Abstract

2022 – 2023
AI-Enabled Self-Service for the Enterprise
The 2022 – 2023 AI-Enabled Self-Service for the Enterprise report (formerly the Intelligent Virtual Agent Product and Market Report) is DMG Consulting LLC’s fifth publication on the intelligent virtual agent (IVA)/virtual assistant (VA) market. The Report has been renamed to reflect the growing contributions of artificial intelligence (AI) to self-service solutions, and the expanded use cases and benefits of IVAs/VAs throughout enterprises. The Report provides an in-depth analysis of the capabilities and versatility of AI-based IVAs and VAs and their contributions to enterprises and their customers. It examines the IVA/VA market, competitive landscape, technology, products, functional capabilities, pricing and customer perception of the vendors in this fast-evolving sector. The Report presents the business, servicing, technology and market trends that are driving adoption and innovation in this highly valuable technology segment. It features 4 vendors – Five9, Kore.ai, Omilia, and Verint Systems – that offer highly effective IVA/VA solutions to help companies enhance the performance of their front- and back-office functions as well as other enterprise-wide uses. This Report is intended to help companies identify and select the right IVA/VA solution – and partner – to meet their current and future needs.
Intelligent virtual agents are already demonstrating their ability to deliver timely, conversational, concierge-type automated self-service to customers. This is essential as consumers are displaying a growing preference for helping themselves, as long as the self-service solutions do a good job. At the same time, employees are benefitting from VAs, which deliver real-time guidance to contact center agents and internal self-service functionality to employees across organizations. IVAs and VAs, which use the same underlying technology and platform to enhance the customer and employee experience, are helping companies reduce the cost of sales and service.

Consumers appreciate the convenience and flexibility that a good self-service experience provides; however, their expectations for accurate, fast and easy service, delivered in their preferred channels, must also be met. Customers are delighted to interact with an intelligent self-service solution that recognizes them, knows the context of their contact history, fully handles most requests, and discerns when to transfer them to a live agent, if needed. Today’s IVAs are meeting those challenges, as they are conversational and responsive to customer needs. These innovative solutions are omni-channel by design and deliver knowledgeable and proactive service, which is altering the market's dynamics and cost structure.

The most significant misconception about IVAs is that their primary purpose is to eliminate the need for live agents. This is not their value proposition. In fact, these automated tools are more likely to enhance the performance of customer-facing employees and help retain agents as enterprises face massive increases in interaction volumes. Because IVAs can handle an increasing number of customer service and sales requests and inquiries, and VAs can provide real-time guidance and next-best-action recommendations to agents, they help companies and their employees deliver an optimal service experience, cost effectively. These solutions
are changing the role of agents, positioning them to become customer advocates who can solve complex problems and build relationships, while also creating new career opportunities in service organizations and contact centers.

The inclusion of AI technology in contact center and customer experience (CX) solutions is driving the most rapid pace of innovation and change ever experienced in the service sector. Although AI is still in its early days, it is already demonstrating the ability to provide a basic form of human understanding and intelligence in self-service solutions. Artificial intelligence has proven to be able to enhance the CX while improving quality, productivity and the employee experience. Two of the most essential and impactful tools in the AI-based service revolution are IVAs and VAs. The use cases for these solutions are expanding as companies roll them out to customer-facing departments and other internal functions across the enterprise.

Based on market conditions and dynamics, and supported by innovation in AI and automation, DMG predicts rapid growth and adoption of IVA and VA solutions over the next few years. Organizations have been compelled to find new approaches to address the explosive growth of omni-channel customer inquiries arriving in their contact centers and service departments. This has given rise to the self-service transformation, which customers have embraced, and increasingly prefer. The future of IVAs and intelligent automation will present unprecedented opportunities to reimagine the service experience.
Key Elements of the Report

- **IVAs and VAs are essential for the self-service transformation:** Consumers are showing a distinct preference for using self-service solutions to help themselves, and enterprises have a critical need for automation to handle mounting volumes of inquiries. IVAs and VAs address these requirements, enhancing the CX and engaging agents.

- **Today’s IVAs are innovative and responsive to customer needs:** The new generation of intelligent self-service solutions are conversational and allow customers to make requests using natural language, as though they are speaking to live agents. They can interact with customers in multiple channels and provide highly effective and efficient service.

- **IVA and VA solutions are combatting agent attrition and transforming the agent role:** Agents are demanding greater flexibility and work/life integration. To achieve this, service and sales leaders need to alter the way they treat, reward, recognize and compensate their agents. By handling an increasing percentage of customer service and sales requests, IVAs are positioning companies to elevate the agent role, allowing them to become brand ambassadors with enriched and more meaningful job opportunities.

- **Artificial intelligence is revolutionizing the world of self-service:** AI’s ability to mimic basic human understanding and intelligence is a major reason why self-service is becoming customers’ preferred method of interacting with organizations.

- **The use cases for IVA and VA solutions are expanding:** IVAs and VAs have already demonstrated their value to contact centers and service departments, but this is just the beginning. Companies are rolling out these solutions in support of departments and activities across the enterprise, as customers and employees alike appreciate the convenience of self-service capabilities.
Key Reasons to Buy This Report

▶ Definition of an IVA and VA, and the distinctions between IVAs, interactive voice response (IVR), and robotic process automation (RPA)
▶ High-level overview of the underlying technical components of IVA/VA solutions
▶ Market trends and challenges that are driving interest, adoption and innovation in this sector
▶ IVA vendor innovation and near-term roadmaps, including new product features and what is planned to be delivered in the next 12 – 18 months
▶ Top uses and practical application of artificial intelligence in IVA/VAs in the contact center and emerging uses in the enterprise
▶ Low-code/no-code design environments and the tools to support intelligent self-service and automation
▶ How IVAs are being used to deliver context-sensitive self-service that results in an enhanced and personalized CX
▶ A look at how the real-time guidance/next best-action capabilities of VAs deliver a new and much more positive and practical approach to coaching and engaging agents
▶ IVA vendor market activity
▶ Review of the IVA competitive landscape, including the technology sectors that are developing AI-based IVA/VA solutions; an overview of the 4 featured IVA vendors, their product offerings and packaged solutions
▶ Detailed side-by-side comparative analysis of the technical and functional capabilities of the 4 featured IVA/VA solutions
▶ Implementation analysis, including vendor methodology, time frames, best practices, professional services, training/workshops, and resources required to implement and maintain each featured solution
▶ IVA benefits and return-on-investment (ROI) analysis
▶ IVA/VA vendor pricing structure
▶ Results of DMG’s comprehensive customer satisfaction survey, which ranks vendors based on customer satisfaction across 10 vendor categories, 6 product capabilities, 5 customer-facing IVA capabilities, 6 agent-facing VA capabilities, and 6 effectiveness categories
▶ Detailed company reports for the 4 featured IVA/VA vendors, analyzing product functionality and near-term product roadmap deliverables
▶ IVA Vendor Directory
Sample Figure:

The IVA: Self-Service Concierge

- Automatic speech recognition
- Biometrics
- NLU, NLP, NLG
- ML
- Intent analysis
- Emotion detection
- Sentiment analysis
- GPS
- Computer vision
- Predictive analytics
- Interaction analytics
- Transcription
- Persistence
- Omni-channel VoC tools
- Knowledge base
- Integration tools
- BI/analytics

Source: DMG Consulting LLC, May 2022
# Table of Contents

1. Executive Summary
2. Introduction
3. DMG Consulting Research Methodology
   3.1 Report Participation Criteria
4. What is Intelligent Self-Service?
   4.1 Intelligent Virtual Agents Defined
   4.2 Virtual Assistants Defined
   4.3 Intelligent Virtual Agents vs. Interactive Voice Response
   4.4 Intelligent Virtual Agents/Virtual Assistants vs. Robotic Process Automation
5. Intelligent Virtual Agent/Virtual Assistant Trends and Challenges
   5.1 Trends for the IVA/VA Market
   5.2 Challenges for the IVA/VA Market
6. Intelligent Virtual Agent/Virtual Assistant Market Innovation
   6.1 New Product Features
   6.2 Future Enhancements
7. Artificial Intelligence in the Contact Center
   7.1 Artificial Intelligence Components in IVAs/VAs
   7.2 Uses and Practical Application of Artificial Intelligence in Intelligent Virtual Agents
   7.3 Uses and Practical Application of Artificial Intelligence in Virtual Assistants
   7.4 Enterprise IVA/VA Applications
8. Intelligent Self-Service by Design
   8.1 Artificial Intelligence, IVA/VA + Robotic Process Automation = Intelligent Automation
9. Personalizing the Self-Service Experience
10. Real-Time Guidance – Help at the Ready
11. Intelligent Virtual Agent/Virtual Assistant Market Activity Analysis
12. Intelligent Virtual Agent/Virtual Assistant Market Projections
13. Intelligent Virtual Agent/Virtual Assistant Competitive Landscape
   13.1 Intelligent Virtual Agent/Virtual Assistant Company Snapshot
   13.2 Intelligent Virtual Agent/Virtual Assistant Vendor Offerings and Products
14. Intelligent Virtual Agent/Virtual Assistant Technical and Functional Analysis
   14.1 High-Level Technical Analysis
      14.1.1 Integration
      14.1.2 Security and Compliance
   14.2 Intelligent Virtual Agent/Virtual Assistant High-Level Functional Analysis
      14.2.1 Dashboards, Reporting and KPIs
Table of Contents

15. Intelligent Virtual Agent/Virtual Assistant Implementation Analysis
16. Intelligent Virtual Agent/Virtual Assistant Benefits and Return on Investment
17. Intelligent Virtual Agent/Virtual Assistant Pricing Structure
18. Intelligent Virtual Agent/Virtual Assistant Vendor Satisfaction Analysis
   18.1 Summary of Survey Findings and Analysis: Vendor Categories
      18.1.1 Vendor Satisfaction by Category and Customer
   18.2 Summary of Survey Findings and Analysis: Intelligent Virtual Agent/Virtual Assistant Capabilities
      18.2.1 Intelligent Virtual Agent/Virtual Assistant Capabilities Satisfaction, by Category and Customer
   18.3 Summary of Survey Findings and Analysis: Intelligent Virtual Agent Customer-Facing Capabilities
      18.3.1 Intelligent Virtual Agent Customer-Facing Capabilities Satisfaction, by Category and Customer
   18.4 Summary of Survey Findings and Analysis: Virtual Assistant Agent/Employee-Facing Capabilities
      18.4.1 Virtual Assistant Agent/Employee-Facing Capabilities Satisfaction, by Category and Customer
   18.5 Customer Background and Insights
      18.5.1 Channels Supported by Intelligent Virtual Agent/Virtual Assistants
      18.5.2 Other Enterprise Departments Using Intelligent Virtual Agents/Virtual Assistants
      18.5.3 Top 3 - 5 Intelligent Virtual Agent/Virtual Assistant Challenges
      18.5.4 Additional Comments
19. Company Reports
   19.1 Five9, Inc.
   19.2 Kore.ai
   19.3 Omilia Natural Language Solutions Ltd.
   19.4 Verint Systems
Appendix: Intelligent Virtual Agent/Virtual Assistant Vendor Directory
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The IVA: Self-Service Concierge</td>
</tr>
<tr>
<td>2</td>
<td>Virtual Assistant</td>
</tr>
<tr>
<td>3</td>
<td>IVA vs. IVR</td>
</tr>
<tr>
<td>4</td>
<td>Robotic Process Automation</td>
</tr>
<tr>
<td>5</td>
<td>IVA/VA vs. RPA</td>
</tr>
<tr>
<td>6</td>
<td>IVA/VA Trends</td>
</tr>
<tr>
<td>7</td>
<td>IVA/VA Challenges</td>
</tr>
<tr>
<td>8</td>
<td>New Product Features, by Vendor</td>
</tr>
<tr>
<td>9</td>
<td>Future Enhancements, by Category</td>
</tr>
<tr>
<td>10</td>
<td>Data is the Key to a Successful AI Initiative</td>
</tr>
<tr>
<td>11</td>
<td>Technical Components Summary</td>
</tr>
<tr>
<td>12</td>
<td>Customer-Facing Intelligent Virtual Agent Applications</td>
</tr>
<tr>
<td>13</td>
<td>Agent/Employee-Facing Virtual Assistant Applications</td>
</tr>
<tr>
<td>14</td>
<td>Enterprise Use Cases</td>
</tr>
<tr>
<td>15</td>
<td>IVA Development Studio</td>
</tr>
<tr>
<td>16</td>
<td>Design and Content Development Environment</td>
</tr>
<tr>
<td>17</td>
<td>Robotic Process Automation (RPA)</td>
</tr>
<tr>
<td>18</td>
<td>Customer Experience (CX)</td>
</tr>
<tr>
<td>19</td>
<td>Real-Time Guidance</td>
</tr>
<tr>
<td>20</td>
<td>Agent/Employee Experience</td>
</tr>
<tr>
<td>21</td>
<td>IVA/VA Projections, based on Number of Customers, 2022 – 2026</td>
</tr>
<tr>
<td>22</td>
<td>IVA/VA Competitive Landscape</td>
</tr>
<tr>
<td>23</td>
<td>Company Information, as of December 31, 2021</td>
</tr>
<tr>
<td>24</td>
<td>Product Information</td>
</tr>
<tr>
<td>25</td>
<td>High-Level Technical Summary</td>
</tr>
<tr>
<td>26</td>
<td>Integration</td>
</tr>
<tr>
<td>27</td>
<td>Security and Compliance</td>
</tr>
<tr>
<td>28</td>
<td>High-Level Functional Capabilities</td>
</tr>
<tr>
<td>29</td>
<td>Dashboards, Reporting and KPIs</td>
</tr>
<tr>
<td>30</td>
<td>Implementation Analysis</td>
</tr>
<tr>
<td>31</td>
<td>IVA/VA Benefits and ROI</td>
</tr>
<tr>
<td>32</td>
<td>IVA/VA Pricing Structure</td>
</tr>
<tr>
<td>33</td>
<td>Customer Survey Rating Categories</td>
</tr>
<tr>
<td>34</td>
<td>Average Vendor Satisfaction Ratings, by Category</td>
</tr>
<tr>
<td>35</td>
<td>Product Satisfaction Ratings, by Customer</td>
</tr>
</tbody>
</table>
Table of Figures

Figure 36: Implementation Satisfaction Ratings, by Customer
Figure 37: Training Satisfaction Ratings, by Customer
Figure 38: Professional Services Satisfaction Ratings, by Customer
Figure 39: Ongoing Service & Support Satisfaction Ratings, by Customer
Figure 40: Product Innovation Satisfaction Ratings, by Customer
Figure 41: Responsiveness to Product Enhancement Requests Satisfaction Ratings, by Customer
Figure 42: Vendor Communication Satisfaction Ratings, by Customer
Figure 43: Pricing Satisfaction Ratings, by Customer
Figure 44: Overall Vendor Satisfaction Ratings, by Customer
Figure 45: Average Intelligent Virtual Agent/Virtual Assistant Capabilities Satisfaction Ratings, by Category
Figure 46: Omni-Channel Capabilities Satisfaction Ratings, by Customer
Figure 47: Multi-Lingual Capabilities Satisfaction Ratings, by Customer
Figure 48: Conversational Artificial Intelligence Capabilities Satisfaction Ratings, by Customer
Figure 49: Low/No Code Design and Development Environment Satisfaction Ratings, by Customer
Figure 50: Ease of Integration with Third-Party Applications Satisfaction Ratings, by Customer
Figure 51: Accuracy and Ongoing System Optimization Capabilities Satisfaction Ratings, by Customer
Figure 52: Average Customer-Facing Intelligent Virtual Agent Capabilities Satisfaction Ratings, by Category
Figure 53: Ability to Fully Automate Customer Inquiries without Needing a Live Agent Satisfaction Ratings, by Customer
Figure 54: Ability to Deliver an Outstanding Customer Experience Satisfaction Ratings, by Customer
Figure 55: Ability to Personalize the Customer Experience Satisfaction Ratings, by Customer
Figure 56: Ability to Maintain Context Across Multi-Modal Interactions Satisfaction Ratings, by Customer
Figure 57: Ability to Support Proactive Customer Outreach in the Customer’s Preferred Channel Satisfaction Ratings, by Customer
Figure 58: Average Agent/Employee-Facing Virtual Assistant Capabilities Satisfaction Ratings, by Category
Figure 59: Ability to Improve Agent/Employee Productivity Satisfaction Ratings, by Customer
Figure 60: Ability to Improve Agent/Employee Satisfaction/Engagement Satisfaction Ratings, by Customer
Figure 61: Ability to Reduce Training/Onboarding Time Satisfaction Ratings, by Customer
Figure 62: Ability to Kick Off Automated Functions without Human Intervention Satisfaction Ratings, by Customer
Figure 63: Ability to Proactively Deliver Context-Based Real-Time Guidance Satisfaction Ratings, by Customer
Figure 64: Ability to Instruct/Assist Agents/Employees with Internal Activities Satisfaction Ratings, by Customer
Figure 65: Channels Supported by the Intelligent Virtual Agents/Virtual Assistants
Figure 66: Enterprise Departments Using Intelligent Virtual Agents/Virtual Assistants
Figure 67: Top 3-5 Challenges of your Intelligent Virtual Agents/Virtual Assistants
Figure 68: Additional Comments about your Experience with the Vendor and/or Product.