Product Requirements Document (PRD)

AI-Powered IT Support System (ITSS)

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1. Executive Summary

An intelligent support system that integrates with existing CRM platforms to autonomously triage, respond to, and resolve IT support tickets using AI, while providing role-based dashboards for agents, managers, and executives.

Key Benefits:

- Reduce first-response time from hours to under 1 minute
- Automate 40-60% of routine support tickets
- Improve agent productivity by 30-40%
- Maintain 95%+ SLA compliance

Development Timeline:

- **Phase 1:** December 9-17, 2025 - Core AI Agent with Human Review
- **Phase 2:** Q1 2026 - Advanced AI + Manager Dashboard
- **Phase 3:** Q2 2026 - Full Automation + Executive Tools

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2. Product Vision

Empower support teams with intelligent automation that enhances human capabilities, delivering exceptional customer service at scale.

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3. Phase 1: Core AI Agent with Human-in-the-Loop

Timeline: December 9-17, 2025
Goal: Deploy AI drafting system with human approval workflow

Feature 1.1: AI Draft Generation

AI automatically generates response drafts for new tickets and customer updates.

Sub-Features:

1.1.1 Ticket Classification

- Categorize tickets (password reset, access request, bug report, question)
- Assign priority (low, medium, high, critical)
- Analyze customer sentiment (frustrated, neutral, satisfied)
- Generate confidence score (0-100%)

1.1.2 Knowledge Base Query

- Search historical tickets for similar issues
- Retrieve relevant documentation
- Match patterns from resolved tickets
- Rank information by relevance

1.1.3 Response Generation

- Compose natural language draft
- Match appropriate tone (formal, friendly, technical)
- Format step-by-step solutions
- Include code snippets and examples where applicable

1.1.4 Status Management

- Set status to "AI Responded" when draft is ready
- Set status to "Escalated" when confidence is low (< 70%)

- Update status in connected CRM system

Feature 1.2: Agent Dashboard - Authentication & Ticket View

Secure dashboard for support agents to view, filter, and manage tickets.

Sub-Features:

1.2.1 Single Sign-On Authentication

- Login via Microsoft Entra ID
- Role-based access control
- Secure session management
- Automatic logout after 30 minutes of inactivity

1.2.2 Ticket List View

- Display tickets in table format with:
    - Ticket ID
    - Customer Name
    - Subject/Summary
    - Priority (color-coded)
    - Status
    - Created Date/Time
    - Assigned Agent
    - SLA Status
- Auto-refresh every 5 minutes
- Pagination support

1.2.3 Advanced Filtering & Sorting

- Filter by: Priority, Status, Date Range, Customer, Assignment
- Sort by: Priority, Date, Status, Customer Name
- Quick search across ticket content
- Save custom filter presets

Feature 1.3: Draft Review & Editing Interface

Interface for agents to review, edit, regenerate, and approve AI-generated drafts.

Sub-Features:

1.3.1 Split-View Layout

- **Left Panel:** Original ticket content, customer information, conversation history
- **Right Panel:** AI-generated draft, confidence score, source references

1.3.2 Text Editor

- Edit draft content with rich formatting
- Format text (bold, italic, lists, links, code blocks)
- Spell check and grammar suggestions
- Character and word count

1.3.3 Draft Regeneration

- Regenerate with different tone (formal, friendly, technical)
- Adjust detail level (brief, standard, comprehensive)
- Focus on specific aspects
- Compare original vs. regenerated versions

1.3.4 Draft Approval Actions

- **Approve & Send:** Accept draft as-is and send to customer
- **Edit & Send:** Modify draft and send updated version
- **Regenerate:** Request new draft with different parameters
- **Escalate:** Forward to supervisor or specialist
- **Save as Draft:** Save changes without sending
- Display confirmation dialog before sending
- Show loading state during send operation
- Prevent duplicate sends with disabled state after successful delivery

1.3.5 Version History

- Save original AI draft automatically
- Track all draft versions with timestamps
- Show who created each version (AI or agent name)
- Restore previous versions

1.3.6 Quality Indicators

- Display confidence score with color coding (green/yellow/red)
- Show knowledge base coverage
- Indicate draft tone and sentiment
- Display readability score

Feature 1.4: Draft Retention & Analytics

Store all draft versions for accuracy tracking and continuous improvement.

Sub-Features:

1.4.1 Version Storage

- Store all draft versions permanently
- Track creation timestamp and author
- Preserve metadata (confidence score, sources, model version)

1.4.2 Edit Analysis

- Calculate differences between versions
- Categorize edit types (tone changes, factual corrections, content additions)
- Track edit patterns by agent
- Identify systematic errors

1.4.3 Learning Loop

- Flag drafts with significant changes (>30% edited)
- Create training data from agent corrections
- Update knowledge base with validated solutions

Feature 1.5: Send & Status Update

Enable agents to send approved drafts and automatically update ticket status.

Sub-Features:

1.5.1 Email Delivery

- Send email via CRM system to maintain thread consistency
- Attach files if included by agent
- Apply email signature automatically
- Handle CC/BCC recipients

1.5.2 Status Synchronization

- Update ticket status in dashboard
- Update status in connected CRM
- Add internal note documenting agent action
- Log timestamp and agent identity

1.5.3 Error Handling

- Display success confirmation
- Retry failed deliveries automatically (3 attempts)
- Alert agent if delivery fails after all retries
- Prevent duplicate emails

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4. Phase 2: Enhanced AI Capabilities & Manager Tools

Timeline: Q1 2026
Goal: Expand AI capabilities and provide operational visibility for managers

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Feature 2.1: AI Chat Interface for Agents

Conversational AI assistant for real-time guidance and information.

Sub-Features:

2.1.1 Chat Interface

- Chat component embedded in ticket detail view
- Understands context of current ticket
- Maintains conversation history across multiple questions
- Provides quick action shortcuts

2.1.2 Query Capabilities

- Search knowledge base via natural language
- Find similar past tickets
- Get troubleshooting steps
- Retrieve code snippets and solutions

Feature 2.2: Advanced Triage & Diagnostics

AI automatically investigates issues by analyzing logs and system data.

Sub-Features:

2.2.1 Log Analysis

- Connect to centralized logging systems
- Query logs based on ticket context (user, timestamp, errors)
- Extract relevant error messages
- Detect patterns across multiple logs

2.2.2 System Data Retrieval

- Check user account status
- Verify user permissions and access levels
- Check service health and availability
- Retrieve recent user activity

2.2.3 Root Cause Analysis

- Correlate ticket symptoms with log patterns
- Identify common error signatures
- Suggest probable root causes
- Recommend diagnostic next steps

2.2.4 Diagnostic Report

- Generate structured summary of findings
- Create visual timeline of events
- Highlight anomalies
- Provide recommended actions

Feature 2.3: Jira Integration & Intelligent Escalation

Automatically create Jira tickets for complex issues requiring engineering.

Sub-Features:

2.3.1 Escalation Triggers

- Low AI confidence
- Multiple failed resolution attempts
- Bug identified in logs
- Security vulnerability detected
- SLA breach imminent

2.3.2 Jira Ticket Creation

- Select appropriate project and issue type
- Populate standard fields (summary, description, priority)

- Attach diagnostic reports and logs
- Link to original support ticket

2.3.3 Assignment Logic

- Route based on component or module
- Consider team capacity and availability
- Respect on-call schedules

2.3.4 Status Synchronization

- Sync status updates from Jira to ITSS
- Sync comments between systems
- Flow resolution details back to knowledge base
- Close support ticket when Jira issue is resolved

Feature 2.4: Manager Dashboard

Comprehensive dashboard for monitoring team performance and operations.

Sub-Features:

2.4.1 Team Performance Overview

- Display team-wide metrics (tickets, response time, resolution time, CSAT, SLA compliance)
- Show trend graphs (daily, weekly, monthly)
- Compare to previous time periods

2.4.2 Agent Performance Matrix

- Show individual agent metrics (tickets resolved, handling time, CSAT, AI acceptance rate)
- Provide sortable table view
- Enable drill-down to agent details

2.4.3 Workload Distribution

- Visualize tickets per agent
- Show capacity utilization percentage
- Provide workload rebalancing recommendations

2.4.4 Queue Management

- Display real-time ticket queue

- Show aging tickets and SLA risks
- Show escalated tickets pending assignment
- Enable bulk actions (assign, reassign, close)

2.4.5 Customer Insights

- Display high-value customer health scores
- Show customers with multiple open tickets
- Track satisfaction trends by customer
- Alert on VIP customer issues

2.4.6 AI Performance Tracking

- Show AI draft generation rate
- Track draft acceptance rate over time
- Identify categories where AI performs best/worst
- Highlight knowledge base coverage gaps

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5. Phase 3: Full Automation & Executive Tools

Timeline: Q2 2026
Goal: Enable autonomous resolution and provide strategic insights for executives

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Feature 3.1: Autonomous Ticket Resolution

AI automatically resolves qualified tickets without human approval.

Sub-Features:

3.1.1 Auto-Resolution Rules

- Configure rules by ticket category, confidence threshold, customer tier, and complexity
- Set time-of-day constraints
- Define maximum risk tolerance
- Create override rules for specific scenarios

3.1.2 Direct Customer Communication

- Send emails directly without human approval
- Handle multi-turn conversations
- Send follow-up emails if needed
- Escalate to human if customer is dissatisfied

3.1.3 Automated Actions

- **Password Reset:** Verify identity, generate temporary password, send reset link
- **Access Provisioning:** Validate request, provision access, send confirmation
- **Application Fixes:** Restart session, clear cache, reset preferences
- **Data Updates:** Update profile information, correct configurations, fix permissions

3.1.4 Safety Controls

- Validate actions before execution
- Automatically rollback failed actions
- Implement circuit breaker for repeated failures
- Escalate anomalies to humans
- Set daily/weekly caps on auto-resolutions

3.1.5 Audit & Quality

- Log all AI actions in detail
- Create queue for human quality sampling
- Alert on concerning patterns
- Track performance of auto-resolved tickets

Feature 3.2: C-Suite Executive Dashboard

High-level strategic dashboard with KPIs, ROI metrics, and business insights.

Sub-Features:

3.2.1 Executive Summary

- Display key KPIs (total tickets, automation rate, resolution time, CSAT, SLA compliance, cost per ticket)
- Show trend indicators vs. previous period
- Display goal progress
- Show critical alerts

3.2.2 AI Performance & ROI

- Show automation metrics (AI vs. human resolution, time saved, productivity increase)
- Calculate ROI (implementation costs, operational costs, labor savings, net ROI)
- Display trends month-over-month

3.2.3 Customer Health & Risk

- List high-risk customers with health scores
- Show open ticket counts and escalations
- Track satisfaction trends
- Identify risk factors (SLA breaches, negative sentiment)
- Provide recommended actions

3.2.4 SLA & Performance

- Show SLA compliance rate overall and by tier
- Display at-risk tickets and breach incidents
- Show performance benchmarks (first response time, resolution time, reopen rate, escalation rate)

3.2.5 Strategic Insights

- Identify top recurring issues
- Highlight knowledge base gaps
- Summarize product/service feedback themes
- Provide capacity planning projections
- Offer staffing recommendations

3.2.6 Interactive Queries

- Enable voice queries
- Provide chat interface for natural language questions
- Allow drill-down into details
- Support custom date range selection
- Enable export to PDF/Excel

Feature 3.3: Custom Reports & Advanced Analytics

Flexible reporting system with custom reports and predictive analytics.

Sub-Features:

3.3.1 Custom Report Builder

- Drag-and-drop interface to select metrics, dimensions, filters, and visualizations
- Provide pre-built report templates
- Enable save and share functionality

3.3.2 Scheduled Reports

- Configure delivery schedule (daily, weekly, monthly)

- Select recipients
- Choose format (PDF, Excel, CSV)
- Set delivery method (email, Slack, Teams)

3.3.3 Data Export

- Export to Excel/CSV
- Provide API endpoints for business intelligence tools
- Enable SQL query access (read-only)

3.3.4 Predictive Analytics

- Forecast ticket volumes
- Score customer churn risk
- Calculate SLA breach probability
- Identify agent burnout indicators
- Suggest workload rebalancing
- Highlight knowledge base gaps

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6. Success Metrics

Phase 1 Targets

- Draft generation rate: 95%+
- Draft acceptance rate: 70%+
- Agent adoption: 90%+
- Time to first response: < 5 minute

Phase 2 Targets

- AI chat usage: 60%+ of agents weekly
- Diagnostic coverage: 70%+ of tickets
- SLA compliance: 95%+

Phase 3 Targets

- Automation rate: 40-60%
- Auto-resolution accuracy: 95%+
- Customer satisfaction: 90%+
- ROI: Positive within 6 months

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