

HRM USING AI & DATA SCIENCE

DIPLOMA WALLAH

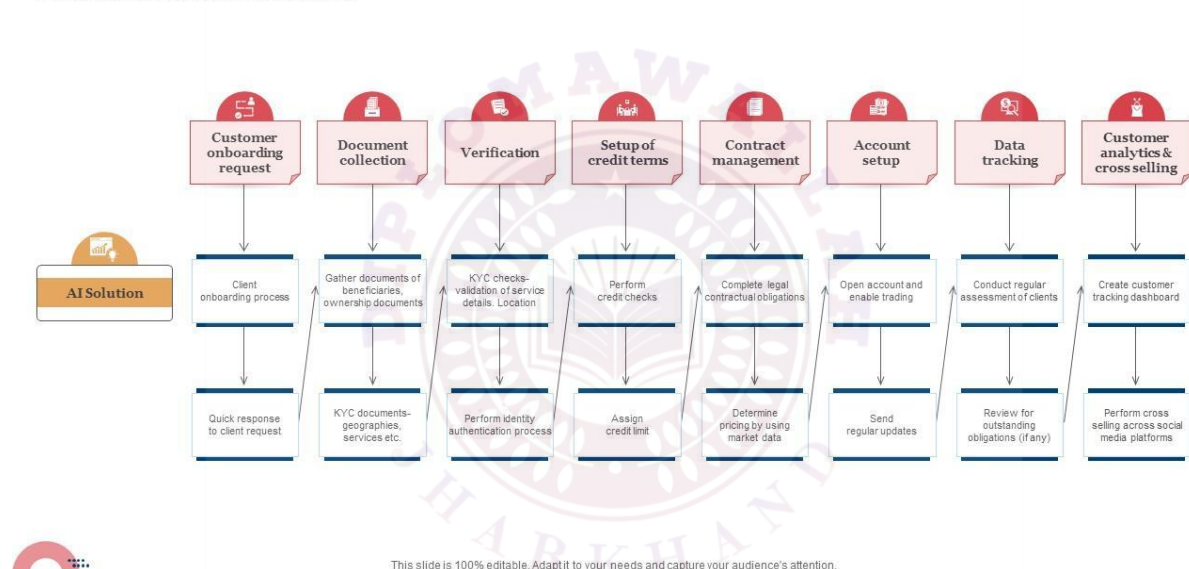
CSE

Jharkhand University Of Technology (JUT)

UNIT-2: Employee Onboarding (AI-Powered Chatbots & Personalized Assistance)

AI enabled customer onboarding process flowchart

This slide consists of various artificial intelligence driven solutions to streamline the customer onboarding process and promote savings. Key elements covered are customer onboarding request, document collection, verification, setup of credit terms, contract management, account setup etc.



5 BENEFITS OF IMPLEMENTING A CHATBOT FOR EMPLOYEES



Provide Q&A Services

Chatbots can answer common questions for potential candidates and new employees.

HR teams spend 40% or more of their time answering the same questions.



Reduce Recruiting Costs

Using chatbot automation in early-stage resume review and phone interview scheduling reduces the amount of time and money spent in the hiring process.

Companies have seen a decrease in cost per hire of up to 71%.



Improve Workplace Satisfaction

Chatbots serve as an anonymous messenger between HR and employees. They can collect feedback and answer questions employees might be reluctant to ask in person.

Companies who have used chatbots have noticed a 43% increase in employee retention.



Increase Productivity

Chatbots answer questions quickly 24 hours a day giving employees access to the information they need without the restrictions of business hours and wait times.

Companies who use chatbots have seen up to 99% improvement in response times and have reduced average resolution times from 38 hours to 5 minutes.



Decrease Cost to Serve

HR chatbots can answer 10 questions at once, can understand multiple languages, don't take sick days and don't make errors.

Companies who use AI chatbots to resolve queries have seen a 95% drop in cost to service.

Sources

IBM.com/how-chatbots-reduce-customer-service-costs
Personneltoday.com/ten-ways-hr-leaders-can-make-artificial-intelligence
Ubisend.com/discover-chatbots

1. Why Onboarding Matters (Especially in Engineering Context)

- Onboarding is not just “give a tour + fill forms” — it’s the **foundation** of how quickly a new employee becomes productive, feels integrated, and stays with the company.
 - In engineering/technical organisations (e.g., manufacturing, CNC machining, automation, robotics), new hires must grasp equipment, safety procedures, technical systems, team workflows — so a good onboarding process is critical.
 - Traditional onboarding often fails: repetitive content, one-size-fits-all, slow, inefficient. AI & Data Science allow onboarding to be **faster, more relevant, more engaging**. ([Cerkl Broadcast](#))
 - Example: In one case, Hitachi used an AI digital assistant to reduce onboarding from 10-15 days to ~4 days. ([People Managing People](#))
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2. What AI & Data Science Bring to Onboarding

2.1 Chatbots & Conversational Agents

- AI chatbots enable new hires to ask questions in natural language (text or voice) 24/7, e.g., “Where do I submit my ID?”, “How do I connect to SCADA system?”, “Who is my buddy?” ([Leena AI Blog](#))
- They reduce load on HR: repetitive FAQs are handled automatically, escalating only unusual cases to human HR. ([Leena AI Blog](#))
- They integrate with company systems (HRIS, LMS, knowledge bases) to retrieve relevant info, trigger workflows (e.g., assign training, book equipment).

2.2 Personalised Onboarding Journeys

- AI systems analyse new hire data (previous experience, role, location, learning style) and craft a tailored path: which modules to take, what pace, what tasks. ([Sage](#))

- Technical example: For a CNC programmer hire, instead of generic “company policy” training, the system might skip basic modules and directly guide them into “G-code basics → CNC safety → machine interface” etc.
- The personalised path improves engagement and reduces wasted time.

2.3 Workflow Automation & Task Orchestration

- Onboarding involves many steps: document submission, system access, equipment provisioning, training schedules, mentor assignments.
- AI + automation (RPA) orchestrate these: e.g., after “submit ID” → automatically trigger “provision machine access” → “schedule buddy meeting”. ([People Managing People](#))
- Chatbot can remind new hire of tasks, track completion, alert HR if something is falling behind.

2.4 Analytics, Monitoring & Predictive Insight

- Data science enables tracking of onboarding metrics: training completion time, number of queries asked, time to first productivity, satisfaction ratings. ([Glean](#))
- Predictive models can identify new hires at risk of disengagement or early attrition (based on slow progress, many unanswered queries). ([Cerk Broadcast](#))
- Dashboards allow HR and management to see live onboarding status, bottlenecks, and make data-driven improvements.

3. Technical Architecture & Process Flow

3.1 Technical Components

- **Data Ingestion Layer:** Collects new hire info (role, previous experience, preferred language, location, devices).
- **Knowledge Base / Content Repository:** Stores onboarding material (safety manuals, machine tutorials, company policies) tagged and searchable.

- **Chatbot/Virtual Assistant Engine:** NLP component to understand user queries, intent detection, retrieval of answers, triggering workflows.
- **Workflow Automation Engine:** Orchestrates tasks, triggers, reminders, integrates with HRIS, IT systems.
- **Analytics & Monitoring Module:** Aggregates data from various parts, computes KPIs, drives predictive models.
- **Integration & Security Layer:** Ensures connectivity with LMS, HRIS, compliance with data privacy/regulations.

3.2 Process Flow (Step by Step)

Here's a detailed flow you can draw in your notes:

1. Offer Acceptance / Pre-boarding

- New hire gets welcome message via chatbot/special portal.
- Documents (ID, bank, tax) are submitted digitally; chatbot answers FAQs.
- Training plan and equipment list created.

2. Day 1 Orientation

- Chatbot greets new hire, introduces buddy, schedules meetings, provides access links.
- Employee begins orientation modules (company, safety, role overview).

3. Week 1-4 Role Integration

- Role-specific technical modules delivered (e.g., PLC basics, machine setup).
- Chatbot reminds tasks, answers questions about equipment/software.
- Mentor/buddy checks in; system logs progress.

4. Month 1-3 Ramp-Up & Monitoring

- Analytics monitor performance: e.g., training completion, time to perform first independent task.

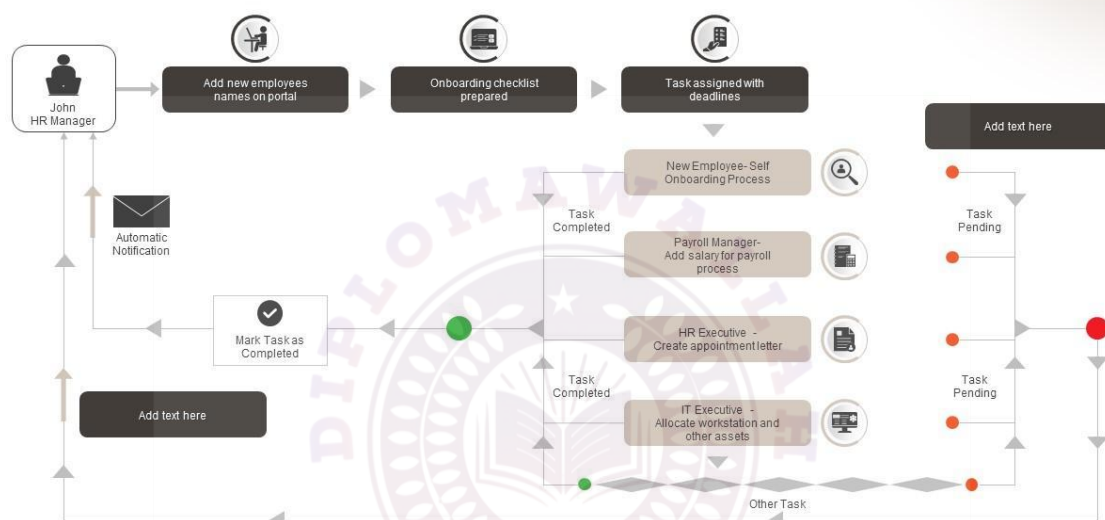
- Predictive flags: if new hire falling behind, chatbot prompts extra training; HR intervention if needed.

5. Ongoing Engagement & Retention

- Chatbot continues periodic check-ins (“How comfortable are you?”, “Do you need help?”).
- Upskilling recommendations based on role & performance analytics.

Automated Employee Onboarding Process Flow Chart

This slide depicts a flow chart for streamlining the entire automated staff onboarding process. It includes various steps such as adding new employee names, preparing an onboarding checklist, task assignment, etc.



This slide is 100% editable. Adapt it to your needs and capture your audience's attention.

Unlocking the benefits of AI in employee onboarding

Lengthy forms,
and manual effort

Prone to
human errors

Time
consuming

Information overload,
no personalization,
subpar support,
manual content creation,

Delayed
allocation



Employee onboarding

- Natural language case extraction
- Intelligent categorization



HR

- Case summarization
- Intelligent assignment
- Virtual support agent



Legal

- Case summarization and insights
- Intelligent escalations



IT



- Intelligent insights
- Knowledge discovery
- Personalized Virtual support agent




Facilities

Space utilization and Optimization.

I forgot my password.



I can help! Let's set a new password that is secure and meets our policies.

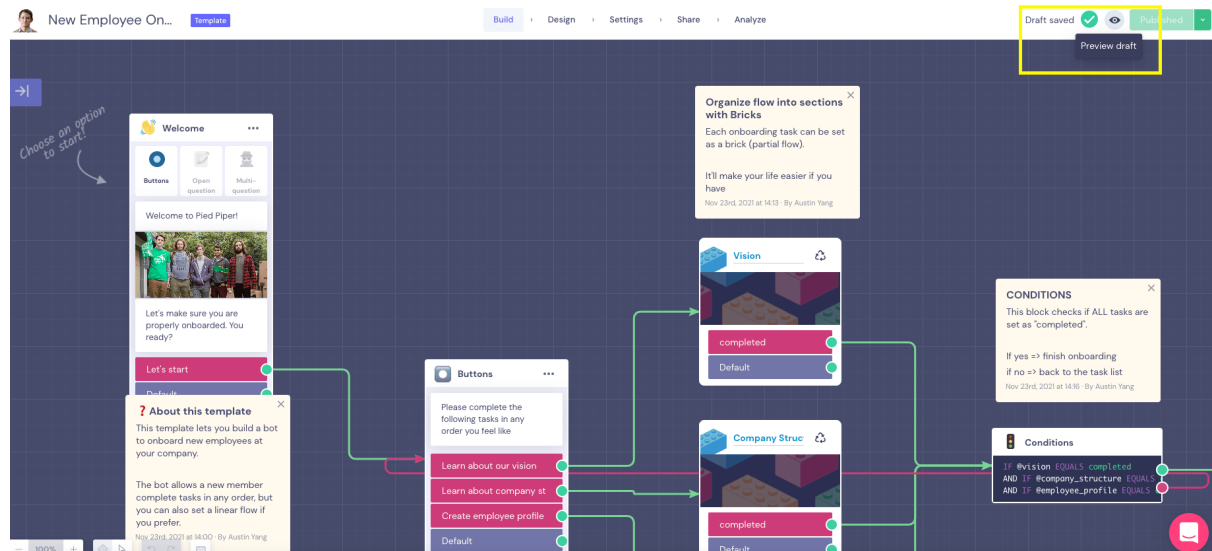


SET YOUR NEW PASSWORD

Type here

- ☐ At least 8 characters
- ☐ At least 1 number
- ☐ At least 1 special character

Done



Search for...

July 24, 2020, 4:30 PM

Victor Gugo

Employees

Job Offering

Workflow

Analytics

Chat

System Settings

Analytics

Offers to Send

55

Time to Accept

1 day

Time to Onboard

12 days

Onboarded

5

Offer Acceptance Ratio

65%

Applications received

11265

Total amount of applications

This month +53%

Name	Position	Department	Hiring Lead	Offer Date	Accept Date	Onboarding Progress	Tasks
Edward Jones	Python Developer	Technical Department	Sammy Stone	05/07/2019	05/08/2019	90%	11/20
Kassandra Jenkins	DevOps Engineer	Technical Department	Sammy Stone	05/08/2019	05/09/2019	50%	18/40
Laura McClellan	Sales Manager	Sales Department	Sammy Stone	05/10/2019	05/12/2019	60%	5/9
Daniela Jordan	Sales Manager	Sales Department	Sammy Stone	05/12/2019	05/14/2019	55%	18/50
Mauricio Lopez	Sales Manager	Sales Department	Sammy Stone	05/15/2019	05/16/2019	59%	2/7
Bill Gates	Sales Manager	Sales Department	Roy Jones	06/03/2019	06/05/2019	47%	2/9

HR Dashboard indicating New Employee Hiring and Introduction

The following slide exhibits human resource dashboard highlighting new employee onboarding and hiring status. It provides information about offers sent, hired, introduction time, progress, tasks, applications received, etc.



4. Benefits for Engineering/Diploma-Level Organisations

- **Faster Productivity:** As new hires (technicians, engineers) receive role-specific training earlier, they start contributing sooner.
- **Scalability:** When onboarding many new hires (e.g., plant expansion, multiple shifts), AI ensures consistent quality across roles and locations.
- **Improved Engagement & Retention:** New hires feel guided, supported, less lost; this reduces early drop-outs.
- **Cost Efficiency:** HR time on routine tasks (paperwork, FAQs) reduces; focus shifts to coaching and strategic tasks.
- **Data-Driven Workforce Planning:** Analytics provide insight on which roles or locations have slower onboarding — enabling targeted improvement.

5. Challenges & Advanced Considerations

- **Data Privacy & Compliance:** New hire data (personal, role, performance) needs secure handling; local laws (India/Asia) must be considered.

- **Bias and Fairness:** If AI models are trained on historical data biased toward certain profiles, new hires outside that may suffer. Must deliberate bias audits.
 - **Updating Content & Relevance:** In technical/engineering fields (CNC, automation), systems and methods evolve quickly; onboarding content must keep pace.
 - **Balancing Human Touch:** AI handles many tasks, but human mentorship, team integration, tacit learning remain essential. Over-automation can hamper culture assimilation.
 - **Technical Integration & Complexity:** Deploying AI onboarding system requires integration with HRIS, LMS, IT provisioning, equipment systems — needs resources and sometimes technical expertise.
 - **Monitoring & Continuous Improvement:** Data alone isn't enough; HR must act on insights, refine workflows, content, chatbots. ([People Managing People](#))
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6. Key Terms You Should Include in Your Notes

- Conversational AI / Chatbot
 - Natural Language Processing (NLP)
 - Workflow Automation / RPA (Robotic Process Automation)
 - Personalised Learning Path
 - Onboarding Analytics / KPI (Time-to-Productivity, Training Completion Rate)
 - Predictive Onboarding Models
 - Pre-boarding / Orientation / Ramp-up / Integration Phases
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7. Summary for Exam Use

- Onboarding is the critical phase where new hires are integrated and begin to contribute — AI & Data Science make this phase smarter and more efficient.

- Key features: chatbots for support, personalized paths based on role/data, automation of admin tasks, analytics to monitor progress/predict issues.
- For technical organisations, role specificity and speed matter: onboarding must focus on equipment, systems, safety, team workflows.
- Benefits: faster ramp-up, consistent quality, higher engagement, cost savings, data-driven decisions.
- Challenges: data privacy, bias, keeping content relevant, human-AI balance, technical integration.
- Being familiar with process flow (pre-boarding → day 1 → weeks → months) and mapping AI features to stages will help in exams.

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