Qventus Solutions 2023

Achieving Operational Improvements through AI, Machine Learning, and Behavioral Science
Qventus Solutions: Achieving Operational Improvements through AI, Machine Learning, and Behavioral Science

Why This Spotlight?
Qventus Solutions aims to help healthcare organizations create and sustain operational improvements related to patient throughput and capacity optimization management. Qventus addresses operational issues through automation, AI/machine learning (ML), and predictive analytics. Depending on organizational needs, the Qventus system can be implemented in perioperative, inpatient, emergency department, and/or command center settings. This report examines customers' experiences and satisfaction with Qventus.

Key Competitors (as reported by Qventus)
- GE Healthcare
- LeanTaaS
- TeleTracking

Top Reasons Selected
Unique and robust functionality centered on utilizing real-time data, established relationship with Qventus, recommended by peer, product met specific specialty needs

Number of Customers Interviewed by KLAS
9 individuals from 7 unique organizations (Qventus shared a list of 12 unique organizations; the list represents 100% of the customers that are eligible for inclusion in this study)

What Does Qventus Solutions Do?
(a customer explains)
“Qventus provides AI machine-learning analytics to help drive capacity and throughput in our inpatient setting and surgical operative areas. The vendor exports data from our EHR and analyzes that data against their machine-learning algorithms. They also provide predictions that identify where barriers to throughput might exist. They provide prioritized work based on their algorithms.”
—VP/Executive

Bottom Line
Respondents leverage Qventus Solutions primarily in perioperative and inpatient settings (a couple use the platform in a command center or emergency department). Customers report seeing improvements in operational efficiencies and optimization of resource utilization. Qventus is viewed as an innovative partner who listens to customer challenges and proactively engages in development opportunities. While customers value the solution's current AI/ML-based functionality, they want to see continued product advancement from Qventus to further increase outcomes and satisfaction.

Qventus Solutions
Customer Experience: An Initial Look

Overall Customer Satisfaction (n=9)
- Highly satisfied (90.0+)
- Satisfied (70.0–89.9)
- Dissatisfied (<70.0)

Time to See Outcomes (n=8)
- Immediately
- Within 6 months
- 6–12 months
- Over 12 months
- No outcomes yet, optimistic
- No outcomes yet, disappointed

Outcomes Expected by Customers
- Achieved
- Unexpected outcome
- Not achieved

Supports integration goals
- A–

Product has needed functionality
- A

Executive involvement
- A+

Likely to recommend
- A+

Would you buy again? (n=8)
- Yes
- No

Software grading scale
A+= 8.55–9.0
A= 8.19–8.54
A- = 7.65–8.18
B+= 7.29–7.64
B= 6.92–7.28
B- = 6.65–6.91
C+= 6.39–6.74
C= 6.12–6.38
C- = 5.85–6.11
D+= 5.64–5.88
D= 5.22–5.64
D– = 5.49–5.84
F= <5.22

Adoption of Key Functionality—by Organization
Percentage of interviewed organizations using functionality (n=7)

Automated workflows: Capabilities that automatically resolve issues
100%

Behavioral science-based workflows: Capabilities that use behavioral science principles to prompt actions by end users
100%

Performance analytics: Dashboards that provide insights on engagement and outcomes and highlight opportunities for coaching and recognition
100%

Personalized AI & ML predictions: Intelligence individualized to a patient or customized to the organization’s strategic goals
86%

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Strengths

Partnership with customers on innovation and development

“The vendor’s strengths are their commitment to innovation and their ability to listen to the individuals that are out in the clinical spaces. Operationally, Qventus tries to listen to what I say about what our challenges are and what is and is not working. Qventus uses that to fuel their fire.” —VP/executive

Product improves operational efficiency and helps optimize resource utilization

“The vendor’s tools help us achieve a significant improvement in terms of operational efficiency. It helps us predict when we are going to have a surge in volume. Once that alert fires, we try to create more capacity by discharging patients or getting patients transferred to absorb and mitigate the incoming surge. Another example is the ability we have to slice and dice the data. Through the use of historical data with Qventus Solutions, we can understand what the boarding constraint is and exactly what time of day that happens.” —VP/executive

Robust functionality specific to the system’s various use cases (i.e., inpatient, perioperative, emergency department, and command center)

“AI, machine learning, and behavioral sciences have been created as specific functionalities in what we have purchased. The package we have purchased works together to fill our schedule. If our schedule is filled, then we are driving our outcomes for taking care of more patients and generating more revenue.” —VP/executive

Opportunities

Expanded functionality needed to meet some customers’ needs

“The vendor has always been very receptive to any of the things we have requested to accomplish. But there have been times when the solution has not been able to completely do what we have wanted it to do. One time, we had to do a workaround. The vendor helped with that workaround, but the solution did not fully meet our needs.” —VP/executive

One respondent noted cost could be prohibitive

“The vendor’s weakness is that their costs are high. They have offered reasonable prices for other pieces we want to implement, but we are going to have software costs every year, even after the implementation, and that will be challenging. The cost impact is huge, and we are looking at how to manage that impact in the long term.” —VP/executive

Points to Ponder

What does a customer need to do to be successful with this solution?

Customers explain

- Prior to implementation, work with Qventus to identify opportunities that ensure organization is prepared to be successful:
  "The best way for customers to implement Qventus Solutions is to begin a conversation with the vendor and, during the vendor’s evaluation of the customer’s team, highlight what areas need to be streamlined ahead of time and what things need to be in place. Qventus will provide care managers that want to collaborate or have the capacity to help manage a huddle, but customers can handle that ahead of time to enable the optimization. Customers should have the expectation that they are going to have some work to do before they implement things.” —Director

- Key stakeholders need to be bought in:
  "Top-level buy-in is the key to success. If I were out shopping for a solution or were to decide on Qventus and wanted to go that route, I would get my leadership team on board. I would look at the stakeholders that need to be a part of and invested in that decision. Those are the kind of people that an organization will need to fully execute things and hold people accountable for using the solutions. The solutions will deliver things for the organization if the players will use the solution. But the organization needs to have that topside push.” —VP/executive

Oventus explains

- Have change management program already in place: "To be successful with this product, buyers need to have a robust change management program, and they need to have key senior hospital leaders helping drive the use of the product.” —VP/executive

- Generate buy-in from stakeholders, including clinical and operational leaders
- Identify key champions (e.g., surgeons, physicians) to help drive adoption
- Communicate early wins and reinforce desired behaviors to sustain outcomes

What is the long-term viability of the solution?

The Qventus platform’s longevity in the healthcare market is centered on the ability to automate previously manual processes and provide unique, actionable insights that healthcare organizations would have difficulty replicating. Customers note that there is no future path where their organization will revert to manual processes that are now automated. Clients specifically note that Qventus has significant opportunity to continue their impact in the perioperative space, including expanding outside health systems to surgery centers.

"The longevity of the solution is quite sustained and compelling. From what I have seen in our facility, we are busy trying to grow. I could probably give up a lot of things with budget constraints and things of that nature, but the product is not one of those things. I would figure out how to keep it because that product has become part of the way we do business. The automation, technology, and analytics that the product has given us have helped us be better and will continue to help us push the envelope. So there is no end in sight for the product. Honestly, it is profound when other institutions start seeing the product and what it can mean for their bottom line.” —VP/executive

"We will never go back to a manual process. Now that we have gone to automation, I cannot possibly envision going back. There is an opportunity not only in the hospital systems but also in surgery centers. When we think about longevity, the software definitely has legs to it.” —VP/executive
Qventus: Company Profile at a Glance

Founders
Mudit Garg, Ian Christopher

Year founded
2012

Headquarters
Mountain View, CA

Number of customers
12 unique customers live on the platform

Number of employees
145

Funding
Qventus is not currently fundraising or seeking capital

Revenue model
Annual subscription fee and one-time implementation fee

Healthcare market
National

Target customer
Large health systems and acute care hospitals, including community-based hospitals and academic medical centers

Healthcare Executive Interview

Mudit Garg,
Co-Founder & CEO

How would your customers describe your solution?
Qventus partners with health systems to automate their care operations—all of the operational activities involved in delivering care, from OR access, to discharge planning, to care coordination, and more. Qventus provides a real-time automation platform that integrates with the EHR and combines AI, machine learning, and behavioral science to drive action; best practice solutions to solve key operational challenges in perioperative, inpatient, and other settings, along with discharge planning; and an expert services team to help operationalize the technology and sustain outcomes.

What is Qventus’ biggest differentiator?
Our solution is distinguished by several key factors. Firstly, we address the issue of wasted block capacity through hourly predictions for partial block utilization, enabling personalized surgeon nudges to increase block release likelihood. Additionally, our advanced machine learning capabilities prioritize a personalized open time search based on practice patterns and health system priorities, resulting in an outstanding acceptance rate of 96% or higher. We differentiate further by incorporating non-EHR claims data, empowering hospitals to gain unparalleled insights into crucial referrals and strengthen surgeon referral sources while optimizing OR capacity. Moreover, our platform offers EHR bidirectionality, eliminating manual tasks and human error, and incorporates machine learning in every intervention. Lastly, our solution enhances robot access by unlocking robotic rooms occupied by non-robotic cases, releasing 13% of previously tied-up capacity, while proactively filling time slots with high-value cases through automated surgeon outreach aligned with strategic objectives.

How is AI used in the solution?
Qventus uses AI and machine learning to make patient- and surgeon-specific predictions. These AI predictions recommend or encourage actions by end users—for example, suggesting a change to a patient’s estimated date of discharge or prompting early release of OR block time. In other cases, the predictions trigger automated workflows, such as prioritizing an ancillary services order based on discharge or automatically offering newly available OR time to a surgeon.

Is your solution integrated into a core system, or is it standalone?
The Qventus automation platform is integrated with the EHR. Qventus integrates with all major EHRs, including Epic, Cerner, Allscripts, and MEDITECH.

Solution Technical Specifications (provided by Qventus)

<table>
<thead>
<tr>
<th>Cloud environment</th>
<th>Security platform</th>
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</thead>
<tbody>
<tr>
<td>AWS</td>
<td>SOC 2 Type 1 compliant with HIPAA attestation, SOC 2 Type 2 compliant, ISO 27001/2</td>
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<table>
<thead>
<tr>
<th>Development platform</th>
<th>Confidentiality</th>
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</thead>
<tbody>
<tr>
<td>Python, JavaScript</td>
<td>HIPAA, BAAas</td>
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<table>
<thead>
<tr>
<th>Database environment</th>
<th>Data encryption</th>
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<tbody>
<tr>
<td>RDS, Snowflake</td>
<td>SSL/TLS encryption, IPSEC VPN tunnel to an AWS VPC, and SSH Secure Shell (in transit); AES-256, Amazon EBS Encrypted Volumes, and AWS S3 Buckets (at rest)</td>
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<table>
<thead>
<tr>
<th>Mobile application environment</th>
<th>Integration approach</th>
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</thead>
<tbody>
<tr>
<td>True mobile application</td>
<td>HL7, FHIR, APIs, flat files</td>
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Security platform
SOC 2 Type 1 compliant with HIPAA attestation, SOC 2 Type 2 compliant, ISO 27001/2

Confidentiality
HIPAA, BAAas

Data encryption
SSL/TLS encryption, IPSEC VPN tunnel to an AWS VPC, and SSH Secure Shell (in transit); AES-256, Amazon EBS Encrypted Volumes, and AWS S3 Buckets (at rest)

Integration approach
HL7, FHIR, APIs, flat files

HITRUST certification
No

AI
Yes
Oventus Solutions Performance Overview

All standard software performance indicators

**Culture**

<table>
<thead>
<tr>
<th>Quality of service (1–9 scale) (n=9)</th>
<th>(n=9)</th>
<th>A+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of training (1–9 scale)</td>
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<td>A</td>
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**Product**

<table>
<thead>
<tr>
<th>Quality of new technology (1–9 scale)</th>
<th>(n=8)</th>
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<tbody>
<tr>
<td>Overall product quality (1–9 scale)</td>
<td>(n=8)</td>
<td>A+</td>
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<tr>
<td>Product has needed functionality</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Supports integration goals (1–9 scale)</td>
<td>(n=8)</td>
<td>A-</td>
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**Operations**

<table>
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<tr>
<th>Ease of use (1–9 scale) (n=8)</th>
<th>A+</th>
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<tbody>
<tr>
<td>Quality of implementation (1–9 scale)</td>
<td>A+</td>
</tr>
<tr>
<td>Quality of training (1–9 scale)</td>
<td>A</td>
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**Loyalty**

<table>
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<th>Product works as expected (1–9 scale)</th>
<th>(n=9)</th>
<th>A</th>
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</thead>
<tbody>
<tr>
<td>Would you buy again (percent of respondents who answered yes)</td>
<td>(n=9)</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Value**

| Avoids charges for every little thing (percent of respondents who answered yes) | (n=9) | 100% |
| Drives tangible outcomes (1–9 scale) | (n=8) | A+ |
| Money’s worth (1–9 scale) (n=8) |       | A+ |

**Relationship**

| Executive involvement (1–9 scale) | (n=8) | A+ |
| Quality of phone/web support (1–9 scale) | (n=8) | A+ |

**Money's worth (1–9 scale) (n=8)**

Money's worth is important for ensuring the best possible return on investment. It includes factors such as quality of service, training, and support provided by the vendor. By evaluating these aspects, healthcare organizations can make informed decisions on whether the product meets their needs and expectations. Overall, the ratings indicate a positive outcome, with A+ scores reflecting excellent performance and A scores showing strong performance. This further emphasizes the importance of collaboration, insights, and transparency in achieving the mission of improving the world’s healthcare through the vendor’s offerings.