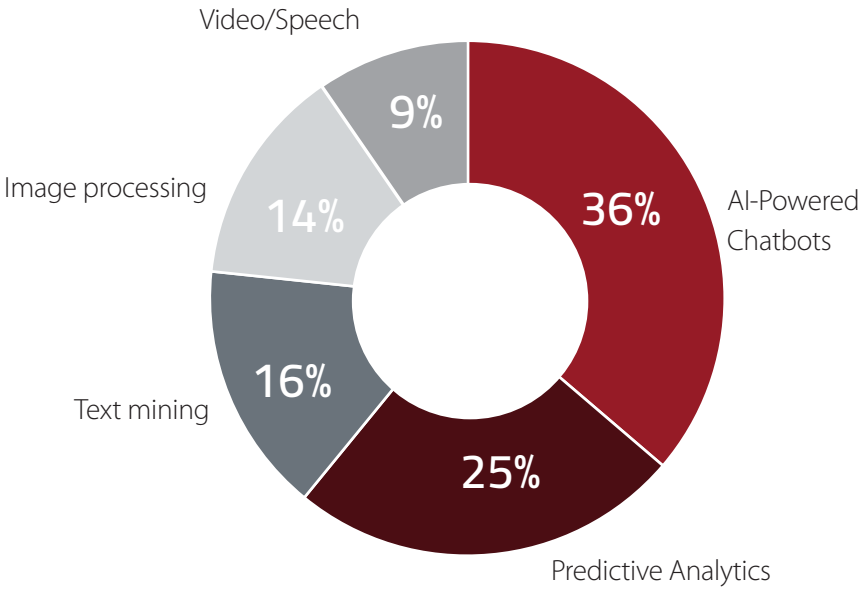
82% use On-cloud for Development



61% use modernized applications

3. Chatbots and predictive analytics are preferred AI solutions

AI-powered chatbots and predictive analytics constitute 61% of AI initiatives with applications across sectors. In addition, other sophisticated solutions, such as deep learning have found uses in drug discovery, fraud detection and more.



KNOWLEDGE OUTPUT

Score : 2.11

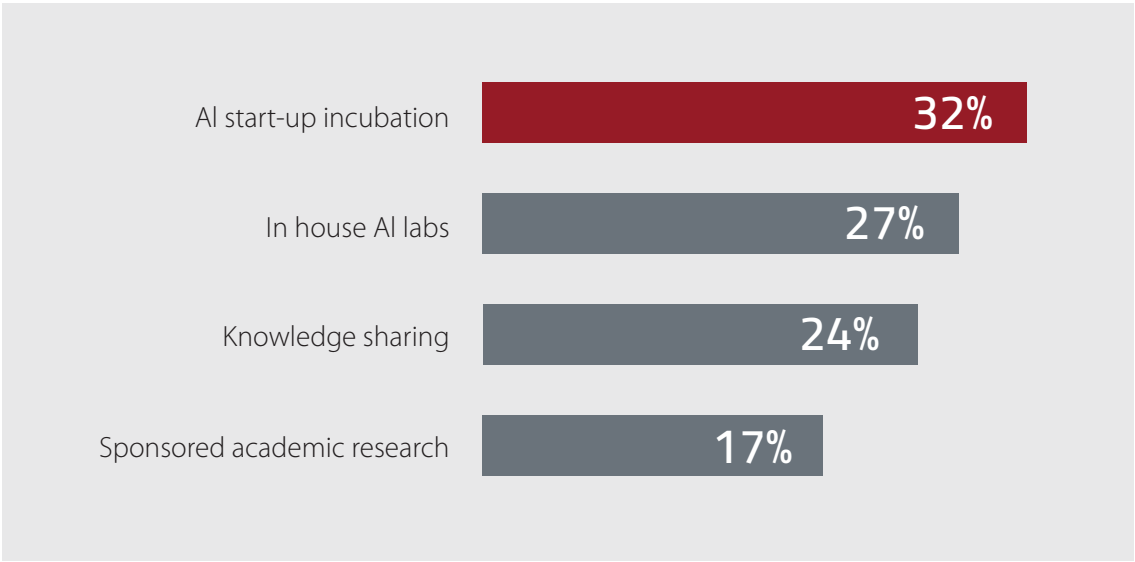
1. Knowledge output falls short on global benchmarks
2. Need for increased focus on patent and IP creation
3. Faster & efficient patent approval process needed

1. Knowledge output falls short on global benchmarks

Recent study by Brookings Institute shows that India remains out of top 10 nations in terms of knowledge output.[9]

Organisations prefer AI start-up incubation and in-house AI-labs for innovation. However, there is a limited focus on sponsoring AI research.

Expanded industry-academia collaboration can bring diverse points of view and lead to innovative solutions.



2. Need for increased focus on patent and IP creation

At a national level patents have grown at 41% CAGR. However total AI patents in India are 75x lower than in China[3]

Organisations have a limited focus on AI patents and research with majority of AI patents being filed by research or academic institutes. Buy-in from the enterprises will enable India to improve its standing in this sphere.

3. Faster & efficient patent approval process needed

Patent processing in India is 33% longer than US/China[3]

Long lead time for patent processing - an average Indian patent examiner sees 3x more applications. A faster and streamlined process would go a long way in boosting India's AI story

ETHICS, GOVERNANCE AND CONTROLS

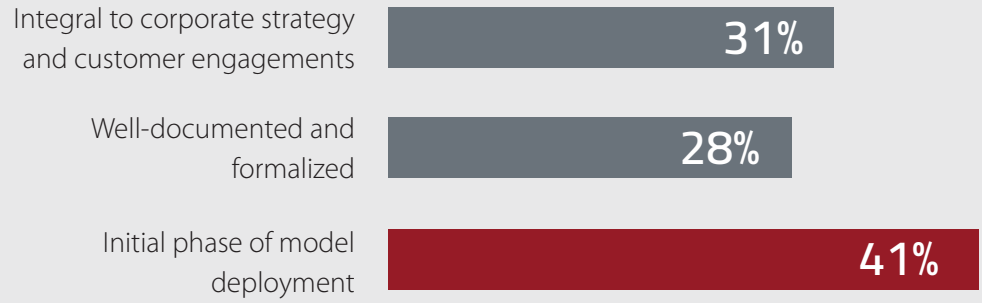
Score : 2.74

1. Established frameworks for AI governance
2. Well developed risk assessment mechanism for AI
3. Key policy changes driving ethical AI framework

1. Established frameworks for AI governance

3 out of 5 organisations have duly documented ethical and governance framework in place. With increasing role of AI applications, the need for an integrated AI ethical framework becomes very important.

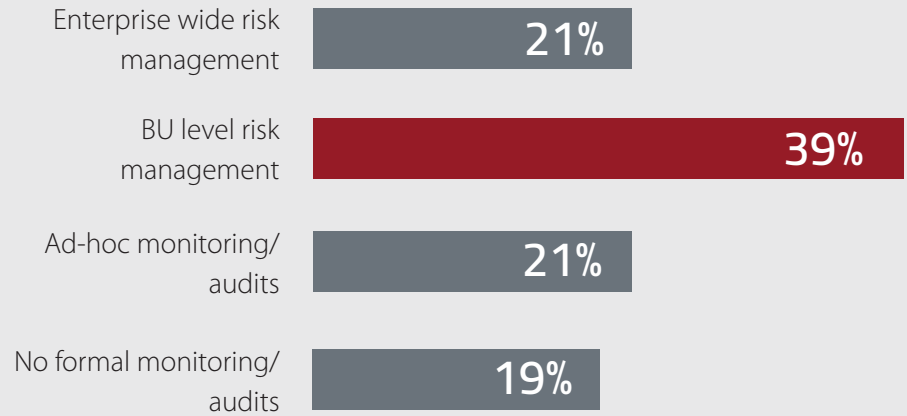
Nature of adoption of ethics & governance framework



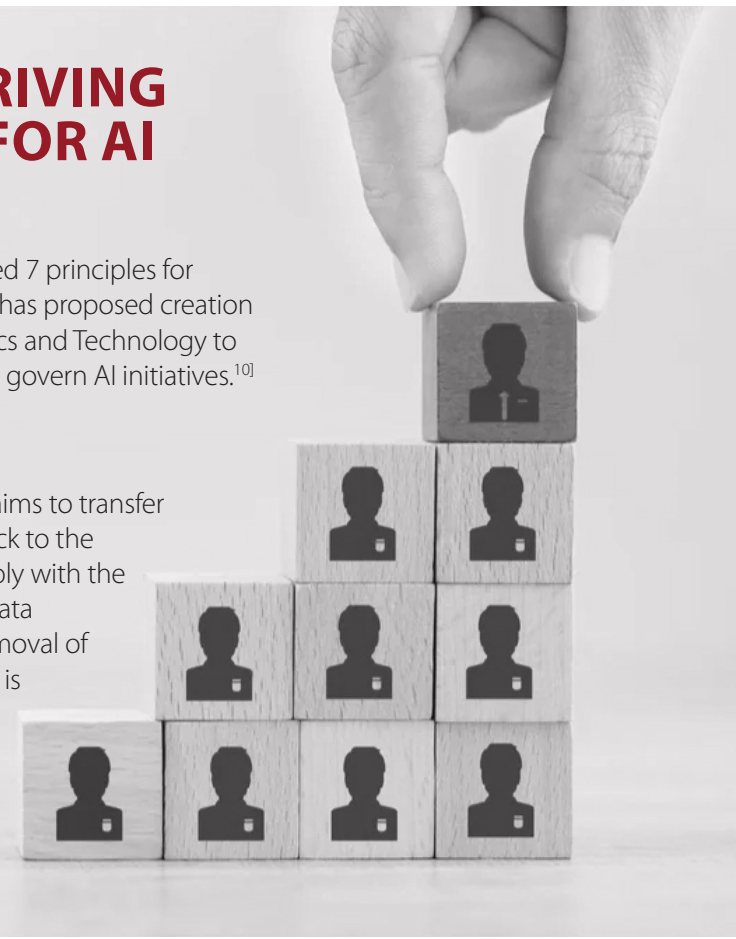
2. Well developed risk assessment mechanism for AI

Formal risk assessment management systems exist in majority of organisations. A positive correlation between AI maturity and the organisation's adoption of control frameworks for AI was noted.

Audit & Control mechanism for risk mitigation



KEY POLICY CHANGES DRIVING ETHICAL FRAMEWORKS FOR AI



Responsible AI for All

NITI Aayog identified 7 principles for responsible AI and has proposed creation of a Council of Ethics and Technology to create monitor and govern AI initiatives.[10]

Personal Data protection (PDP) Bill

Proposed PDP bill aims to transfer data ownership back to the consumer. To comply with the proposed norms, data sanitisation and removal of personal identifiers is necessary .[11]

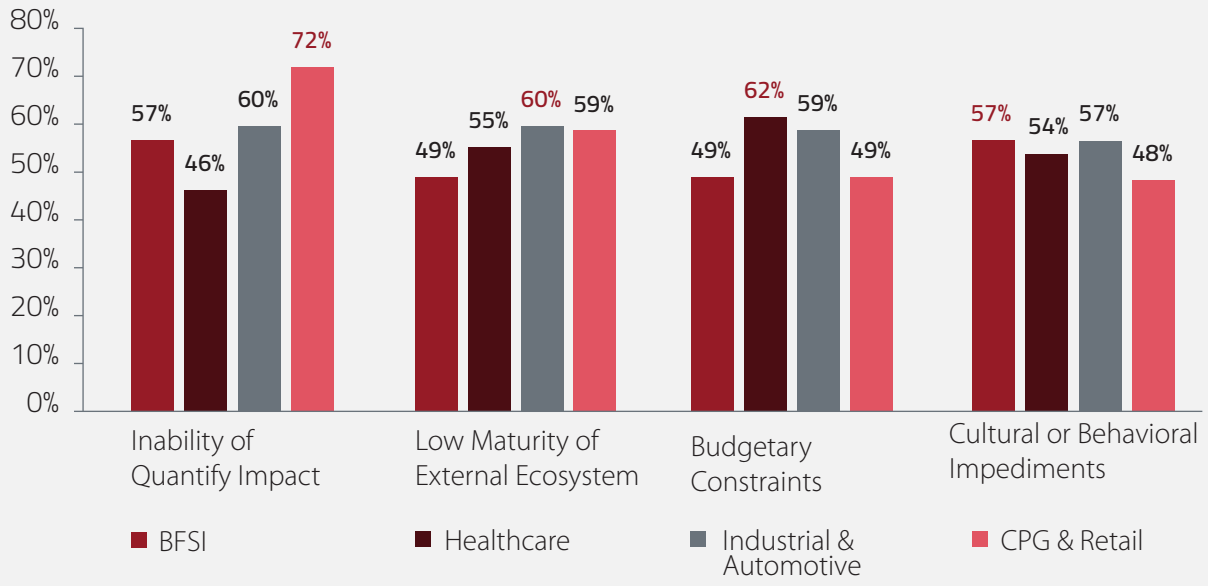
IMPEDIMENTS TO AI ADOPTION

1. CXOs are aware of the value Data & AI can bring to their businesses
2. However, they are also acutely aware of the multitude of challenges that face when starting out or while scaling their AI operations/projects
3. The more prominent ones are benefits quantification, availability of budgets, data quality and quantity, organizational silos, lack of adequate computing infrastructure, lack of in-house talent, and associated governance.
4. We take an aggregate sectoral view of the Top 4 impediments to AI adoption.

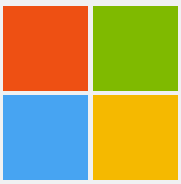
The impediments to adoption of AI vary greatly from one sector to another. However, an aggregate view demonstrates that objectively quantifying the benefits of AI remains the top barrier to adoption and there has been no change since 2020. This is one area where there has been a gradual shift to **Proof-of-Value** in addition to **Proof-of –Concept** to demonstrate organizational value-add. Similarly, the external enabler ecosystem has remained passive as indicated by the majority of the respondents across verticals. Budget for AI projects is the chief concern for Industrial & Automotive as well as Healthcare.
Thus, the Top 3 challenges remain unchanged since 2020. However, cultural and behavioral impediments have moved within the Top 4 in 2022.

2022	2020
Inability to objectively quantify the benefits of AI	Inability to objectively quantify the benefits of AI
Low maturity of the external AI ecosystem (vendors, products, etc.)	Low maturity of the external AI ecosystem (vendors, products, etc.)
Budgetary constraints	Budgetary constraints
Cultural & behavioural impediments	

Top 4 Impediments to Adoption of AI – Sector View



PARTNER USE CASES - RISING BEYOND IMPEDIMENTS (1/2)



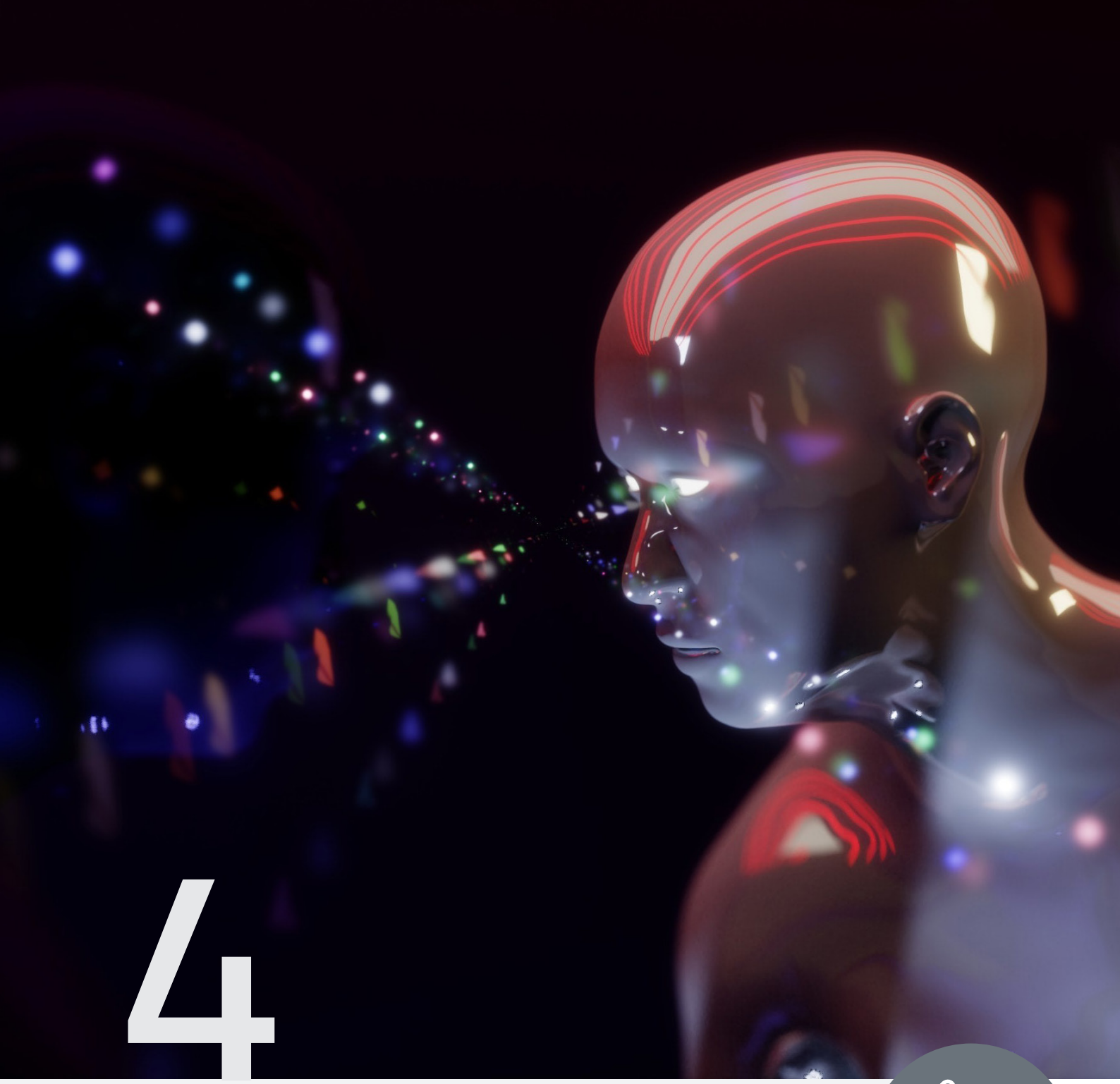
Microsoft

- With the help of Microsoft Azure a large insurance technology organisation has managed to achieve digitization of the core business processes of insurance providers in Africa.
- Digital Insurance Apps suite architecture founded on Azure solutions like AI-ML, Cognitive and Blockchain services, microservice architecture, etc. offer the company's customers the option to pick any, all, or bundle the suite of products that they need.
- Being microservices and API driven, the architecture coexists with legacy systems bringing process efficiencies and scalability capabilities with Cloud-based solutions
- It has helped prevent over 20% fraud, has induced 15% cost savings with a prediction to achieve 5-10% y-o-y rise in topline and 15% growth in bottomline.

- EXL used its AI-powered digital collections solution PaymentorSM to help a large South African Bank achieve a 600 bps increase in payment rate leading to annual credit loss savings of $3 mn.
- EXL leveraged Xtrakto.AITM, its AI-powered data ingestion solution to help a large insurance broker setup an enterprise-wide NLP CoE, which delivered 40-70% savings across use-cases including improving the efficiency of Certificate of Insurance generation process by 50% leading to $2 mn. of annual cost savings.

- EY used Intelligent Automation to help a multinational Food and Beverage company achieve an increase of 6% of gross profit from enhanced promotional RoI
- EY leveraged AI to create an Order Management System helping a global Retail company to improve the order value by 15% through timely orders and ease of access across 100,000+ retailers with 20% of manual effort savings of Salesforce
- With the influence of AI, EY has designed Accounts Receivables solution helping an Automotive major to tackle their pain points by putting their AR process on auto-pilot; achieving 20-30% reduction in admin cost, accelerating collections by 1-2% per year and reducing inbound collection calls by 30%.

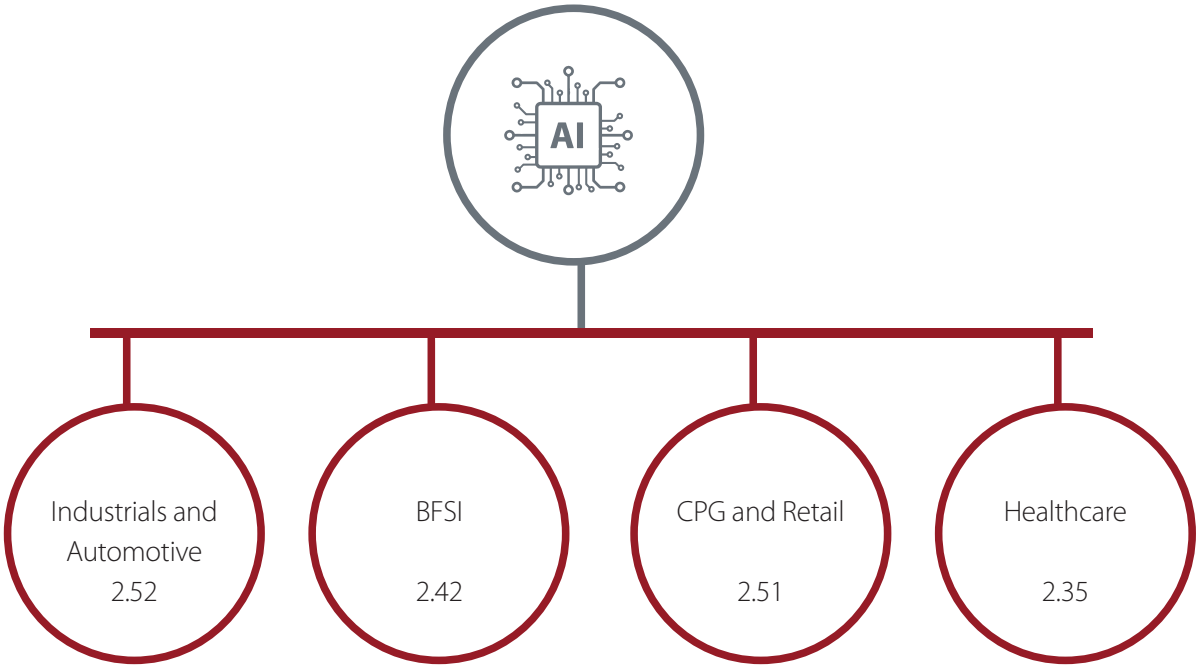
- A worldwide clothing and accessories retailer was facing issues with managing inventory at stores given its huge product assortment. It had to deal with rising inventory costs and slashed product margins to maintain an up-to-date inventory. Thus, customer was looking for AI adoption in its retail business that could help it improve key KPIs such as gross margin and maximum sell-through.
- AI adoption included use case definitions, identifying data sources, augmenting the data with third party sources, building AI solutions, performing system integrations , sustaining AI at scale etc. Capgemini helped the customer in its AI adoption plan by offering an AI-based assortment optimization solution.
- AI solution utilized the rich data available at stores level such as product attributes, weekly sales, and transactions; and the data was augmented with external data to derive meaningful insights. The solution was integrated with the technological landscape for the business users to consume the outcome on daily basis. AI at scale was implemented to sustain the data flow and models in auto mode. Infusing AI helped the customer identify specific product features that affect the key KPIs and products that would sell together. The solution helped the customer to offer right products in right quantities at right time and at right store locations thereby increasing its sell-through and decreasing inventory investment.



4

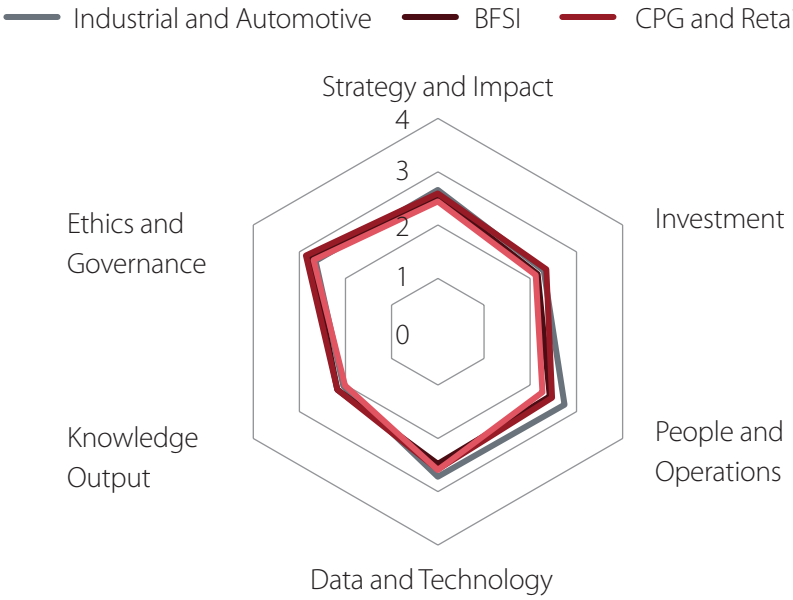
AI FOOTPRINT – CORE SECTORS

SECTORAL OVERVIEW



As per the overall sector scores in the chart above, all the sectors fall in the "Enthusiast" stage. This signifies that all the sectors are beyond their phase of exploring the possibilities of AI and are now enthusiastic about what they can achieve by leveraging AI.

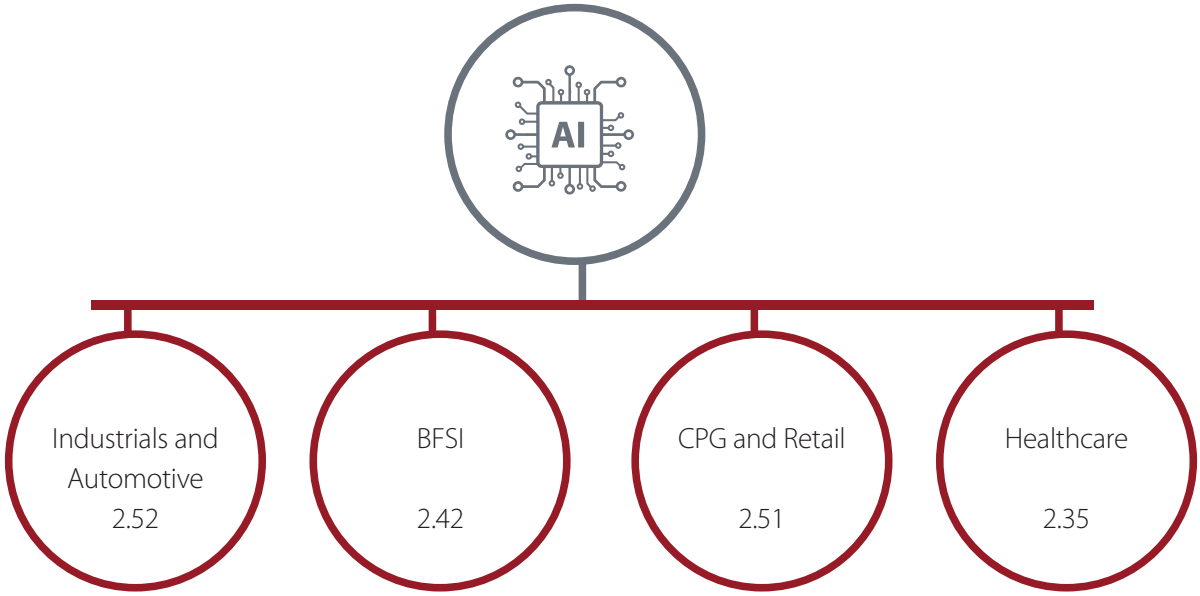
Dimensional Scores by Sectors



Sectors are more or less equally placed on all the dimensions for the index. However, certain specific strategies have worked for the respective sectors, that are highlighted in depth later.

Common trends across sectors

- Majority of the organisations are working on AI PoCs and are now beginning to scale-up
- Major technology focus is on predictive analytics and chatbots, with each sector exploring advanced solutions in their respective fields
- Budgets for AI ventures are predominantly ad-hoc or unplanned in nature
- Most of the organisations possess BU level data, however, it is in siloes
- Audits and controls are commonly applied to guarantee that AI systems are monitored effectively. However, there is a paucity of emphasis on ethical governance



Key differences

	Industrials and Automotive	BFSI	CPG and Retail	Healthcare
Drivers	• Optimization	• Innovation	• Growth	• Optimization
Business Functions	• Production	• Information Technology	• Sales and Marketing, Customer Service	• Product/Service Development
Key innovative use cases	• Quality and Visual Inspection • Predictive Maintenance • Operator safety	• Transaction Monitoring • Risk Modelling • Portfolio Management	• Customised product offerings • Demand Forecasting • Advanced Virtual Assistants	• Diagnosis and Imaging • Preventive Healthcare • Drug Discovery

Focus Areas

1. Internal capability building by investing in AI talent pool
2. Centralized AI Project Management methodology for effective delivery
3. Process level integration and alignment of AI ventures with business objectives
4. Collaboration with academic institutes to develop innovative AI solutions
5. Additional emphasis required on ethics and governance frameworks for AI initiatives

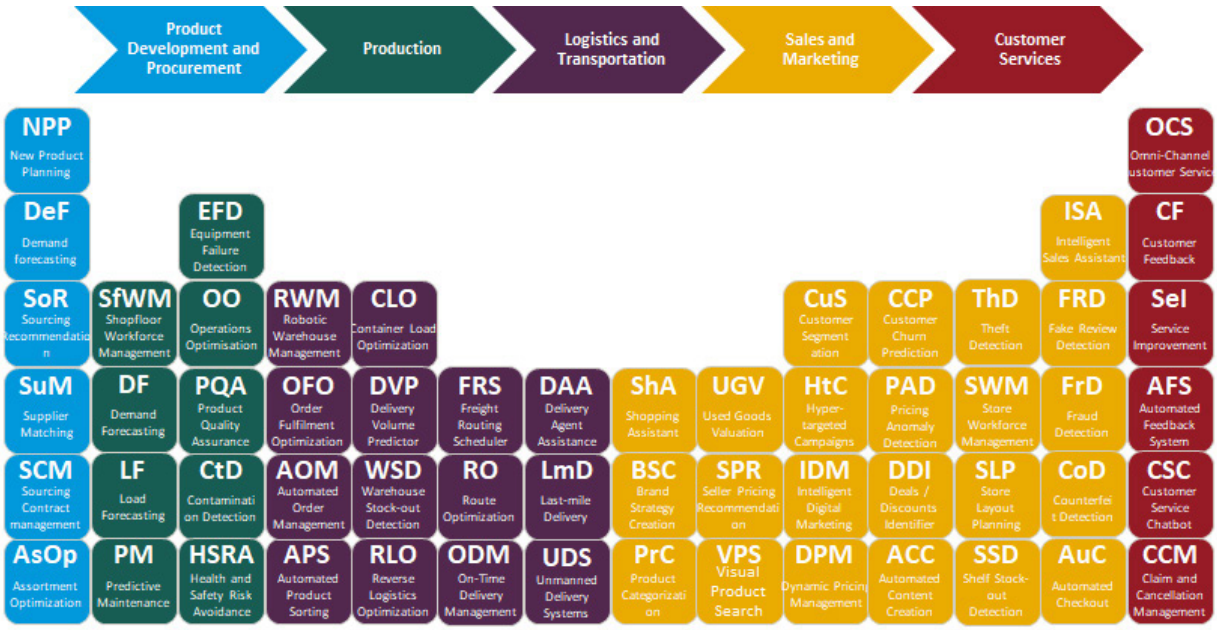
INDUSTRIALS AND AUTOMOTIVE

INDUSTRIALS AND AUTOMOTIVE

India aims for its Manufacturing sector to deliver 25% of the targeted $5 tn. national GDP by 2025, up from the 16-17% that it contributes today, making it a trillion-dollar sector. India's Atmanirbhar Bharat, PLI Schemes are aimed at positioning it in the top-15 exporters list. The sector is remobilizing strategic investments in technology and digital talent.

While global manufacturing grew ~1.6% in the last decade, manufacturing technology spend as part of IT spend grew ~2.5X. Digital technology investments, specifically, grew ~10X. Across the value chain, manufacturing firms worldwide invested $17 bn. in AI-led solutions, a 16% of the digital tech spend. India, with AI comprising 5% of the digital tech spend in manufacturing, needs to leapfrog[2].

Industrials and Automotive and AI-Led Digital Transformation Practices



AI MATURITY SUMMARY

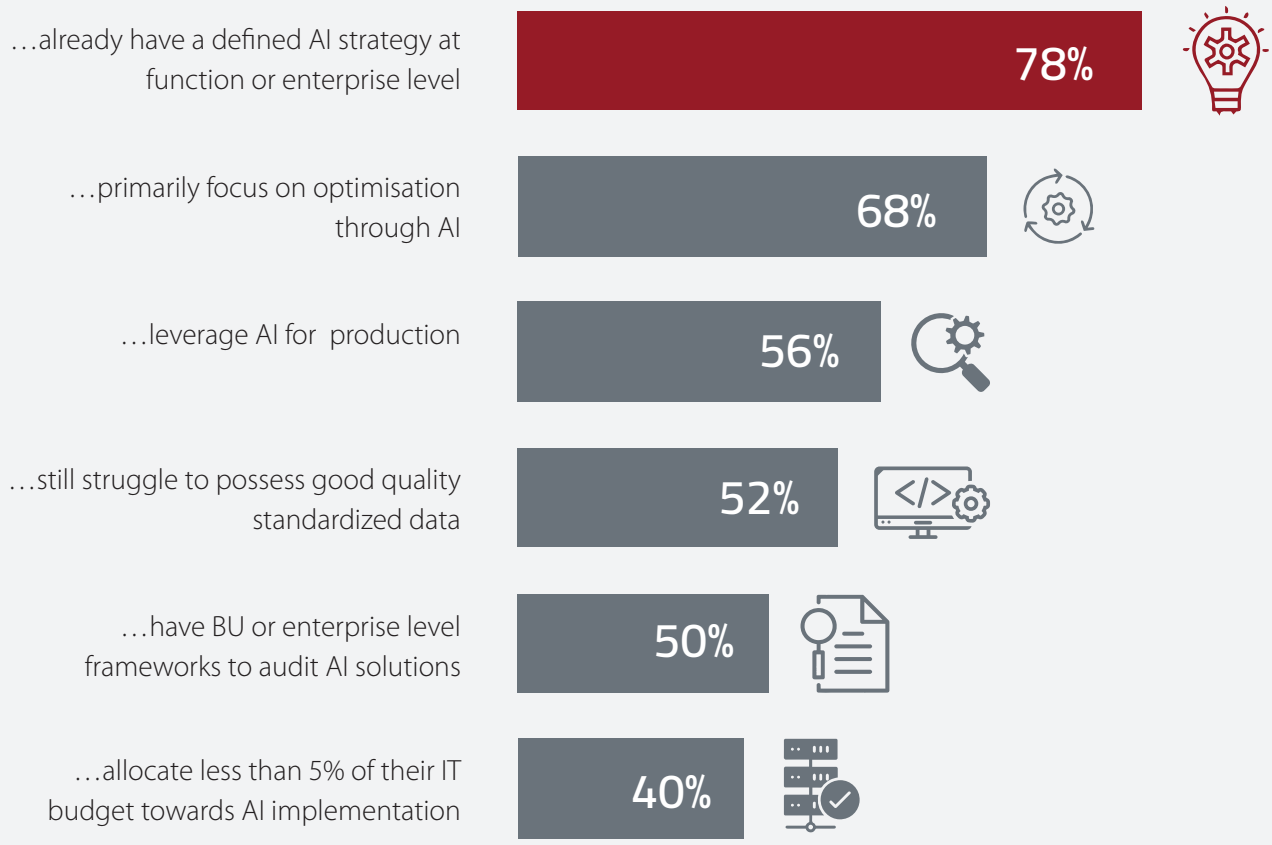
Industrials and Automotive sector has traditionally lagged in its AI adoption pace but is gearing momentum with focus on PoC-to-production, formal AI strategy, and Cloud investments.

The organisations in this sector use AI majorly to improve shopfloor operations with 24x7 operations, lesser defects and lower downtime. Automotive players additionally use AI to drive innovation and product/service development in form of autonomous, self driving vehicles, and aftermarket services like predictive maintenance and insurance etc.

SECTOR SCORE:
2.52

LEVEL:
ENTHUSIAST

Key Findings



Key Takeaways

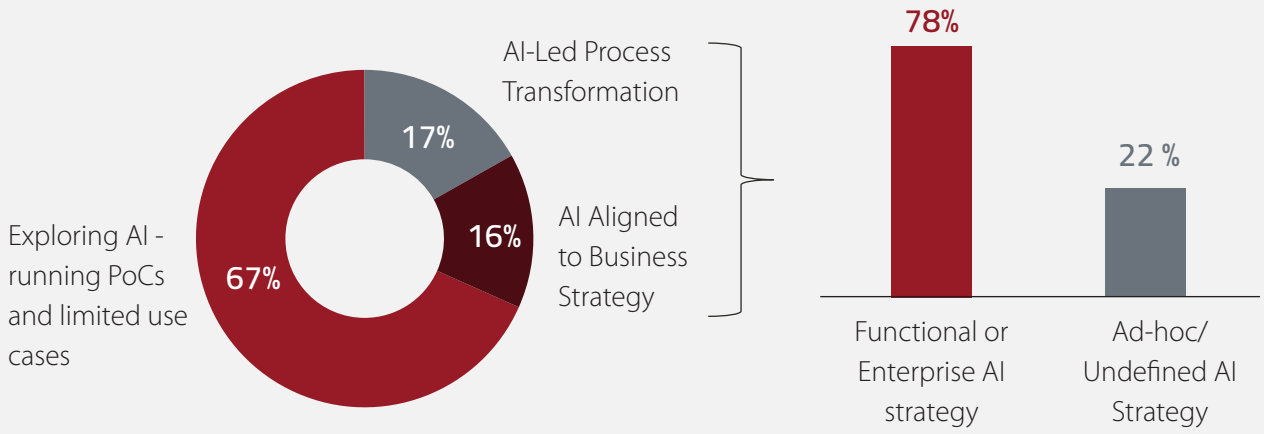
1. To drive an innovation culture through AI, investment needs to be increased
2. Majority of the sector has a defined strategy already, scaled-up solutions is where the sector needs to focus now
3. The focus of AI initiatives should be more on improving innovation and driving growth
4. The datasets must be standardized at the enterprise level for the sector to unlock strategic value of data
5. There is a focus on shifting to reskilling/upskilling internal talent and hiring STEM graduates from the gig route

AI MATURITY : DEEP DIVE ACROSS DIMENSIONS (1/3)

Industrials and Automotive sector has seen reasonable investments in AI and data technologies, with focus now shifting to building formal AI strategy, governance norms, and AI talent

Strategy & Impact – Dimension Score 2.66

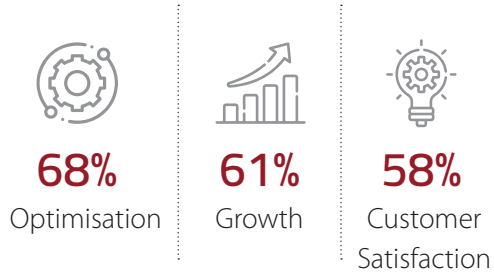
Industrials and Automotive' AI Implementation Strategy



67% of players are in the initial stages of their AI journey. However, they do recognize AI's potential, thereby focussing on a formal AI strategy

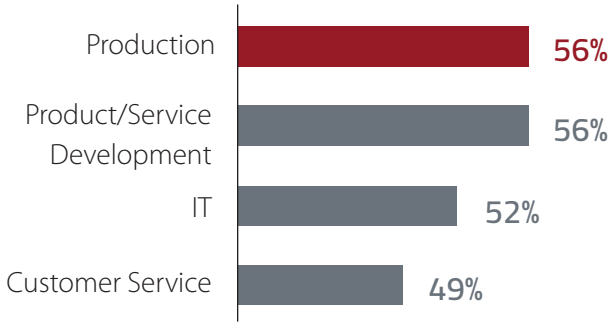
The sector's primary drivers for AI are cost reduction, efficiency and growth

Drivers of AI Adoption



The efficiency focus is reflected in the myriad of use cases undertaken for shop-floor optimisation in production function

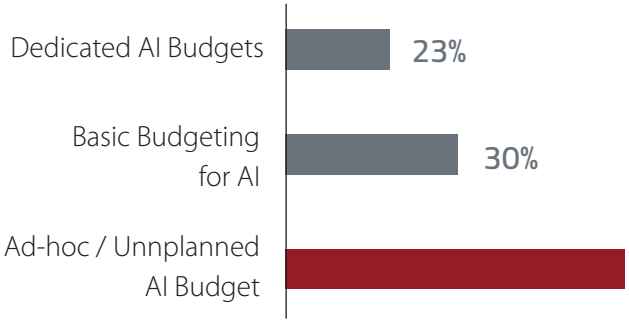
Top Industrials and Automotive AI Use Cases



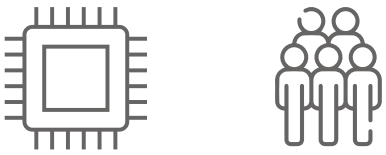
Investments – Dimension Score 2.29

53% of the overall sector companies have AI budget allocation strategy. They are keen on increasing AI Investments as more value is realized through their on-going ventures.

AI Budget Strategy



Where are the AI funds being Utilized?



Industrials and Automotive' AI Deployment and Provisioning Strategy

scores

52 %

Less mature firms prefer outsourcing their AI initiatives, however, experienced players favour building capabilities internally

56 %

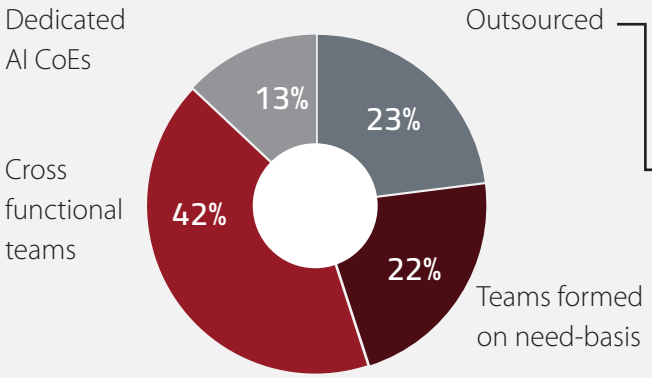
In-line with the insourcing, experienced firms prefer in-house custom development whereas beginners go for off-the-shelf solutions

52 %

Firms realize the importance of balancing Capex and Opex for sustainable AI solutions, hence a balance can be seen in the both in this sector

People & Operations – Dimension Score 2.74

Over 50% of companies have a cross-functional or dedicated AI specialist team



Top Reasons for Outsourcing

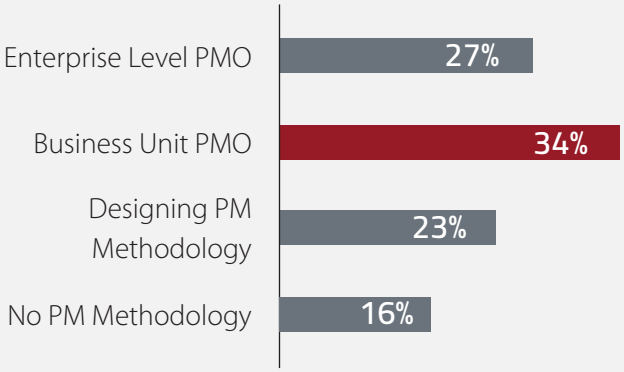
1. Technology portfolio is non-core to business
2. Lack of in-house or recruitable talent

Top AI Talent Recruitment Strategies

1. Gig/ contractual model
2. Upskill/reskill internal talent
3. Hire STEM graduates
4. Invest in research talent

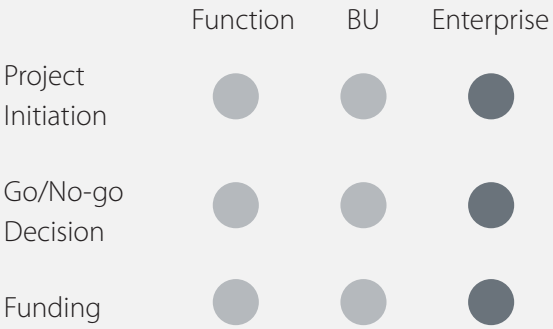
With increasing number of use cases being taken up, organizations are adopting structured project management methodologies and are evolving towards centralized governance

AI Project Management (PM) Methodology



AI Project Decisions and Ownership

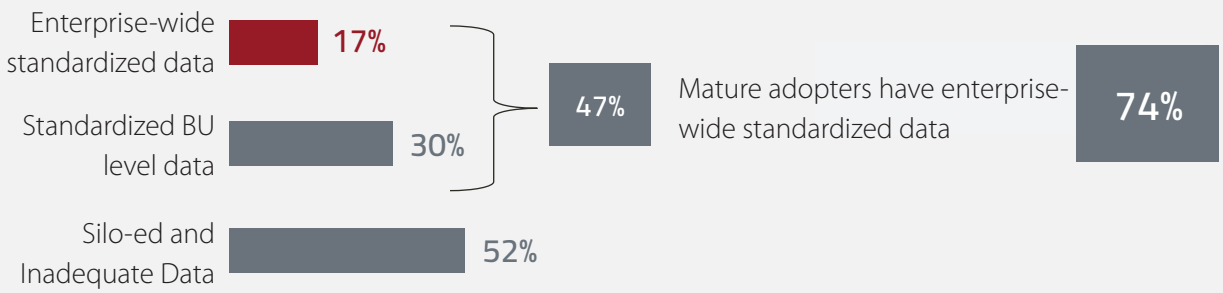
For majority, use cases identification, decision to move forward, and funding is planned and managed at the Enterprise level



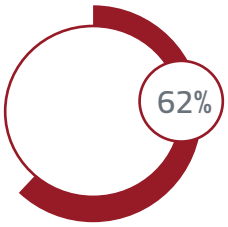
Data & Technology – Dimension Score 2.58

The sector is transitioning to modernized systems and leveraging cloud infrastructure to enable and optimize the resources leveraged for AI solutions respectively. The firms are gradually shifting from inadequate or siloed data to more standardized data.

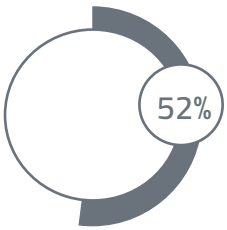
Industrials and Automotive' Data Readiness for AI Projects



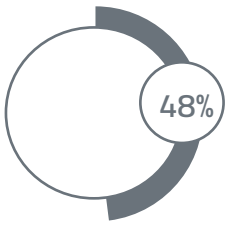
Industrials and Automotive' State of Legacy Modernization for AI Adoption, *Modernizing Legacy with Cloud*



62% use modernized applications



52% use On-cloud structure for deployment

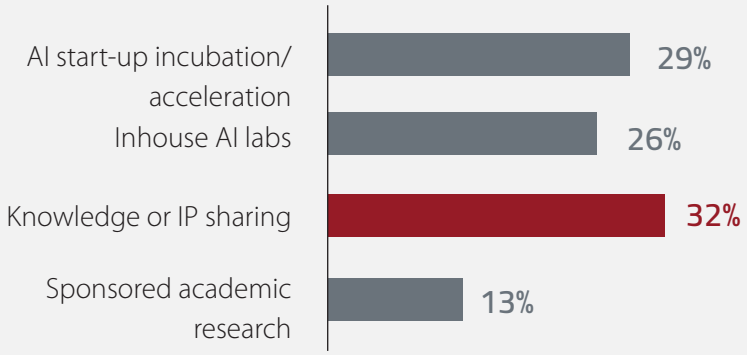


48% use On-cloud Structure for development

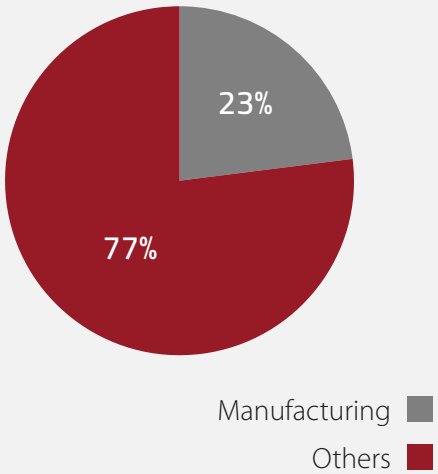
Knowledge Output – Dimension Score 2.18

Majority of the players approach knowledge building via in-house AI labs, while organisations at the start of their journey rely on start-up incubation. But there lies a limited focus on research and innovation in this sector with minimal companies filing for patents.

Approach to AI Innovation



AI Patent Sector Distribution, 2010-2020

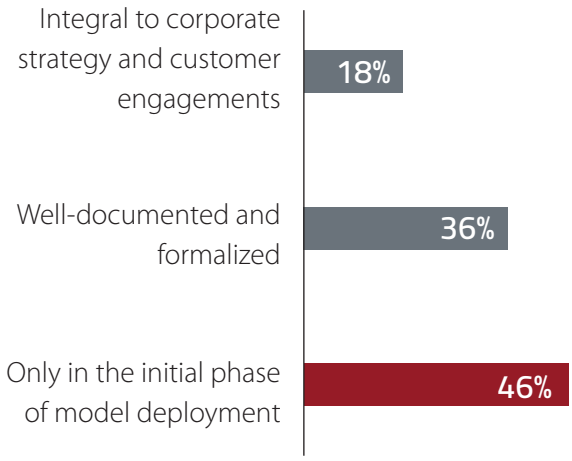


*Note: Almost a quarter of the AI patents filed in India belong to this industry.

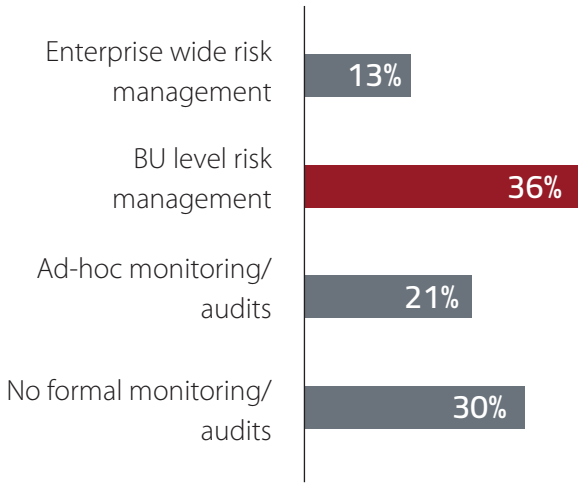
Ethic, Governance & Controls – Dimension Score 2.86

The sector has widespread adoption of audits and controls to ensure that AI solutions are monitored and improved continuously. However, there is limited focus on ethics-related governance in the sector.

Nature of Adoption of Ethics & Governance



Audit & Control Mechanisms for Risk Mitigation



LEADING AI ADOPTERS: INDUSTRIALS AND AUTOMOTIVE

Illustrative list of mature and measurable AI adopters in India across size, subsegment and global presence

Maruti Suzuki
- Automate manufacturing, implemented RPA on a large-scale to improve efficiency and reduce malfunctions. NLP-driven chatbots are also being implemented

Hyundai
- Launched Dal-e or Drive, Assist, Link experience bot for next-gen customer service. Leverages face recognition, and automatic communication system based on NLP.

ABB
- Converted its power products shopfloor to a smart factory improving productivity by 100% with 30% less space.

JSW
- JSW Cement: Digitized its S&M functions using conversational commerce service.
- JSW Energy: Using IoT to accurately predict power generation needs to streamline plant supply

OLA
- Used in automation (painting and welding) in the battery and motor assembly lines. Ensuring remote digital connectivity and monitoring of robots

BHARAT FORGE
- Launched Health Risk Monitoring Systems (along with Blackstraw) which consists of a contactless thermal screening system and AI algorithms running on surveillance CCTV cameras to monitor and control human behaviour

BAJAJ
- Implemented standardized robot operations for shop floor functions
- For its L&D program, implemented in-house AI learning tool, BOLT as part of workforce transformation efforts.

CASE STUDY: ML-POWERED DIGITAL TWIN

Objective

Digital Twin based AI Model to predict and maximize process yield (Finished and Semi-Finished Goods) across shifts and operators and optimize asset efficiency

Problem Statement

Production of speciality chemicals is a highly complex process with the involvement of thousands of real time process parameters. The yields across various shifts were highly unpredictable depending on the operator and running conditions and thus resulting in overall efficiency loss.

Project Maturity

The solution was deployed first into a single plant on a single reactor. Then it was scaled to multiple reactors on the same plant. Now the solution is getting deployed in 4 other plants parallelly and later to 14+ plants across globe in the future.

Approach

A US and India based product and services technology company that builds innovative solutions on niche technologies had developed an AI Platform that served as the foundation to acquire high velocity data, transform, apply data cleansing and business rules in real time.

The AI solution was innovative as it combined the following techniques on real time time-series data:

1. Deep Learning Model that combed through the historical data and narrowed down the list of critical parameters that impacted the yield from thousands to approx. 15 to 20 variables.

2. An ensemble-based Machine Learning pipeline that had two stages. A) Providing real time predictions for the process parameters B) Optimizing operating ranges for the controllable parameters. The key was to map these critical parameters to that which were controllable and thus providing recommendations on those controllable parameters to maximize the yield.

3. An intuitive recommendation web app that provided real time recommendations to operators and these were used by the industry operators to take tangible actions to improve the operating process in real time. The ability to simplify this complex problem into a set of guided recommendations to the Shop Floor Operator to intuitively make the changes and maximize the yield.

USP

The solution and concept is fundamental and can be scaled across process and plants.

The same solution is now expanding to other manufactures for both Pharma and Specialty Chemicals from a Digital Twin and Batch 360 optimization model. Similarly it is being used now on Asset Efficiency optimization using AI for other process like the Power Plant etc.

Return on Investment

- Revenue Optimization - Increase in 10%
- Operational Efficiency - Increase in 20%
- Customer Experience - Better quality goods

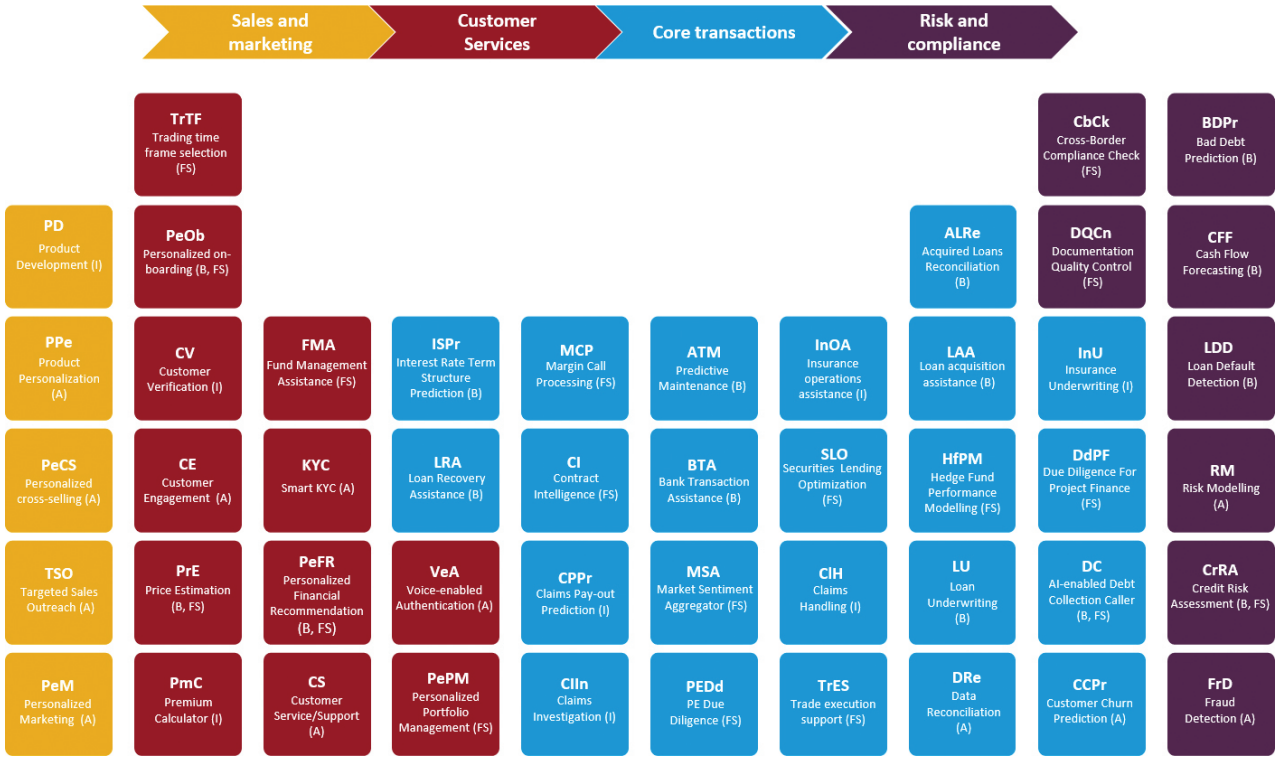
BFSI

BANKING, FINANCIAL SERVICES AND INSURANCE (BFSI)

India is one of the fastest growing markets for banking globally with over USD 2.06 tn. in bank deposits in FY2021 which has grown at CAGR of 12.4%. Insurance penetration (Premiums as a % of GDP) in the nation has also expanded and now accounts for 4.2% of GDP in FY2021 up from 3.7% in FY2019.

The sector is in the middle of a huge digital transformation driven by a tech savvy consumer base of 600 mn. users, and favorable government policies. While payments and wallets were the focus areas in the initial landscape, tech solutions have now penetrated every part of the financial value chain such as lending, insurance and investment. In a data-driven world, AI has a potential to add value of $60 bn. by FY2026 to the BFSI sector by redefining the user experience and delivering targeted services.

BFSI and AI-Led Digital Transformation Practices



AI MATURITY SUMMARY

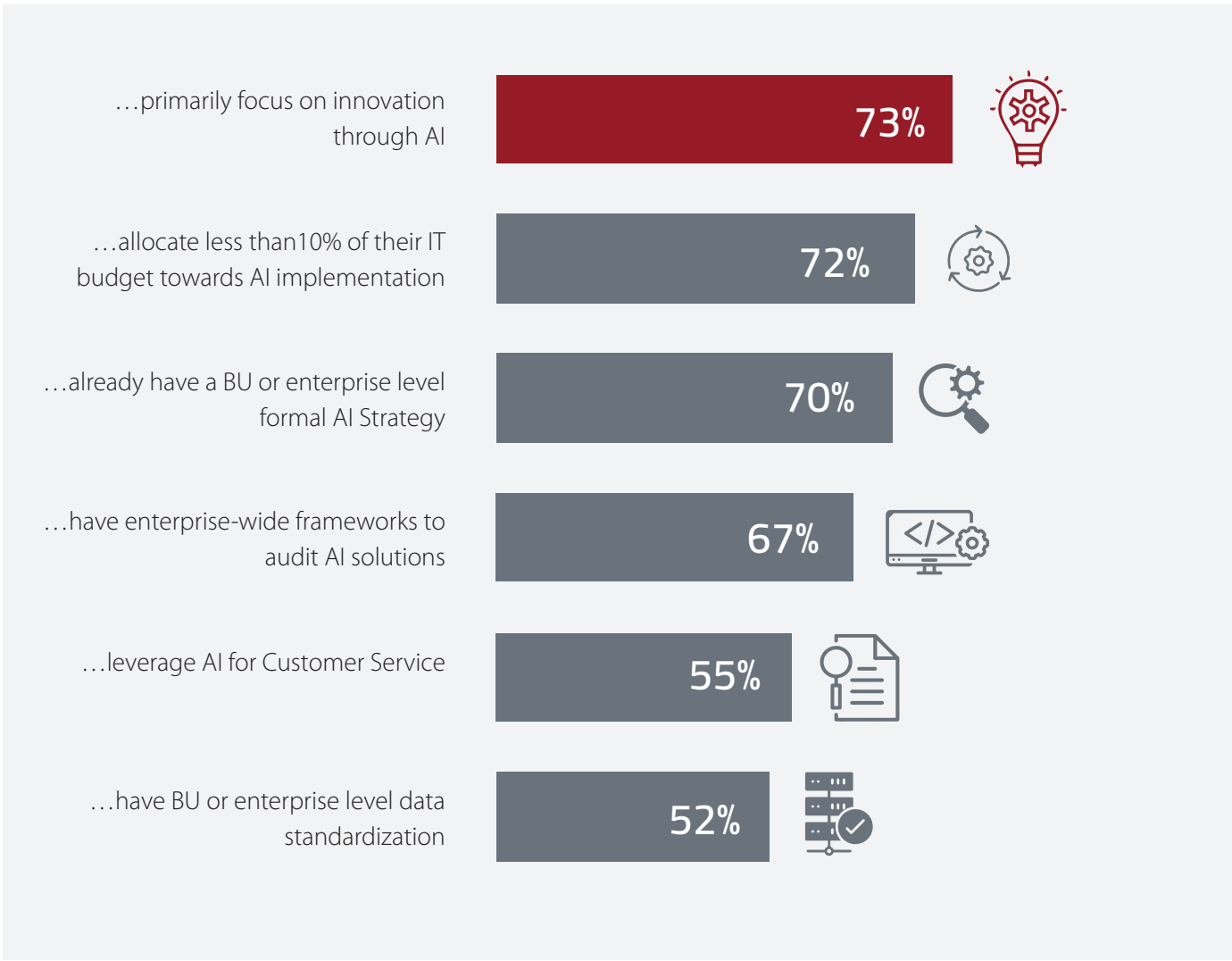
30% of the surveyed BFSI companies, across size and sub-sector classification, are yet to begin a planned AI journey and are still exploring AI for applicability, viable use cases through PoCs, and a clearly explainable RoI.

The sector has been indulging in producing novel solutions, such as digital lending, fraud detection and auto underwriting, to improve customer experience and reduce operational costs using AI. The momentum is now shifting towards differentiation and ensuring data safety via AI.

SECTOR SCORE:
2.42

LEVEL:
ENTHUSIAST

Key Findings



Key Takeaways

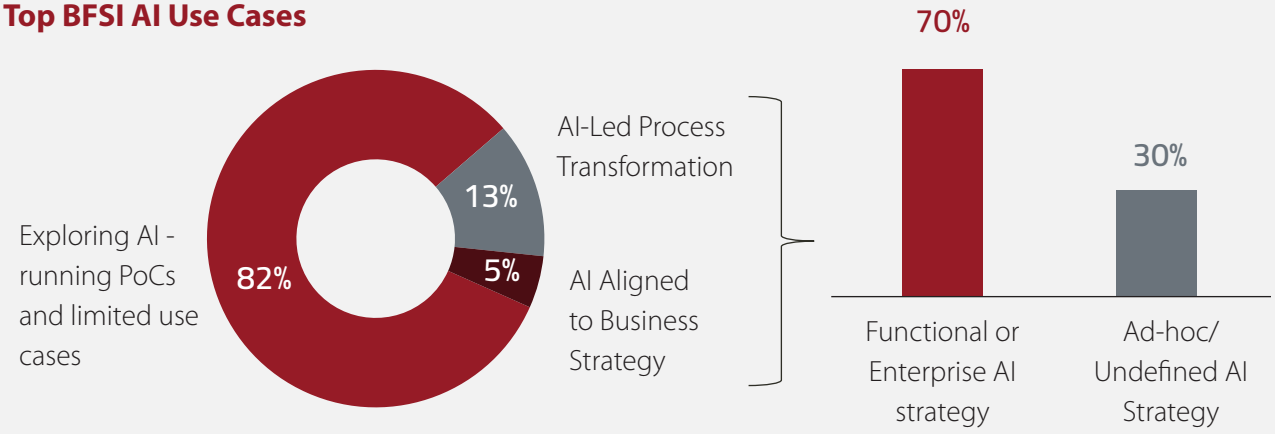
1. Spending is expected to increase as more value is realized from the pilot AI projects
2. The strategic imperative for the sector is to transition into scaled-up AI solutions
3. More focus of AI initiatives on risk management and customer satisfaction required
4. The data must be standardized for other half of the players as well to unlock true value
5. There is a focus on shifting to reskilling/upskilling internal talent from the gig route
6. The balance between Capex and Opex observed in this sector shows a mature understanding of budgeting around AI initiatives

AI MATURITY : DEEP DIVE ACROSS DIMENSIONS (1/3)

Maturity in AI adoption is not widespread across healthcare, but more experienced companies have an established AI adoption strategy and budget allocation, and a focused approach aimed at innovation-led business growth and enhanced care delivery

Strategy & Impact – Dimension Score 2.54

Top BFSI AI Use Cases



Since there is very less scope of error in this sector, 82% players are still exploring AI through PoCs even though 70% of them have a well defined strategy around AI.

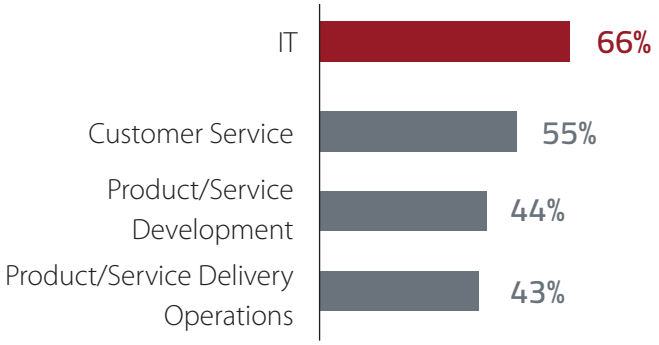
Innovation, optimisation gains, business growth are primary drivers of AI in healthcare

Drivers

73%	71%	61%
Innovation	Optimisation	Growth

All organisations, irrespective of their AI maturity focus on leveraging AI in each of these functions as per the order given below.

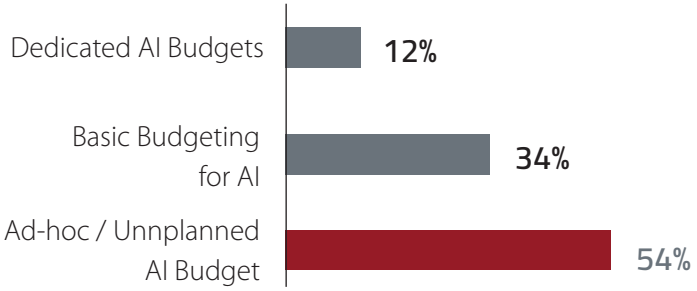
Top BFSI AI Use Cases



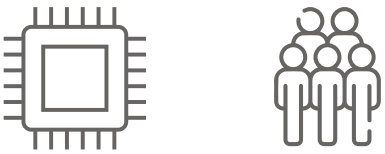
Investments – Dimension Score 2.16

54% of the overall sector does not have a formal AI budget however, almost all of the experienced adopters have some level of dedicated budget for their AI initiatives.

AI Budget Strategy



Where are the AI funds being Utilized?



BFSI' AI Deployment and Provisioning Strategy

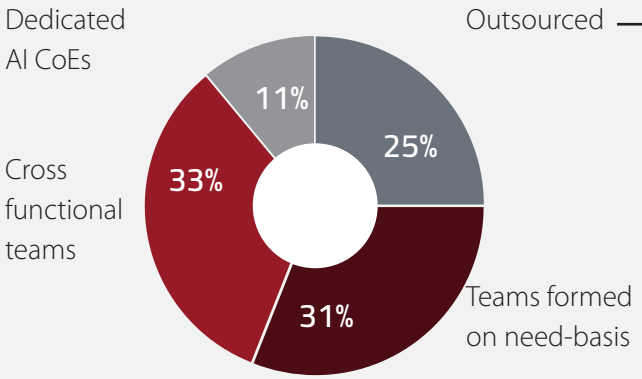
Mature firms prefer to leverage their human capital to develop AI solutions, while starters rely on outsourcing due to lack of internal capability

In-line with the insourcing, firms choose to produce their solutions in-house rather than off-the-shelf alternatives

BFSI manages to strike a balance between Capex and Opex showcasing a mature approach while making budgeting decisions

People & Operations – Dimension Score 2.43

44% of companies have a cross-functional or dedicated AI specialist team



Top Reasons for Outsourcing

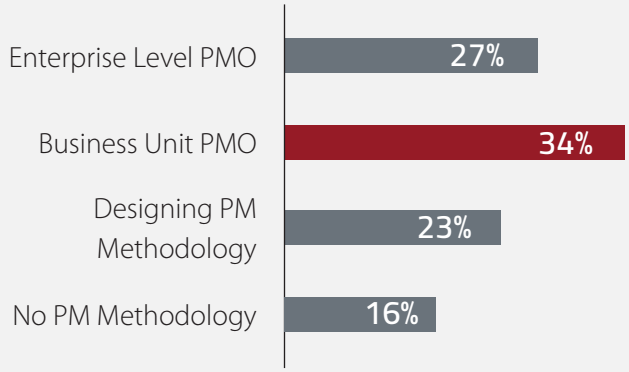
1. Lack of in-house or recruitable talent
2. Technology portfolio is non-core to business

Top AI Talent Recruitment Strategies

1. Gig/ contractual model
2. Upskill/reskill internal talent
3. Invest in research talent
4. Sponsor advanced AI education

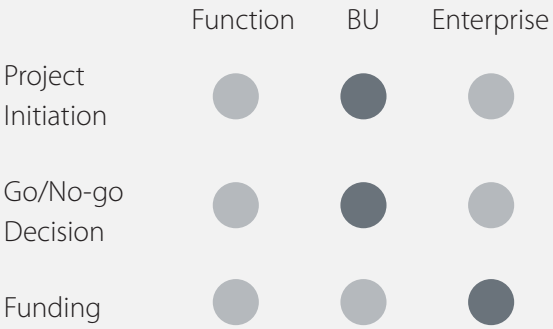
While more mature adopters have a set PM methodology at BU or Enterprise level, majority of the sector is only just beginning to lay down a structured PM methodology

AI Project Management Methodology



AI Project Decisions and Ownership

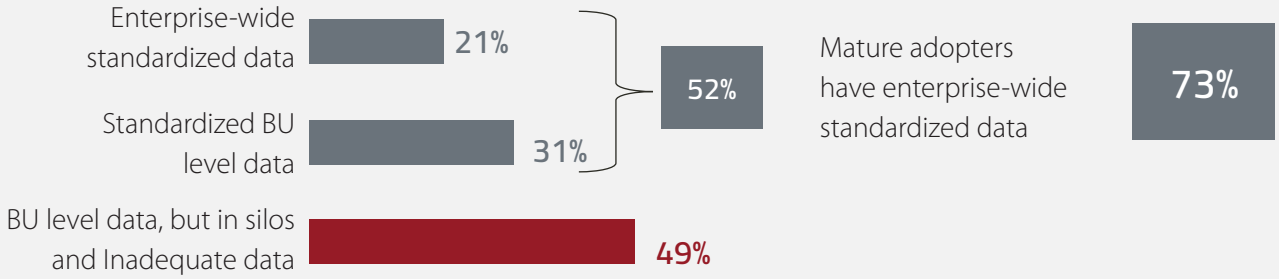
AI use cases are identified and approved by the BU, and funded at the enterprise level



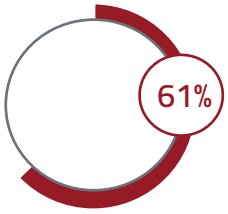
Data & Technology – Dimension Score 2.58

The industry is migrating to modernized systems and leveraging cloud infrastructure to resolve challenges such as manual processes, customer experience, employee productivity and mitigating risks and support the wave of digitization. Standardization of data becomes a key aspect for this sector , and a growth from siloed data to standardized data can be seen.

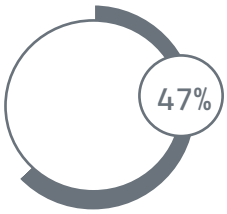
BFSI' Data Readiness for AI Projects



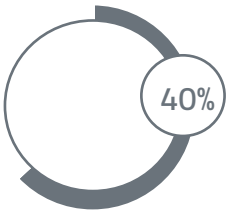
BFSI' State of Legacy Modernization for AI Adoption, *Modernization on Hybrid Cloud*



61% use modernized applications



47% use On-cloud structure for Deployment

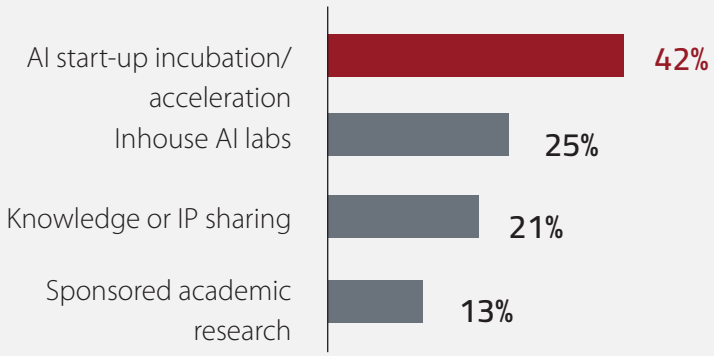


40% use On-cloud Structure for Development

Knowledge Output – Dimension Score 2.18

Majority of the players approach knowledge building via start-up incubation showing a positive trend towards producing AI solutions in-house, than outsourcing it. Organisations who has just started implementing AI use cases or are in the PoC phase prefer AI innovation via sharing knowledge internally.

Approach to AI Innovation



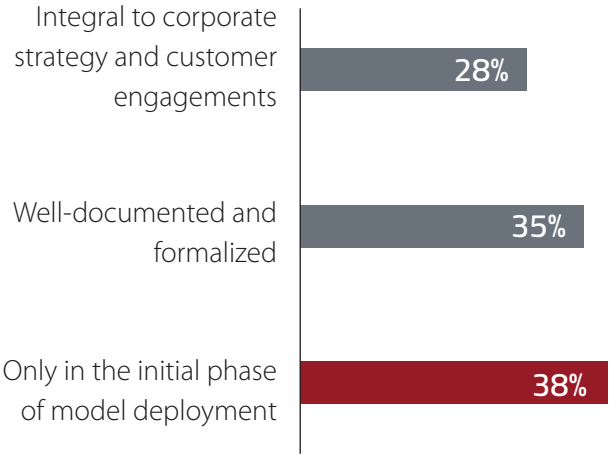
AI Patent Sector Distribution, 2010-2020

Stage of AI Journey	Approach to AI Innovation
AI matured organisations	Via In-house AI Labs (66% respondents)
Organisations at the start of AI Journey	Via AI start-up incubation (37% respondents)

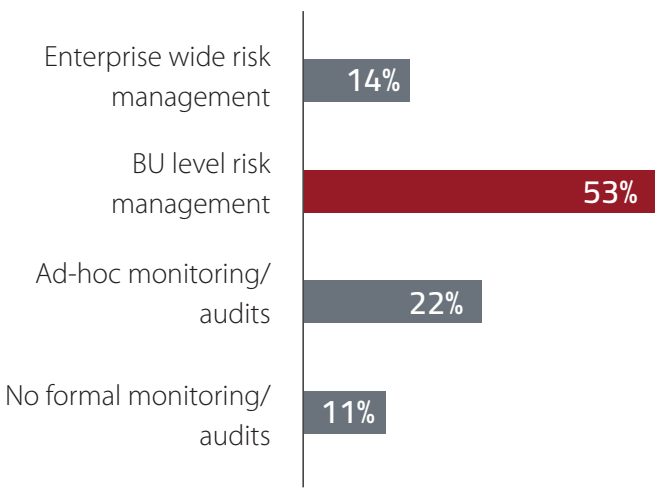
Ethic, Governance & Controls – Dimension Score 2.86

The sector is still in the initial stages of adopting ethics and governance framework and have not imbibed it as an integral part of their corporate strategy. However, there is a formal risk assessment section existing in majority of the organisation with planned audits, which shows the sector is transitioning to a widespread adoption of ethics and governance framework. As financial institutions increasingly employ AI techniques in their digital systems to generate personalised insights and actionable nudges, it is important for organisations to ensure that AI ethics are taken into consideration.

Nature of Adoption of Ethics & Governance



Audit & Control Mechanisms for Risk Mitigation



LEADING AI ADOPTERS: BFSI

Illustrative list of mature and measurable AI adopters in India across size, subsegment and global presence

State Bank of India
- SBI Intelligent Assistant is an AI-powered smart chat assistant that helps answer customer queries and helps with everyday banking tasks. Developed by AI Banking platform Payjo, this can handle 10k queries

HDFC Bank
- Eva works with Google Assistant to solve customer queries, and has been built by Senseforth AI Research and has already answered 5 mn. user queries with more than 85% accuracy.

ICICI Bank
- Applying robotics in over 200 business processes across functions. Has scaled its RPA initiative to over 750 software robotics handling 2 mn. transactions daily.

DBS
- AI-powered insights feature, live since 2020, witnessing a 47% repeat usage of the feature m-o-m. Digibank contributes 20% of new customer acquisitions across all branches.

Axis Bank
- Conversational IVR called AXAA, a next-gen multilingual voice-bot. Also has an AI innovation lab 'Thought Factory' that builds AI technology for the bank

Max Life Insurance
- Uses smart algos and ML to segment its customers and use AI models for risk selection and pricing.

ICICI Lombard
- Partnered with Microsoft to develop India's first AI-enabled car inspection feature through 'Insure' mobile app.

CASE STUDY: REINFORCEMENT LEARNING TO IMPROVE CREDIT COLLECTION

Objective

Improving debt collection efficiency by providing contextual communication at minimal cost through new age channels with the help of AI solution.

Problem Statement

Around 100K of credit card customers are overdue every month. The current collection process involves the bank establishing communication and nudging for payment. The method involves heavy reliance on phones and is both time consuming and expensive. Overall collection amount was lower and consumer experience adverse.

Project Maturity

The solution has been deployed at present with an African Bank but can be deployed in any industry which involves collection. It can be deployed within a period of 6 weeks and can handle peak loads of 1 mn. per month

Approach

A US and India based global enterprise has developed an innovative AI tool to improve debt collection efficiency of a South African bank at minimal cost. The platform focuses on a digital first approach with an aim to personalise communication with the customer.

The entire platform is hosted on AWS cloud and utilises several AWS functionalities. Initially an identification of a customer persona using gradient boosting and segmentation model is carried out. Through this process multiple data points such as ability to pay, willingness to pay, past relationship with the bank and so on are determined. This helps to identify the consumer segment which is used to formulate the communication approach. Reinforcement learning is used to make the decision on both the communication strategy and method to be used. The selected communication ranges from email, WhatsApp/IVR employing conversational AI.

Due to data sensitivity of the encryption and pseudonymisation are critical requirements in the project. This requires creation of secure encryption standards for data storage and transfer to ensure compliance.

USP

The solution is rapidly scalable and easy to deploy. IT also helps in creating new data assets for the bank by tracking customer digital engagement. The solution also tracks open and clicks. Open and clickstream data creates opportunities for optimized calling (e.g. a customer who is engaged digitally need not be called and vice versa). This helps in improving customer experience.

Return on Investment

- Platform was found to have a 600bps higher collection rate leading to annual savings of $3 mn.
- Collection with platform was 10% higher than manual method

CASE STUDY: AI TO AUTOMATE NEW CLIENT ONBOARDING

Objective

Identification of possible risks associated with clients at low cost when material information is dynamic and distributed over a number of sources using ML.

Problem Statement

KYC- AML constitute a key part of client onboarding. It is essential to identify sanctions, politically exposed persons and adverse media references of a given client. This helps to protect the image and reputation of the brand while ensuring compliance. With dynamic sources, there is a need for a solution to collate this data effectively.

Project Maturity

The solution is modular with clients picking the services as per requirement. The firm aims to expand language support and increase databases employed to expand scale of operations.

Approach

An India based organisation has developed an automated platform to manage client risks and ensure compliance. The application is an end-to-end solution for KYC Screening with automated data sourcing to entity recognition, materiality identification, risk scoring and workflow for manual reviews.

The platform gathers information from a wide range of sources providing structured/semi-structured/structured data using APIs, RPA's in combination with AI based text mining engine. With large volumes of unstructured data, NLP techniques are used to cleanse and derive inferences from data.

Ultimately, the solution provides an auto calculated risk score based on materiality and severity. Output of manual reviews is continuously fed back into risk scoring algorithm ensuring that it learns and improves iteratively.

The platform is hosted using a combination of on-premise and cloud based resources. The nature of operations involves huge volumes of data from varied sources and in different formats. Effective and robust data management processes helps to tide over these challenges.

USP

The solution is capable of collating and working with data from a number of sources including regulatory databases and news media. It is capable of handling unstructured data effectively while maintaining a high level of availability and performance benchmarks.

Return on Investment

- The tool has brought about immediate cost savings of upto $4.5 mn. by improving efficiency
- Risk identification has also improved leading to higher trust and better customer experience

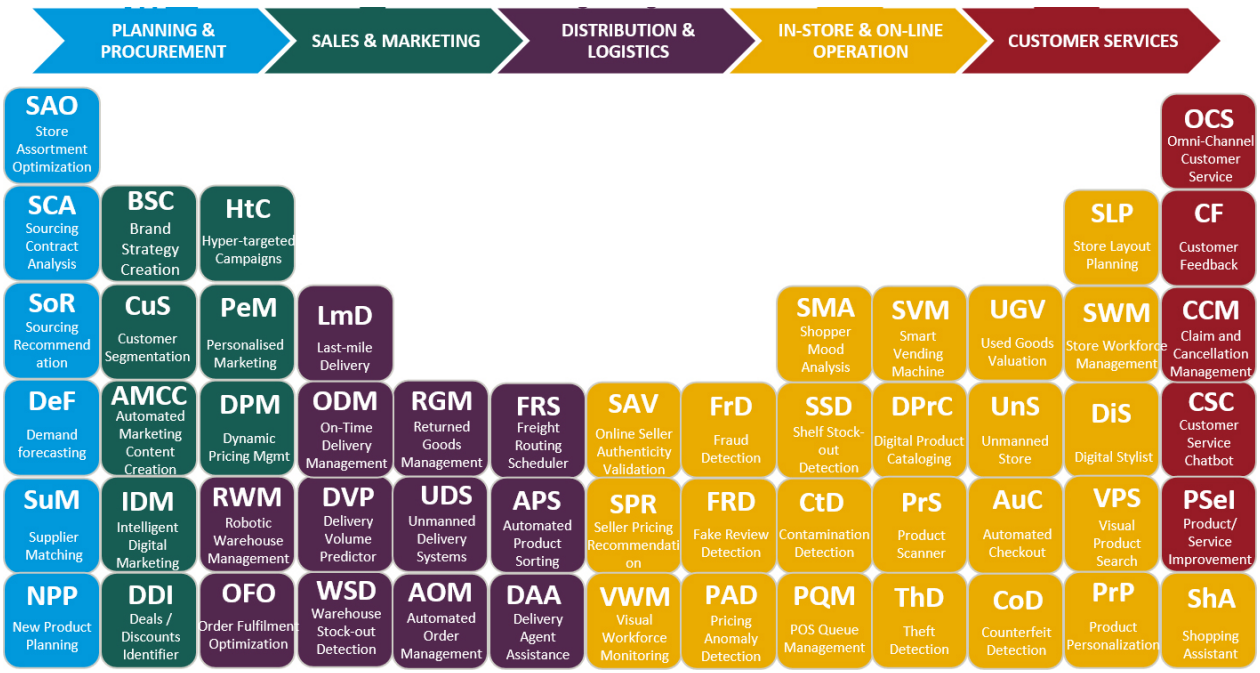
CPG AND RETAIL

CPG AND RETAIL

Retail sector in India, contributing about 10% to India's GDP shows great promise for future growth. It is expected to touch $1.4 tn. by 2024. The industry at present is undergoing significant transformation as a result of changing consumer behavior, rise of organized retailers and entry of multiple global players.

Changing consumer preferences and rising digitization are accelerating the growth of data-driven Retail. For instance, improving visibility across the value chain and availability of purchase data can enable better supply demand matching which can shorten operating cycles and reduce working capital investments. AI in retail has the potential to add up to $90 bn. to India's GDP by FY2026 and is fast becoming the next frontier of organizational growth[2].

CPG and Retail, and AI-Led Digital Transformation Practices



AI MATURITY SUMMARY

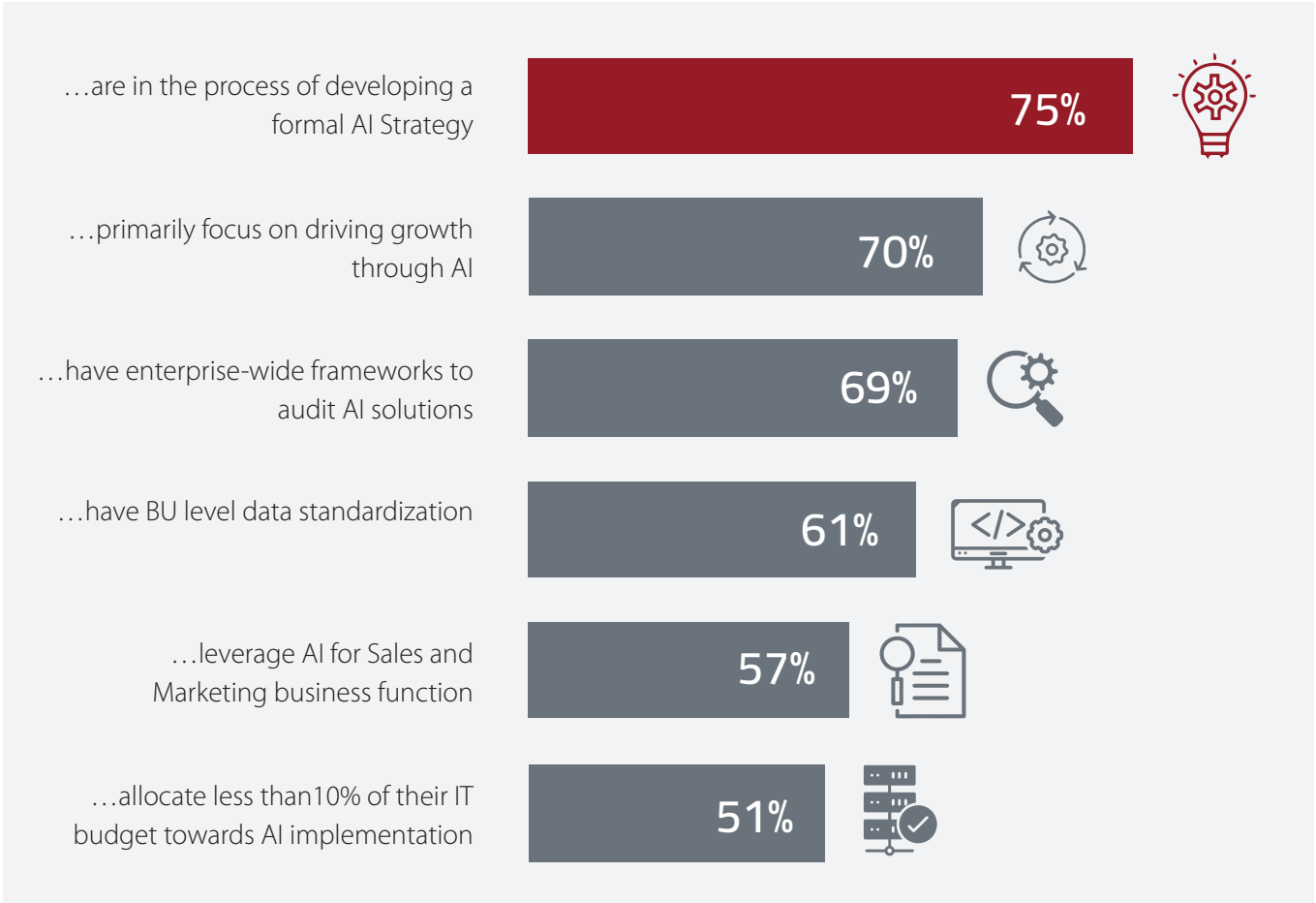
The industry is in a perpetual state of upheaval and development, contending with rapidly changing customer buying patterns and a shift in focus from the street to the online. There is a constant need to build novel solutions to improve customer experience catering to their ever-changing need, with a huge emphasis on consumer data privacy continuing as the key area of focus for the future.

The sector has expansion, optimization and innovation at the core of its AI initiatives with undefined or functional level AI strategy. The focus is now on scaling-up the ongoing efforts, developing a structured PM methodology, transitioning to modern systems and data standardization.

SECTOR SCORE:
2.51

LEVEL:
ENTHUSIAST

Key Findings



Key Takeaways

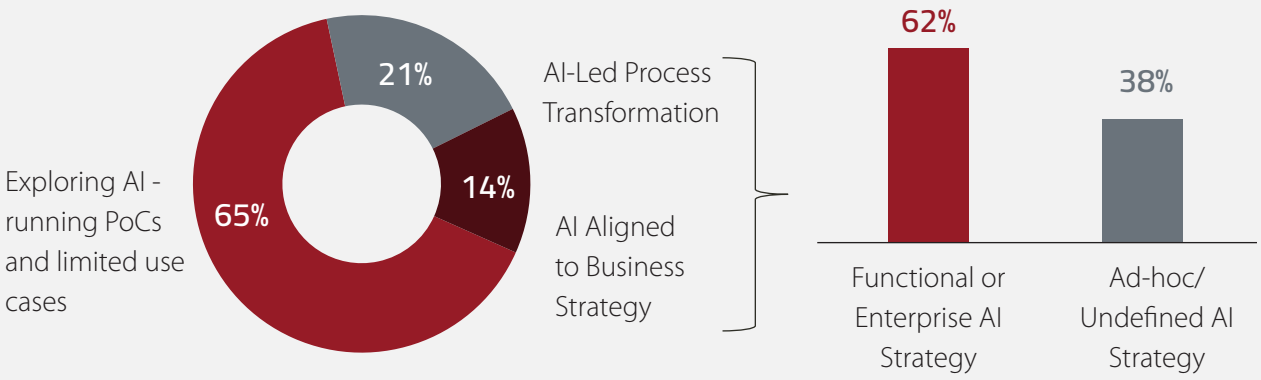
1. Structured AI budgeting is required with a higher percentage allocation of funds.
2. The strategic imperative for the sector is to accelerate the business alignment of AI
3. The focus of AI initiatives is more on growth and improving customer satisfaction with increasing cost reduction efficiency
4. The datasets must be standardized at the enterprise level for the sector as standardization and interoperability of data acts as the foundation for any solution
5. Structured PM methodology is required in this sector to effectively execute the projects
6. Players in this sector are focusing on building in-house solutions from off-the-shelf

AI MATURITY : DEEP DIVE ACROSS DIMENSIONS (1/3)

Maturity in AI adoption is not widespread across healthcare, but more experienced companies have an established AI adoption strategy and budget allocation, and a focused approach aimed at innovation-led business growth and enhanced care delivery

Strategy & Impact – Dimension Score 2.59

CPG and Retail' AI Implementation Strategy



Of the one-third respondents with more mature AI initiatives, 62% have established functional or enterprise level strategy.

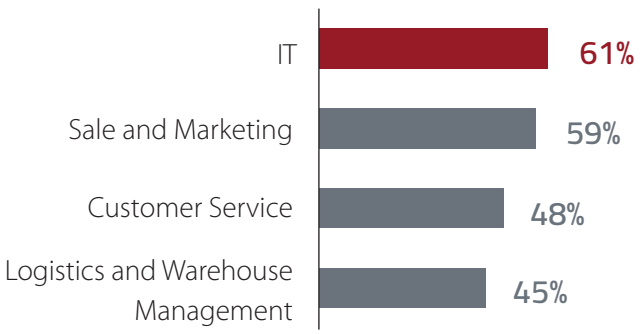
Business growth, optimization gains, and innovation are primary drivers of AI in CPG and Retail

Drivers

70%	60%	55%
Growth	Optimisation	Innovation

All organisations, irrespective of their AI maturity, focus on leveraging AI in each of these functions as per the order given below.

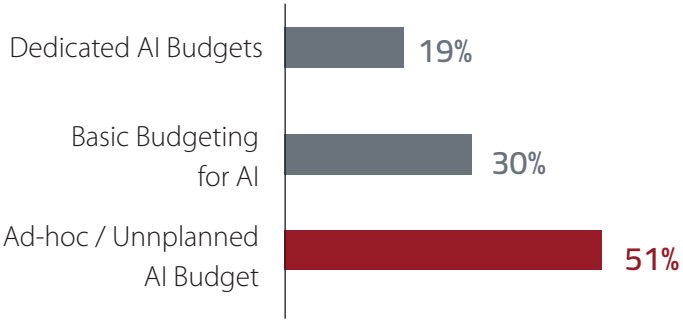
Top CPG and Retail AI Use Cases



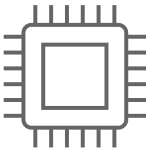
Investments – Dimension Score 2.12

51% of the overall sector does not have a sustained AI budget allocation strategy

AI Budget Strategy



Where are the AI funds being Utilized?



Technology

Process

CPG and Retail' AI Deployment and Provisioning Strategy

56 %

67% of experienced firms focus on specialist AI capability building inhouse, while over 80% starters rely on outsourcing augmentation

53 %

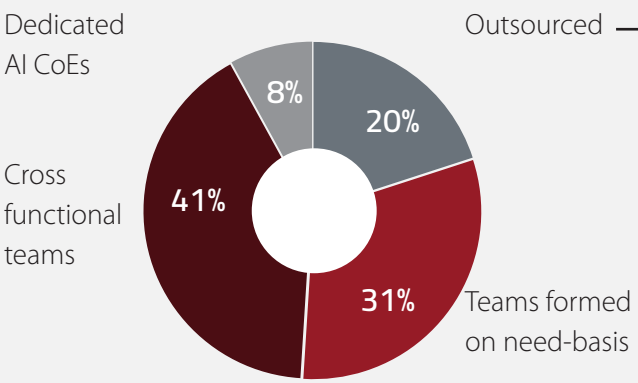
Like insourcing, experienced firms prefer in-house custom development. Over 70% of experienced firms develop their solutions in-house

61 %

The industry is Capex-heavy. The reflects that the players in this industry are investing in infrastructure and leading the way for future innovation

People & Operations – Dimension Score 2.26

Half of the companies have a cross-functional or dedicated AI specialist team



Top Reasons for Outsourcing

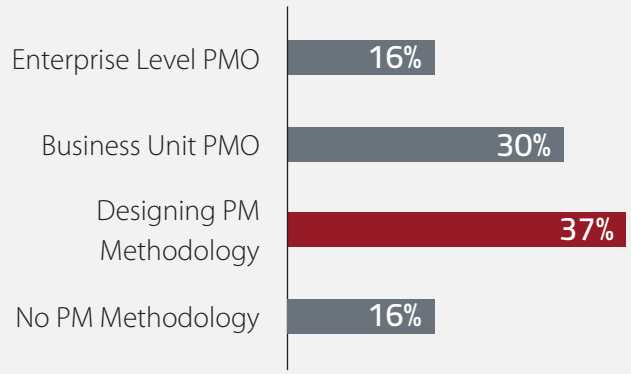
Outsourced

1. Lack of in-house or recruitable talent
2. Technology portfolio is non-core to business

Top AI Talent Recruitment Strategies

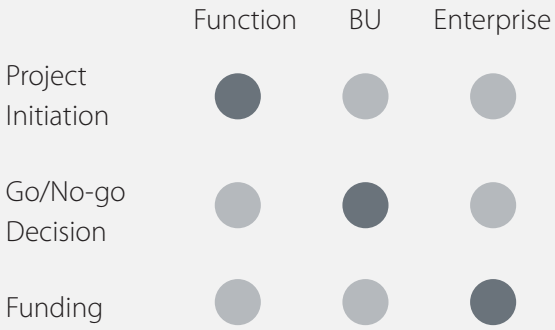
1. Gig/ contractual model
2. Upskill/reskill internal talent
3. Invest in research talent
4. Sponsor advanced AI education

AI Project Management(PM) Methodology



AI Project Decisions and Ownership

AI use cases are identified by the functions, approved by BUs, and funded at the enterprise level

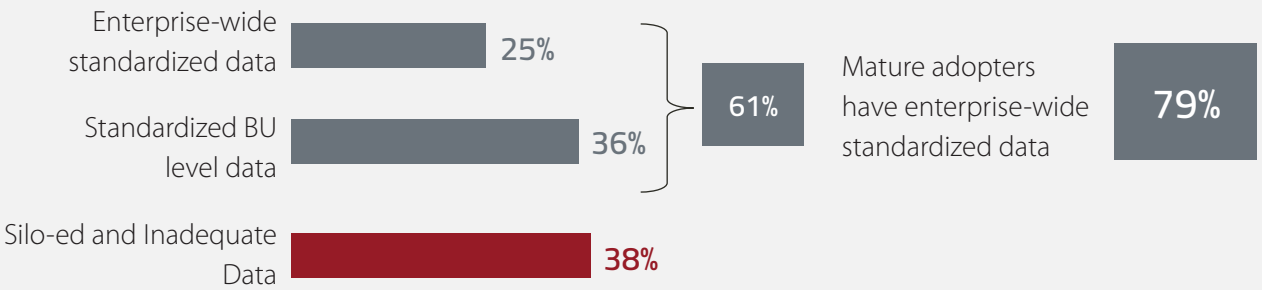


46% have integrated their AI project management methodology at the BU or enterprise level and almost all experienced adopters have a well defined PMO at either of these levels.

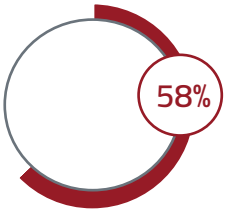
Data & Technology – Dimension Score 2.58

The sector is transitioning to modernized systems and leveraging cloud infrastructure to improve performance, consistency and flexibility, which helps retailers to better understand customers and create exceptional customer experience. Data standardization has been a key focus in this sector, with almost 61% organisations having standardized data at the BU/enterprise level.

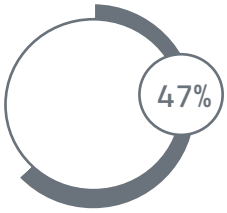
CPG and Retail's Data Readiness for AI Projects



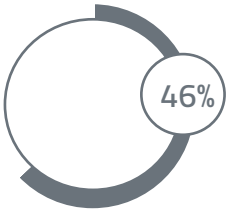
CPG and Retail' State of Legacy Modernization for AI Adoption



58% use modernized applications



47% use On-cloud structure for Deployment

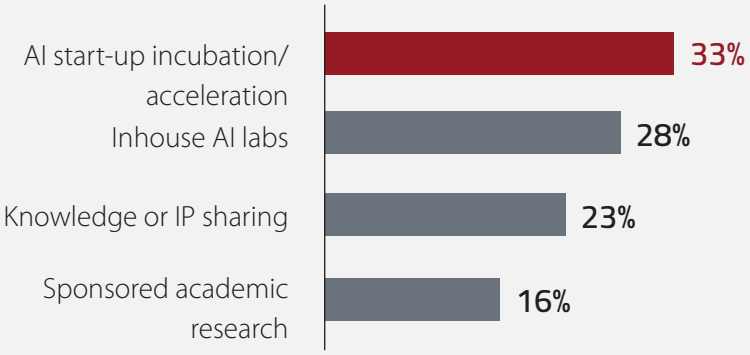


46% use On-cloud structure for Development

Knowledge Output – Dimension Score 2.18

Majority of the players approach innovation via AI start-up incubation with AI matured organisations transitioning to building in-house AI Labs. But there's limited focus on academic research and patent filing in this sector which requires attention.

Approach to AI Innovation



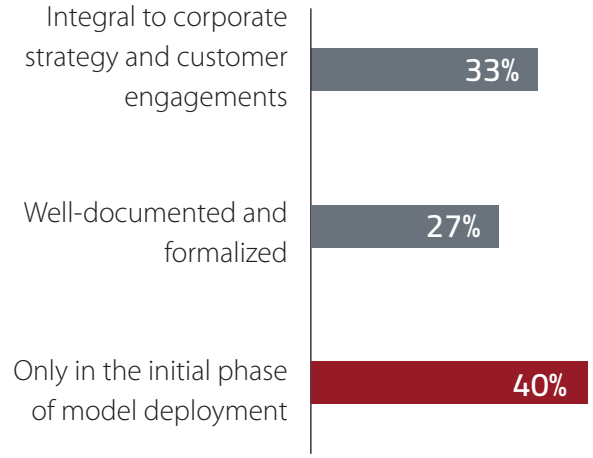
AI Patent Sector Distribution, 2010-2020

Stage of AI Journey	Approach to AI Innovation
AI matured organisations	Via In-house AI Labs **(48% respondents)**
Organisations at the start of AI Journey	Via AI start-up incubation **(44% respondents)**

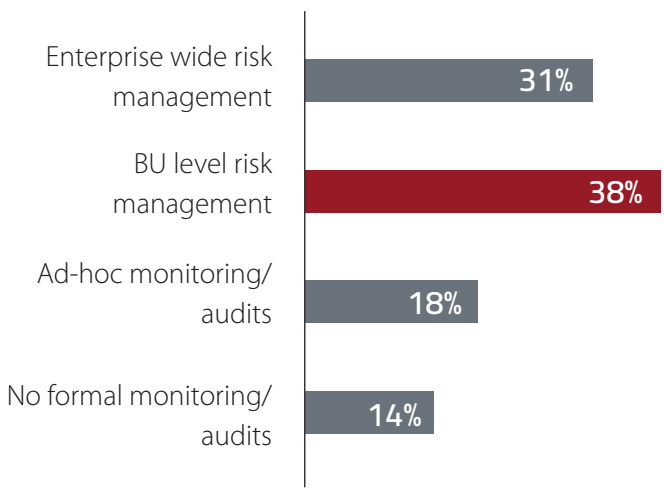
Ethic, Governance & Controls – Dimension Score 2.86

Audits and controls are widely used in the industry to guarantee that AI systems are continually reviewed and improved. However, there is a increasing emphasis on ethical governance in this sector as consumer trust is a major consideration and there is a thin line in personalization to consumer data privacy. Having a transparent and well defined ethical framework is a necessity to win the trust of customers and thus generate footfall and revenue, which can be seen with 60% players having well defined and enterprise wide ethics and governance framework

Nature of Adoption of Ethics & Governance



Audit & Control Mechanism for Risk Mitigation



LEADING AI ADOPTERS: CPG AND RETAIL

Illustrative list of mature and measurable AI adopters in India across size, subsegment and global presence

Aditya Birla Fashion and Retail

- To offer omnichannel experience to customers leveraging Algonomy's Recommend, Engage, Find and Discover. The solution uses both historically stored data as well as real-time generated data.

Bata

- Uses the stores' video infrastructure to execute data collection and insights generation

Arvind Fashions

- Sensor technology using IoT and customer analytics to understand behavior better. This is in addition to providing customer-specific, personalized information in-store to accentuate shopping experience

Reliance Retail

- Advanced data analytics and AI to plan for store-specific assortment. Also, investing in hyperlocal for seamless online and offline experience

Flipkart

- Flipkart's AI project 'Mira' aims to provide experience similar to offline shopping to its customers, digitally to reduce 'customer returns' reported at between 10%-11%

Lenskart

- Partnered with Tango Eye to capture customer footfalls leveraging computer vision. The video analytics platform provides actionable insights for better productivity, increased sales and security at the retail stores

Future Group

- Proprietary AI/ML platform 'Tathastu' for streamlining and improving customer operations. Also to integrate demand planning, sales & operations planning for supply chain performance improvement

CASE STUDY: AI FOR BETTER SHOPPING EXPERIENCE

Objective

Objective
AI powered tool to improve conversion rates and engagement in the online store by means of personalized UX and recommendations.

Problem Statement

Majority of ecommerce platforms require explicit user input to drive a rule-based recommendation system. This produces static outputs which are often irrelevant leading to a poor user experience, lower conversion and customer retention. Over 71% of users have been found to exit online purchases due to an unpleasant experience.

Project Maturity

Solution has been designed to cater to retailers in any industry. Businesses can list either a single product line, or an entire catalogue. It can also be used to push campaign offers based on business needs.

Approach

An India based IT major has developed an AI based platform to anticipate customer preferences, provide a personalised UX and intuitive recommendations. This is achieved by blending Deep Learning, behaviour economics and design capabilities. It designs a customer's journey by continuously learning about customer actions from the time they visit the platform and predicts what the customer needs at that time. As the solution predicts the journey, the website renders its design and information displayed to the user offering best-in class user experience in line with their needs, without any explicit input from the user. It leverages past choices of the customer to contextually anticipate the user's needs in real time.

The key challenge associated with the solution was the complexity of dataset which includes clickstream data, product attributes, user behaviour data and attributes from different sources. The underlying prediction engine has been designed with high throughput and low latency requirements enabling it to generate results within few milliseconds of operation.

USP

The platform has enabled reimagination of the digital experience by providing real-time, adaptive, individualized user interfaces, product recommendations and incentives, that don't depend on explicit user input. The focus on latency and throughput has ensured that underlying prediction engine can work and deliver results almost instantaneously.

Return on Investment

- Conversion rates found to increase by 18% along with a similar increase in customer retention
- Cart abandonment reduced along with a higher user engagement

CASE STUDY: UNLOCKING VALUE WITH AN AI DRIVEN PREDICTION MODEL

Objective

AI enabled platform to predict supply and demand signals with greater accuracy for better demand planning and dynamic pricing opportunities

Problem Statement

Retail companies currently face high inefficiencies at the intersection of demand and supply. Poor demand anticipation has led to an inability to take advantage of localised pricing opportunities, poor inventory management and a low agility in responding to changes in demand patterns all of which affect the bottom line.

Project Maturity

Platform possesses a fully developed demand module. It has been deployed at the moment with a food processing giant. At present the pricing module is under development

Approach

An India based start-up has developed an AI based tool to better match supply demand signals for consumer products and unlock potential for revenue growth. It uses deep-learning models to blend structured and unstructured signals to anticipate demand changes better. AI is used to provide a highly accurate baseline forecast, a Demand Planning Risk Index (DPRI) to identify automatable decisions and in automating low risk areas.

Input data for the model is acquired from a number of internal and external sources and is of differing formats. Data harmonization, data sufficiency and completeness issues along with operational issues in delayed data transfers, and pre-empting security incidences were some of the key data related challenges in developing the model.

The platform has been built with a focus on security, scalability, reconfigurability, versatility, automation and ease of deployment. The entire solution deployment is automated reduces the deployment times from 1-2 weeks to a few hours.

USP

The newly developed platform has allowed organisations to anticipate future demand risks at higher accuracy and at greater granular level. The solution automatically adjusts forecast recommendations in response to long tail events. It also has a provision for a manual override allowing for an easy integration into planning and execution systems.

Return on Investment

- Revenue growth of 3% with limited implementation at full scale potential of revenue growth is 10%
- Incremental profit growth of 2% for users with the new platform

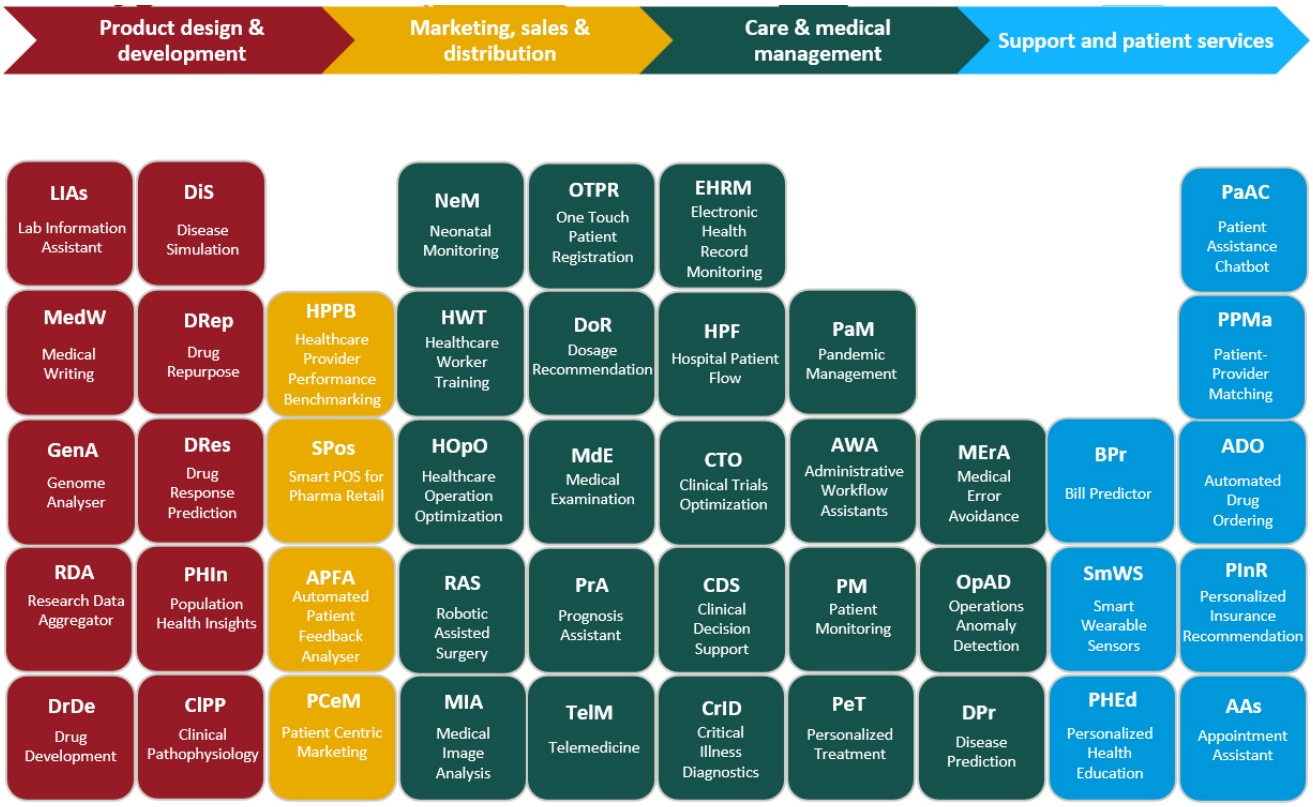
HEALTHCARE

HEALTHCARE

India's healthcare market has grown 3X+ from $110 bn. in 2016 to $372 bn. in 2022. Rising incomes, self-care awareness underscored by the pandemic, and more state-led health initiatives have been accentuated by cutting-edge healthcare technologies, from remote diagnostics, to robotic surgeries, and preventive healthcare analytics, driving enhancements in access and quality of national healthcare systems.

Standardization and open access to healthcare data and the use of AI on that data has rapidly accelerated. Avenues for AI adoption range from personalized self-assisted care to timely epidemic prediction. Use of AI in improving healthcare systems can potentially generate $25 bn. of economic value add for India by FY2026[2].

Healthcare and AI-Led Digital Transformation Practices



AI MATURITY SUMMARY

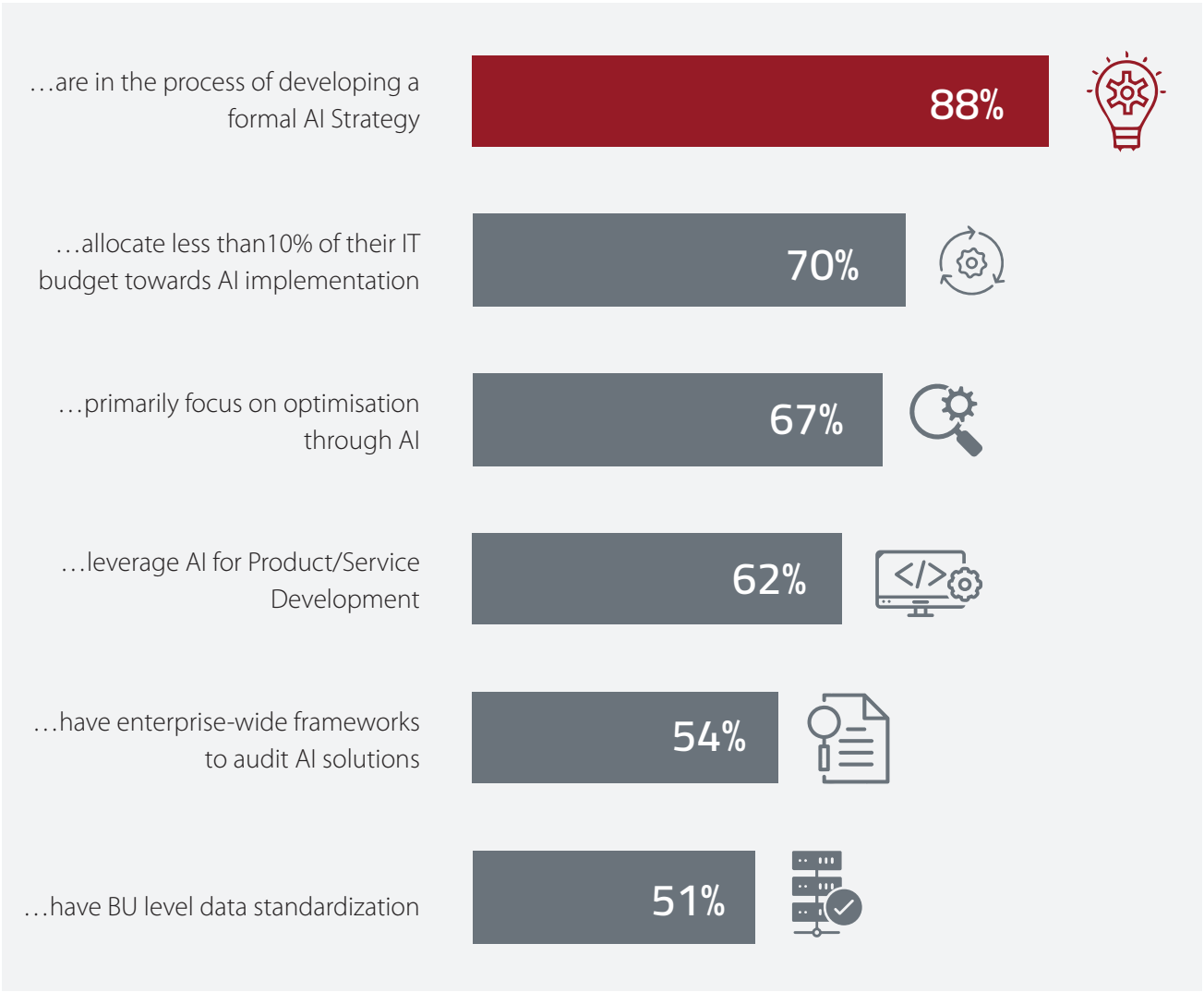
47% of the surveyed healthcare companies, across size and sub-sector classification, are yet to begin a planned AI journey and are still exploring AI for applicability, viable use cases through PoCs, and a clearly explainable RoI.

For a data-intensive sector that can benefit immensely by a shift to AI-led preventive healthcare strategies, from predominantly curative, this indicates a massive need for AI advocacy and RoI demonstration.

SECTOR SCORE:
2.35

LEVEL:
ENTHUSIAST

Key Findings



Key Takeaways

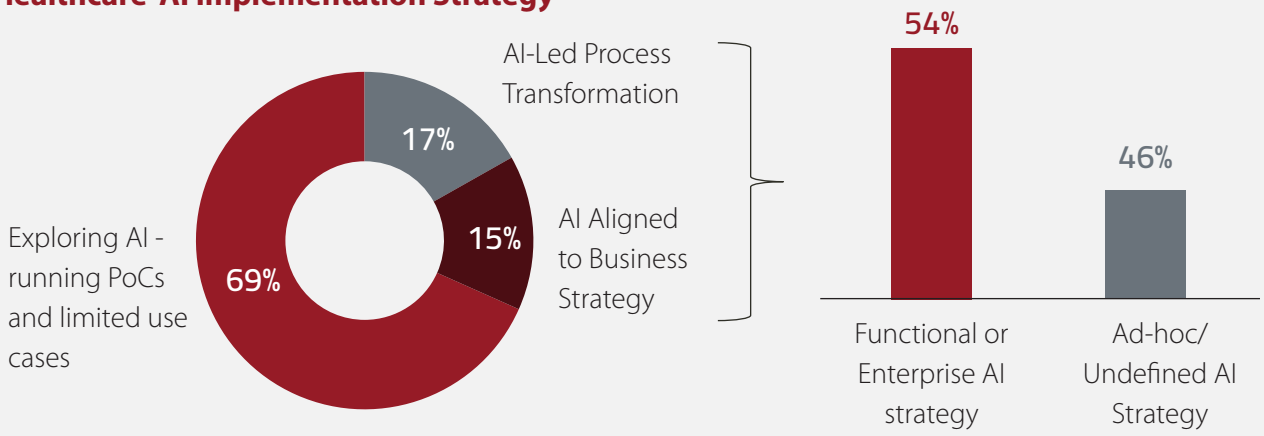
1. There is a need to find ways to stimulate investment for AI initiatives
2. The strategic imperative for the sector is to accelerate the business alignment of AI
3. The focus of AI initiatives should be more on improving customer-satisfaction/NPS
4. The datasets must be standardized at the enterprise level for the sector to unlock strategic value of data
5. There is a focus on shifting to reskilling/upskilling internal talent from the gig route
6. Spread across asset-light and asset-heavy subsectors, the sector will benefit from differentiated strategies.

AI MATURITY : DEEP DIVE ACROSS DIMENSIONS (1/3)

Maturity in AI adoption is not widespread across healthcare, but more experienced companies have an established AI adoption strategy and budget allocation, and a focused approach aimed at innovation-led business growth and enhanced care delivery

Strategy & Impact – Dimension Score 2.45

Healthcare' AI Implementation Strategy



Of the one-third respondents with more mature AI initiatives, 54% have established functional or enterprise level strategy.

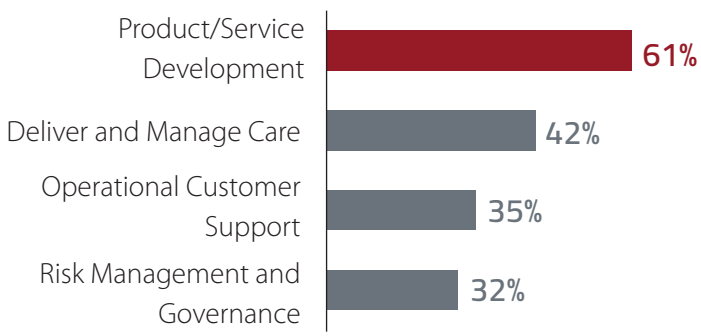
Optimization gains, business growth and innovation are primary drivers of AI in healthcare

Drivers

67%	56%	54%
Optimisation	Growth	Innovation

50%+ mature AI adopters focus on Product/Service Management and Delivery and Managed Care

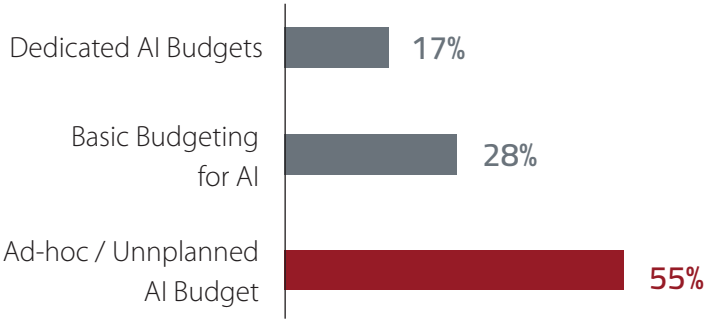
Top Healthcare AI Use Cases



Investments – Dimension Score 2.12

55% of the overall sector and 37% of experienced adopters do not have a sustained AI budget allocation strategy

AI Budget Strategy



Where are the AI funds being Utilized?

Healthcare' AI Deployment and Provisioning Strategy

54 %

Experienced firms focus on specialist AI capability building inhouse, while starters rely on outsourcing augmentation.

51 %

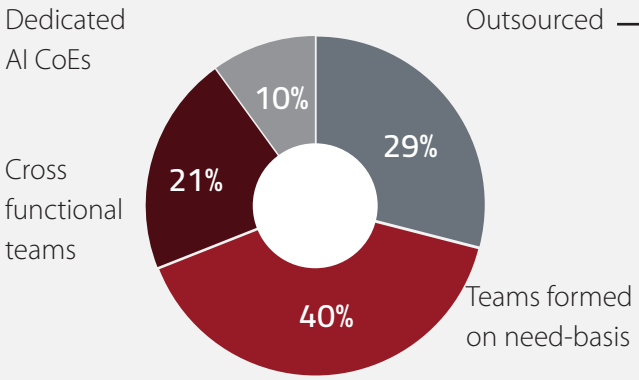
Like insourcing, experienced firms prefer in-house custom development.

51 %

A balance is seen between CapEx and OpEx. The sector spread across asset-light and asset heavy subsectors.

People & Operations – Dimension Score 2.26

One-third of companies have a cross-functional or dedicated AI specialist team



Top Reasons for Outsourcing

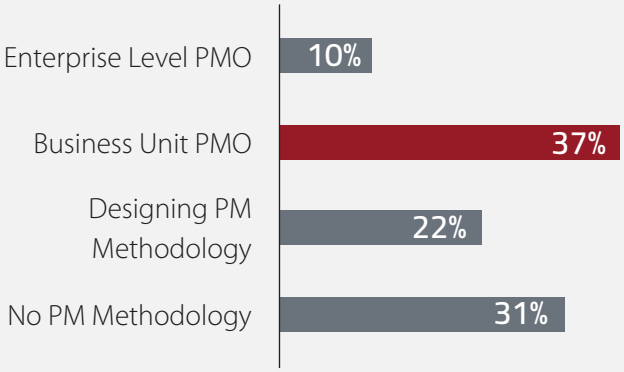
1. Lack of in-house or recruitable talent
2. Technology portfolio is non-core to business

Top AI Talent Recruitment Strategies

1. Gig/ contractual model
2. Upskill/reskill internal talent
3. Invest in research talent
4. Hire STEM graduates

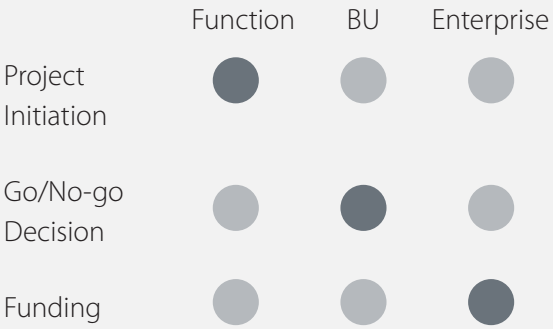
47% have integrated their AI project management methodology at the BU or enterprise level. This proportion is 67% in experienced adopters

AI Project Management Methodology



AI Project Decisions and Ownership

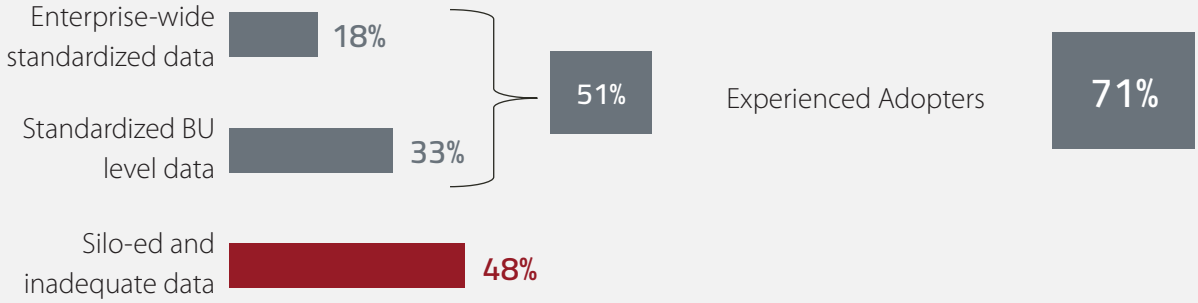
AI use cases are identified by the functions, approved by BUs, and funded at the enterprise level



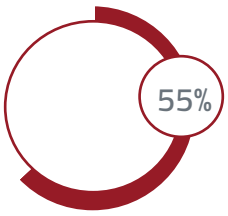
Data & Technology – Dimension Score 2.58

51% of the organizations report having standardized their data strategy – at either the BU level or enterprise level. More experienced adopters demonstrate greater data discipline, with 71% having achieved standardization

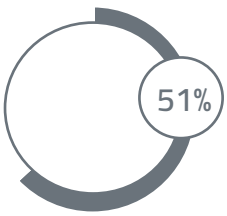
Healthcare' Data Readiness for AI Projects



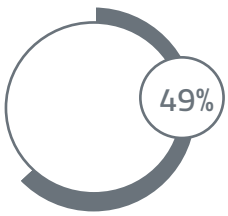
Healthcare' State of Legacy Modernization for AI Adoption, *Shifting to Hybrid Infrastructure*



55% use modernized applications



51% use Hybrid structure for Deployment

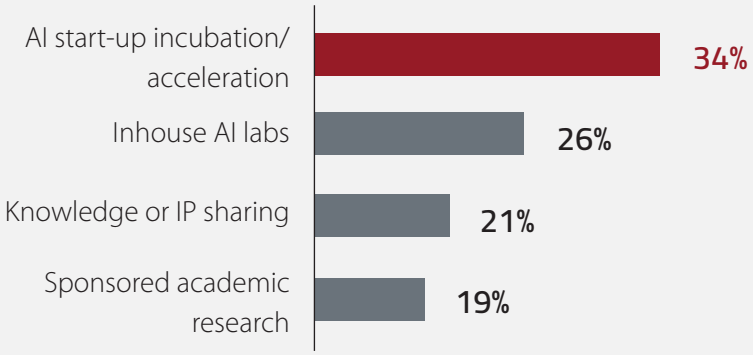


49% use Hybrid Structure for Development

Knowledge Output – Dimension Score 2.18

Majority of the players approach knowledge building via in house AI labs with organisations at the start of their journey relies on start-up incubation. But there lies a limited focus on research and innovation in this sector with minimal companies filing for patents.

Approach to AI Innovation

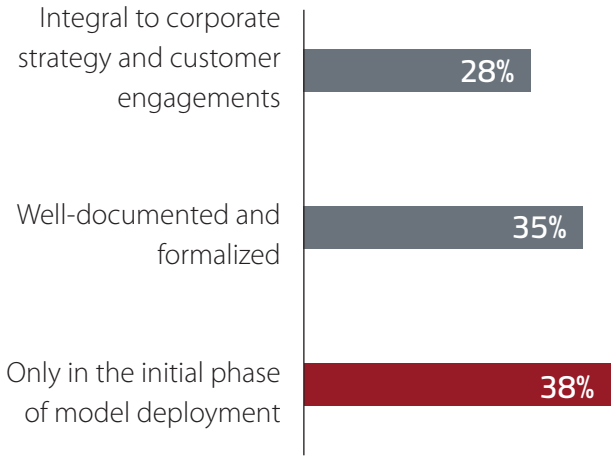


Stage of AI Journey	Approach to AI Innovation
AI matured organisations	Via In-house AI Labs (63% respondents)
Organisations at the start of AI journey	Via AI start-up incubation (46% respondents)

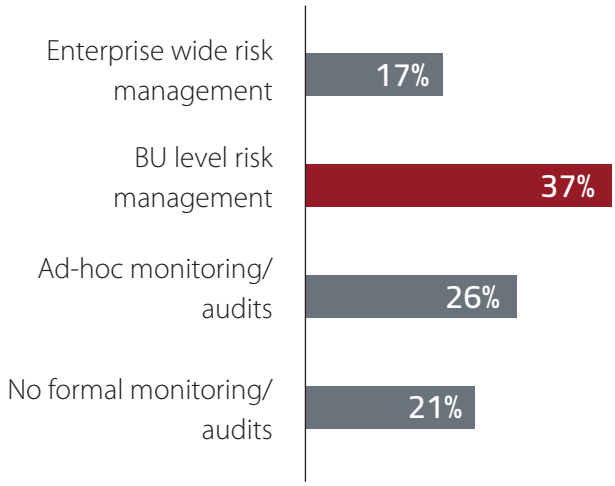
Ethic, Governance & Controls – Dimension Score 2.86

Audits and controls are widely used in the industry to ensure that AI systems are constantly monitored and improved. Moreover, majority of the players in this sector are focusing on ethical use of AI as well.

Nature of Adoption of Ethics & Governance



Audit & Control Mechanisms for Risk Mitigation



LEADING AI ADOPTERS: HEALTHCARE

Illustrative list of mature and measurable AI adopters in India across size, subsegment and global presence

Max Heathcare
- Using AI to analyse CT scans to find out the degree of lung damage, during the second wave of COVID-19
- Also using AI for TB detection and tied-up with healthcare start-ups and also looking to diagnose psychological disorders and cognitive disorders.

National Centre for Disease Control
- Keeping track of disease outbreaks using a tool that scans all media reports and create a database of outbreaks of 33 diseases, that have the potential to become epidemics.

Dr. Reddy's
- Created an AI solution that helps write SOPs for its manufacturing process. Addressing quality issues, the context-specific tool uses an algorithm that can read sentences and identify the intent.

Apollo Hospitals
- Detection of cardiac illnesses proactively. Combines data and expertise of Microsoft's cloud and AI capabilities to develop a scoring system to identify patients at risk.

Medanta
- Partnered with Qure.ai to improve the efficacy of X-ray diagnosis for chest ailments.

CASE STUDY: AI POWERED DIAGNOSIS OF BRAIN MRI

Objective

AI powered volumetric analysis of Brain MRI assisting in early stage diagnosis of degenerative diseases allowing for preventative interventions.

Problem Statement

Neurological diseases affect 14% of India's population and is typically chronic with long term effects on quality of life. Early stage detection can aid in preventative action and minimize effects. Present method of manual diagnosis is time consuming, has poor reproducibility and high subjectivity.

Project Maturity

Solution has been deployed in partnership with hospitals and testing centers in 15 locations. The company aims to expand its footprint globally and is in present discussions to deploy the solution in West Asia

Approach

An India based health tech startup is building an AI based platform to carry out brain MRI volumetric analysis to assist in diagnosis of neurological conditions. The tool developed is among the first to use an Indian baseline data as compared to others in the market which use Caucasian brain data. It supports the physician's clinical impression with quantitative numbers and provides objective data to help in the assessment of patients' prognosis and clinical courses.

The tool utilizes 3D MRI images to calculate the volume and provides atrophy percentage in comparison with normal people of the same age, gender, and ethnicity. The software analyses the input data using deep learning and bio-marker algorithms to generate the quantitative report for the individual.

This platform uses "reactJS" on the front end with the AI implementation happening on python in the backend. The use of AI and deep learning improves the sensitivity of volumetric analysis greatly and speeds up the process. The tool has been deployed on the cloud allowing for rapid scalability, easy deployment and in reduction of operating costs.

USP

The solution is amongst the few in the market with an Indian baseline data. All the other existing solutions utilise western brain atlases which are an inappropriate fit for an Indian brain which is 20% smaller. The platform is also a pioneer in TrueAI which allows it to create reference data for other micro ethinicites and expand into other disease conditions.

Return on Investment

- 75% improvement in turnaround time for volumetric analysis from 4 to 1 hour.
- Improved operational efficiency with cloud-based deployment.

CASE STUDY: AI FOR EARLY DETECTION OF CHRONIC DISEASE PROGRESSION

Objective

ML enabled model for early detection of chronic disease progression leveraging past medical records combined with inputs from the physician.

Problem Statement

Low doctor-to-patient ratio below WHO standards results in a small window for diagnosis. This can result in medical professionals missing key indicators of early stage chronic disease progression. Additionally inadvertent omissions in description of symptoms can further delay detection and diagnosis.

Project Maturity

The solution has been deployed at over 370 cities and can support 16 different specialties. With limited API integration the solution can be scaled for a global deployment.

Approach

An India based health tech start-up is developing an ML based tool to assist in clinical diagnosis. . It learns from the usage patterns of the doctors, with an effective use of personalization machine learning models. It aims to address decision burn-out problem faced by doctors at the point of care, and help them in managing the difficult and cumbersome task of having to deal with patient health records. The tool leverages past data while at the same time nudging the doctor to gather inputs critical for diagnosis. The ML algorithm tries to correlate the inputs with critical risk factors to predict whether the person would develop a chronic disease. This result can help the physician in diagnosis leading to better clinical outcomes.

The AI tool gathers inputs from the doctor which it filters and sanitises using proprietary data cleaning algorithms. At present the platform supports inputs in 14 Indian languages and in different formats. The sanitised data is condensed into a single analytical file which is then processed using an ML library. The entire platform has been deployed on cloud allowing for easy scalability. The tool has improved overall efficiency allowing for faster and accurate diagnosis improving healthcare outcomes.

USP

The tool has been developed with an Indian context and has the ability to deal with inputs in 14 different languages. The solution developed is novel with the deep personalisation models enabling physicians in better diagnosis. The nudge feature available on the platform ensures that mission critical data is not missed out and effective diagnosis takes place.

Return on Investment

- Footfall at doctor's clinic was found to increase by 20%
- Faster and accurate diagnosis, prescriptions written 70% faster

5

OUTLOOK AND WAY FORWARD

OUTLOOK

India's AI maturity score of 2.45 reveals the latent value from the use of AI waiting to be unlocked in this Techade – the $500 bn. opportunity by FY2026.

Survey findings indicate a strong desire and the know-how to adopt AI, and a reasonable sense of the roadblocks ahead. Majority of the enterprises seek to resolve their operational efficiency and market growth challenges with the use of AI. Many of these objectives can be realized with already proven AI use cases – either adopted by the more progressive Indian enterprises or by the global companies. What is needed to quickly implement those solutions is a decisive leadership vision and AI strategy, strong technology infrastructure and data standards, and clear outcome definitions.

India has world-leading AI talent, however, lacks in skills that need a combination of depth of AI experience in specific domain areas to develop, test, and deploy focused AI solutions. This challenge further exacerbates when combined with AI-specific project management experience, an area where Indian enterprises seem to be lagging significantly.

Indian enterprises prefer AI start-up incubation or inhouse AI labs to drive innovation, however, there is limited emphasis on partnership with academia to quickly create concepts that have a high potential for lab-to-market success. Majority of the patent filing within the country is driven by research and academic institutes, however, with little of it implemented in real-world AI solutions.

While companies have started experimenting with AI, the frameworks to measure success continue to be legacy – project based RoI or time and budget success. However, digital transformation projects, increasingly with most having AI solutions embedded in them, require a different set of metrics to be defined and linked with organizational success KPIs, to measure the continual and cross-functional impact of AI.

India AI Index Score - 2.45

Level - Enthusiast

AI Adoption Drivers: Optimisation & Growth

All sectors are looking to scale-up their ongoing AI initiatives. Focus is on cost efficiencies and business growth opportunities with the use of AI

Key Focus: Data Standards, Talent Depth & AI Governance

Enterprise risk management is ill-defined, and AI governance frameworks as a part of an overall ERM strategy need focus

WAY FORWARD

Indian enterprises have established the foundation to scale their AI initiatives, with greater adoption of public/hybrid Cloud and data standards, building world-leading AI talent, and early adoption of Responsible AI models. The road to $500 bn. value-add will propel India to the Expert-Evangelist stages rather rapidly. Fixing technology and data silos, lack of AI expertise, high lab-to-market time, and a culture of inadequate assessment is crucial to greater AI adoption.

Making AI Mature in India

Continual Impact Assessment of AI Projects

Mature AI adopters define and integrate digital transformation metrics into the overall business outcomes framework, rather than focus only on project-based RoI

Integrating Technology and Business Architecture

Enterprises must reimagine technology investments around future business architecture using integrated, modular, open-source technology and data strategy

Streamlining IT and Business Alignment to Weed Out Legacy

Business functions see greater merit in AI, but are challenged by legacy IT provisioning processes, leading to limited cooperation, shadow IT, and failed AI initiatives

Continual Upskilling in AI Technologies "and" Domain

Majority focus is on entry-level AI. At-scale initiatives need continual upskilling combining cutting-edge tech with specific domain to carve out high-impact use cases

Effective Lab-to-Market for Value-Driven Innovation

Lab-to-market time, strategies, and partnership models are important, and so is the identification of use cases that fit into this innovation construct

On The Path to Maturity – What Mature Enterprises Did (And Are Doing) Differently

Focus on defining success is built into the AI strategy – mature enterprises focus on getting value out of PoCs to build robust MVPs and then to scale use cases across the enterprise. Demonstrable success is crucial to break the cultural impediments. 35% of the mature companies track return on digital investments and PoC-to-production time.

With scale, measurements get granular and more continual in nature – ~45% of mature AI adopters track advanced digital RoI metrics, such as the marginal cost of digital project scalability.

Clear and accountable budget allocation is a primary enabler for any AI initiative, PoC or large-scale – Less than 25% of the mature adopters, in interviews explicitly, stated that they did not have a formal AI budgeting strategy when starting or scaling AI projects

IT and Business alignment is the crucial "make or break" link in the AI success journey – Mature enterprises, led by top leadership, strive to break the barriers of communication and joint decision-making between IT and the Business. Less than 20% have legacy systems and cultural resistance issues, suggesting better alignment on technology decisions. It shows in their data discipline – 75% reported standardized enterprise data strategy, a critical building block to make AI happen faster, better, and cheaper.

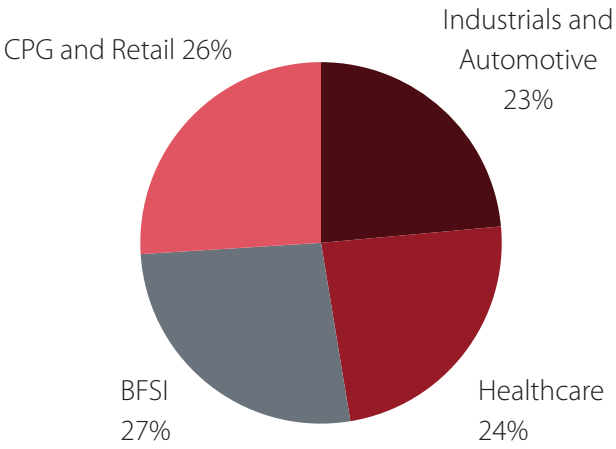
Disproportionate focus on building internal team skills and cross-skilling domain and IT for AI use cases – Mature adopters understand the importance of human AI expertise and strive to employ all ways to build it.

APPENDIX

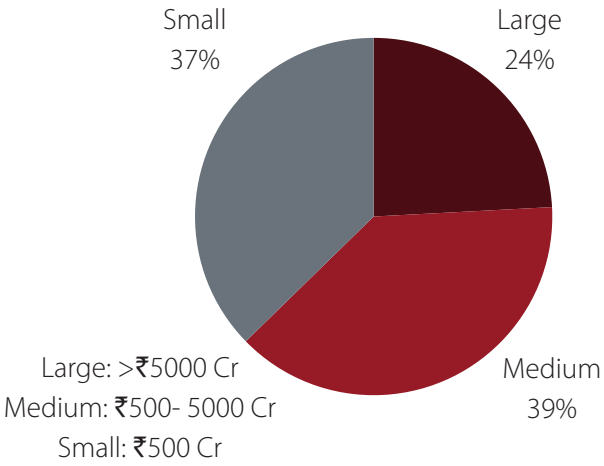
APPENDIX – DATASET CHARACTERISTICS

Number of respondents : 327

Classification on basis of sector

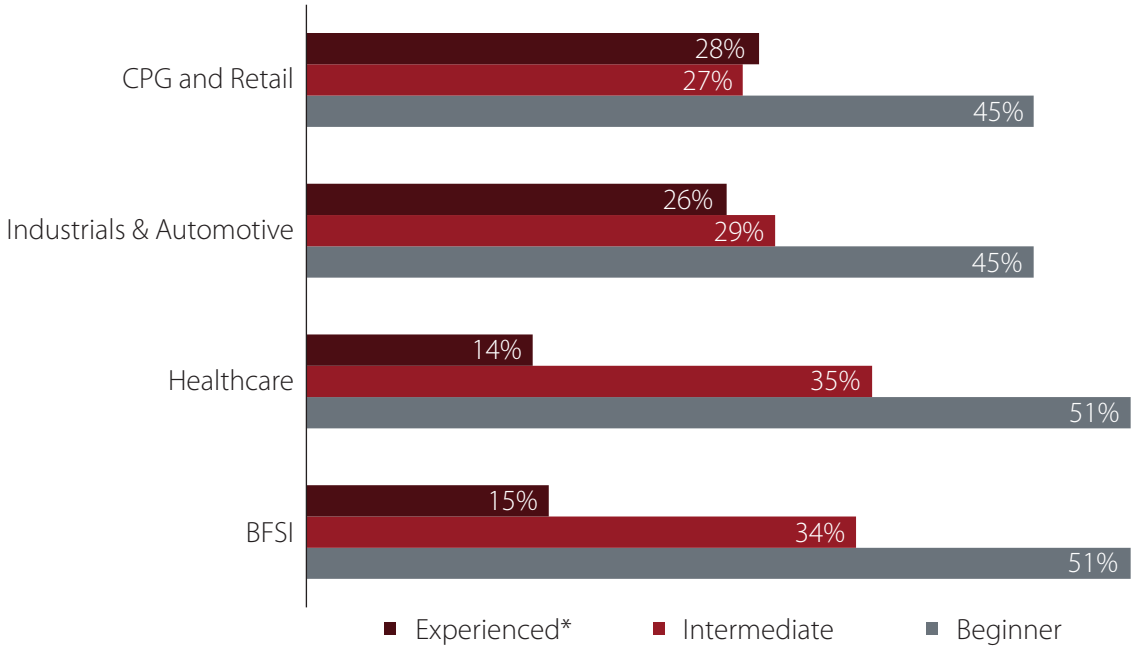


Classification on basis of revenue



Respondents selected are senior executives heading IT/emerging technologies department across the four selected sectors and organisations of varying sizes.

Classification on basis of AI maturity across the selected sectors



** Includes Expert and Evangelist stages of the maturity framework*

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GLOSSARY

Inhouse dev – AI solutions are custom built for the use case

Off the shelf – Plug-in and use model for acquiring AI platforms

Insource – Internal resources used to develop and deploy AI solutions

Outsource – Partially or full outsourcing of AI initiatives either during development, deployment or both

ABBREVIATIONS

AI	-	Artificial Intelligence
GCC	-	Global capability center
PoC	-	Proof of concept
Opex	-	Operating expenses
Capex	-	Capital expenses
STEM	-	Science, Technology, Engineering & Mathematics
PLI	-	Production-Linked Incentives
CoE	-	Center of Excellence
IoT	-	Internet of Things
RPA	-	Robotic process automation
NLP	-	Natural language processing

ABOUT THE REPORT

This report is based on responses from 350 senior executives who participated in our survey which was conducted during the period January to June 2022. The survey respondents were largely the CXOs and other senior leaders from large and mid-sized companies across India. We also conducted in-depth interviews with a cross-section of Industry leaders representing multiple sectors.

Our survey respondents represented the four sectors of CPG and Retail (26%), BFSI (27%), Healthcare (24%) and Industrials and Automotive (24%), along with AI ecosystem partners such as start-ups and global capability centres (23%). The findings from the study can be leveraged by boards, corporate executives and government leaders interested in accelerating AI-adoption across enterprises in India.

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