Capacity Optimization Management 2023

What Benefits Are Organizations Seeing?
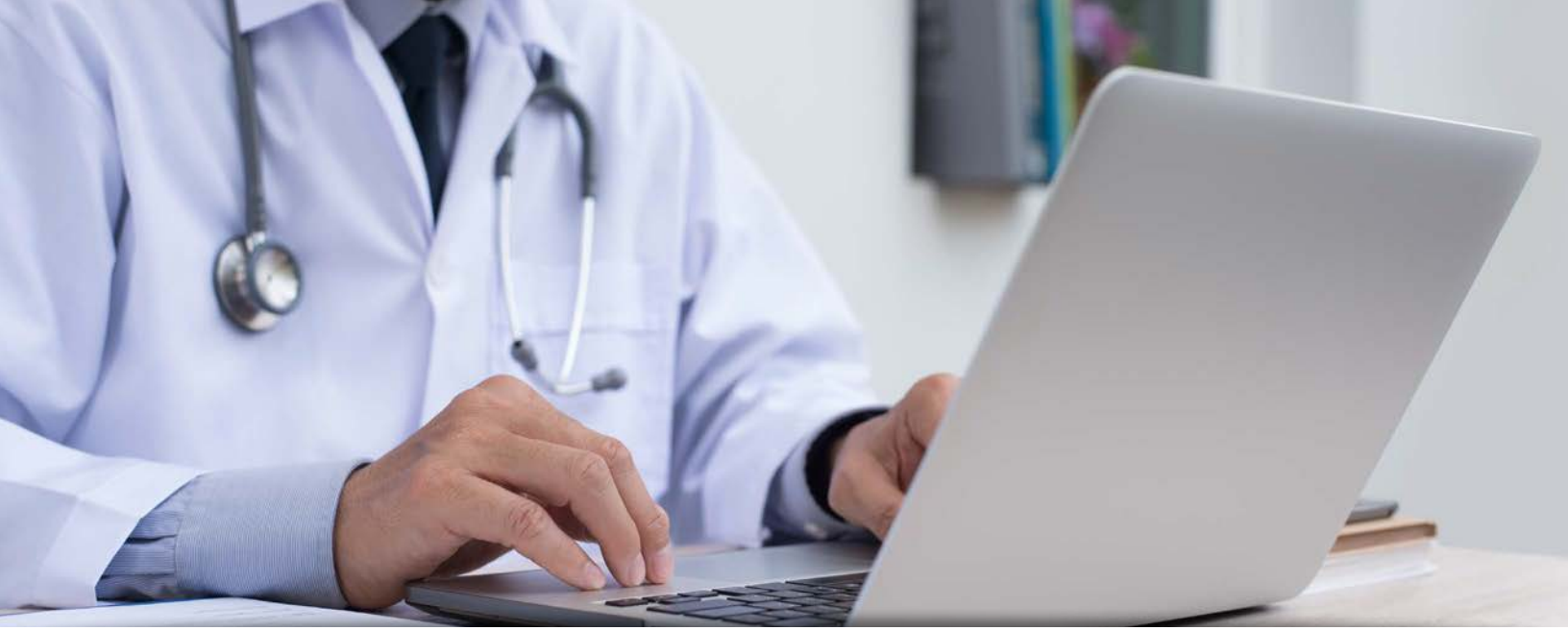
Performance Report | **April 2023**

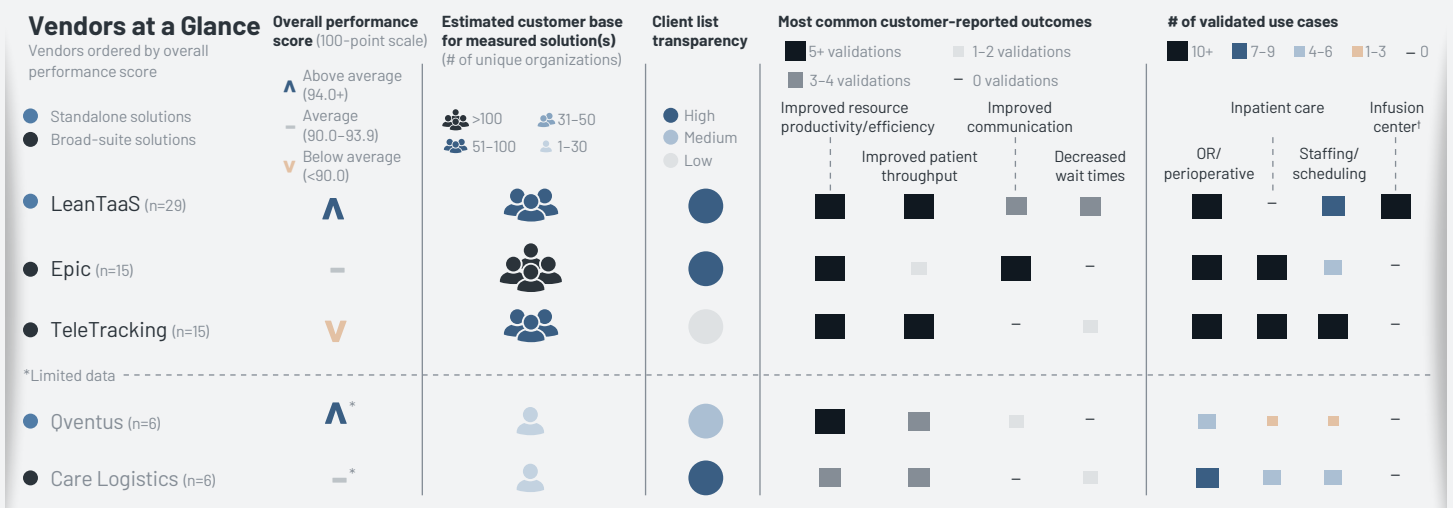# Table of Contents

Executive Insights

Capacity Optimization Management 2023

What Benefits Are Organizations Seeing?

Operational limitations—such as staffing shortages, variable patient flow, and poor visibility into resource availability—can make it difficult for healthcare organizations to effectively manage their capacity, leading to volatile workloads that see resources either under- or overutilized. Some organizations are using capacity optimization management technology, which includes artificial intelligence (AI) and machine learning (ML), to collect data that can improve resource management, especially regarding the utilization of scarce assets like operating rooms, inpatient beds, and infusion centers. This report—KLAS' first to focus on capacity optimization management—shares what technology is being used and what outcomes it is driving for customers.

Market Overview: What Is Capacity Optimization Management?

Capacity optimization management software uses data analytics, AI, and ML to optimize patient access, care delivery, and resource management (staff, beds, operating rooms, etc.) within a health system. This technology can be used at the department or organization level, and the solutions in the market are offered either as standalone solutions that integrate with patient flow, transfer center, and command center solutions or as part of a broader patient flow and transfer center product suite. The accompanying chart shows what vendors offer which types of solutions (either standalone or part of a suite), along with an overview of each validated solution.

Vendors at a Glance — Vendors ordered by overall performance score

- Standalone solutions
- Broad-suite solutions

Overall performance score (100-point scale):
∧ Above average (94.0+)
− Average (90.0–93.9)
∨ Below average (<90.0)

Estimated customer base for measured solution(s) (# of unique organizations): >100, 51–100, 31–50, 1–30

Client list transparency: High, Medium, Low

Most common customer-reported outcomes: 5+ validations, 3–4 validations, 1–2 validations, 0 validations

# of validated use cases: 10+, 7–9, 4–6, 1–3, 0

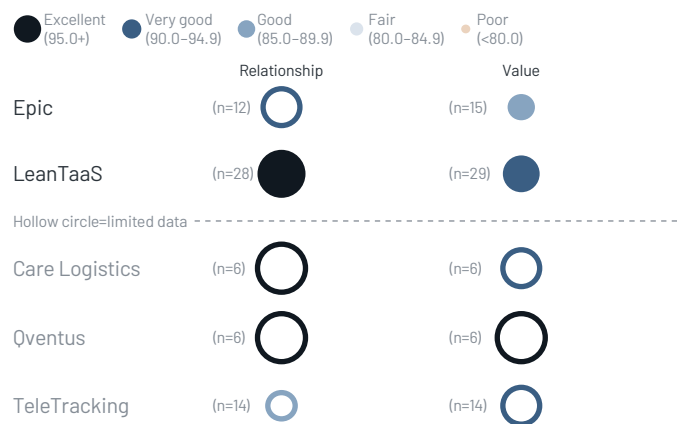| Vendor	Overall performance score	Estimated customer base	Client list transparency	Improved resource productivity/efficiency	Improved patient throughput	Improved communication	Decreased wait times	OR/ perioperative	Inpatient care — Staffing/ scheduling	Infusion center†
LeanTaaS (n=29)	∧	>100	High	5+	5+	1–2	−	10+	−	7–9
Epic (n=15)	−	>100	High	5+	1–2	5+	−	10+	10+	1–2
TeleTracking (n=15)	∨	>100	Low	5+	5+	−	−	10+	10+	
*Limited data										
Qventus (n=6)	∧*	1–30	Medium	5+	3–4	1–2	−	4–6	1–3 1–3	−
Care Logistics (n=6)	−*	1–30	High	3–4	3–4	−	−	7–9	4–6 4–6	

Note: Data for LeanTaaS, Epic, and TeleTracking represents the combined scores of multiple solutions. LeanTaaS' solutions include iQueue for Infusion Centers & iQueue for Operating Rooms. Epic's applications include Grand Central, Cadence, OpTime, MyChart, Cogito, Slicer Dicer, and Cognitive Computing. TeleTracking's solutions include SynapseIQ and Capacity Management Suite. Additionally, although LeanTaaS and Qventus offer inpatient capacity optimization solutions, they were not measured for this report.

† For this report, KLAS did not ask respondents to validate infusion centers specifically as a use case; however, KLAS has validated use cases for LeanTaaS by measuring their product specific to infusion centers.

Strong Relationships from LeanTaaS Drive Value; Early Feedback on Qventus Also Shows Positive Impacts

LeanTaaS and Qventus offer standalone solutions for capacity optimization, and both are seen by respondents as driving strong outcomes and providing high value. Across LeanTaaS' large customer base, respondents consistently report high satisfaction. They highlight the frequent, collaborative meetings they have with vendor representatives. The vendor's guidance has allowed respondents to quickly adopt the solution and drive outcomes—e.g., increase patient throughput/capacity, decrease wait times in infusion centers, and improve block utilization in operating rooms (ORs). Additionally, there is less of a need to coordinate patient scheduling on the phone, and organizations can use data to ensure physicians are efficiently scheduling and using OR block times. Respondents hope LeanTaaS will continue to engage with customers and provide further enhancements (specifically around AI and analytics). The limited number of Qventus respondents are mostly perioperative customers. They say Qventus understands their needs and effectively adapts to changing conditions, thus helping drive organizational efficiency. Specific outcomes include increased patient throughput/capacity and decreased length of stay; a few respondents cite the ability to maintain care levels despite having less staff. Some respondents experienced slow, resource-intensive implementations, and one respondent noted the need for improved change management practices.

Relationship & Value (100-point scale) Vendors ordered alphabetically

- Excellent (95.0+)
- Very good (90.0–94.9)
- Good (85.0–89.9)
- Fair (80.0–84.9)
- Poor (<80.0)

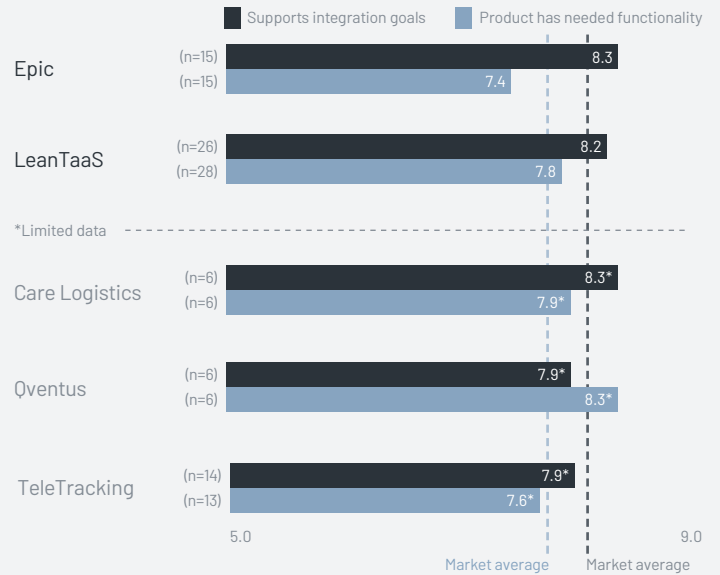|	Relationship	Value
Epic	(n=12)	(n=15)
LeanTaaS	(n=28)	(n=29)
Hollow circle=limited data		
Care Logistics	(n=6)	(n=6)
Qventus	(n=6)	(n=6)
TeleTracking	(n=14)	(n=14)

Note: Relationship scores are a composite of customer ratings for the following standard KLAS metrics: quality of phone/web support and executive involvement. Value scores are likewise a composite of customer ratings for the following metrics: money's worth, avoids charging for every little thing, and drives tangible outcomes.

EMR Vendor Epic Highlighted for Integration, Out-of-the-Box Functionality; Customers Want Additional Enhancements in the Future

Epic is the only EMR vendor in this study, and interviewed customers use the capacity optimization functionality via the following applications: Grand Central, Cadence, OpTime, MyChart, Cogito, Slicer Dicer, and Cognitive Computing. Multiple respondents mention Epic's proficiency in integrating various data sources to provide a high-level view of an organization's operational status. Further, the product is said to have strong out-of-the-box functionality that helps improve operational communication enterprise wide and increase visibility, leading to improved patient throughput and more balanced workloads. Customers would like additional product enhancements or customizations, including improved AI/ML capabilities, actionable reporting and visualization, and a more consistent mobile experience (especially for Android devices).

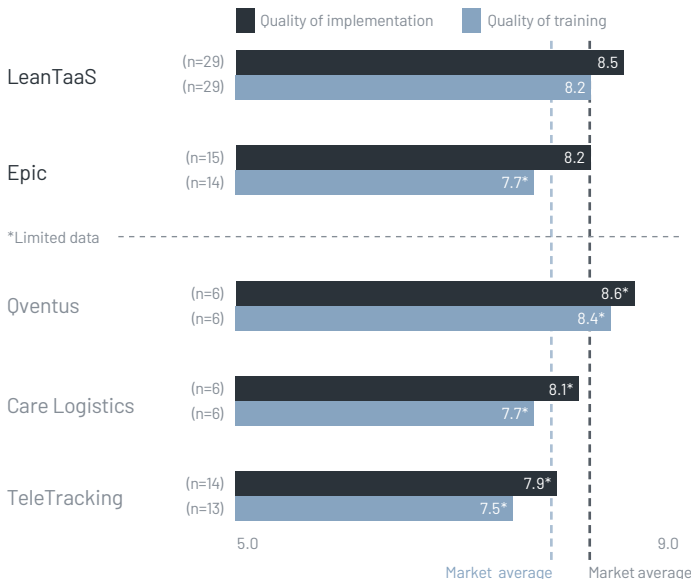### Supports Integration Goals & Has Needed Functionality
(1–9 scale) Vendors ordered by integration score

■ Supports integration goals ■ Product has needed functionality

Vendor		Score
Epic	(n=15)	8.3
	(n=15)	7.4
LeanTaaS	(n=26)	8.2
	(n=28)	7.8
*Limited data		
Care Logistics	(n=6)	8.3*
	(n=6)	7.9*
Qventus	(n=6)	7.9*
	(n=6)	8.3*
TeleTracking	(n=14)	7.9*
	(n=13)	7.6*

5.0 — Market average — Market average — 9.0

TeleTracking & Care Logistics (Limited Data) Increase Patient Throughput; Implementation & Training Are Opportunities for Improvement

Quality of Implementation & Training (1–9 scale)
Vendors ordered by implementation score

■ Quality of implementation ■ Quality of training

Vendor		Score
LeanTaaS	(n=29)	8.5
	(n=29)	8.2
Epic	(n=15)	8.2
	(n=14)	7.7*
*Limited data		
Qventus	(n=6)	8.6*
	(n=6)	8.4*
Care Logistics	(n=6)	8.1*
	(n=6)	7.7*
TeleTracking	(n=14)	7.9*
	(n=13)	7.5*

5.0 — Market average — Market average — 9.0

TeleTracking respondents report that increased visibility into their operations has led to actionable insights and greater efficiency. Reported outcomes include increased patient throughput/capacity, improved productivity, and reduced resource waste. Many respondents also appreciate the accurate, customizable reports. When issues arise, customers say TeleTracking's team is available and offers satisfactory resolutions. Some feel the vendor overlooks product enhancement requests, and others note that development can take a long time. The vendor's implementation project management is a source of dissatisfaction, along with the product not fully functioning after go-live.

The limited number of **Care Logistics** respondents all use Hospital Operating System, and these respondents say the vendor is customer focused; Care Logistics makes an effort to help customers successfully use the solution and drive outcomes by working within organization parameters. Reported outcomes include shortened length of stay and increased patient throughput/capacity. Integration is a concern for half of respondents, and one plans to leave the solution as a result. Additionally, some customers would like the vendor to improve the solution's ease of use and training.

Report Information

About This Report

Each year, KLAS interviews thousands of healthcare professionals about the IT solutions and services their organizations use. For this report, interviews were conducted over the last 12 months using KLAS' **standard quantitative evaluation** for healthcare software, which is composed of 16 numeric ratings questions and 4 yes/no questions, all weighted equally. Combined, the ratings for these questions make up the overall performance score, which is measured on a 100-point scale. The questions are organized into six customer experience pillars—culture, loyalty, operations, product, relationship, and value.

Customer Experience Pillars

Category	Culture	Loyalty	Operations	Product	Relationship	Value
Standard software evaluation metrics	Proactive service Keeps all promises Product works as promoted	Would you buy again Part of long-term plans Forecasted satisfaction Overall satisfaction Likely to recommend	Quality of training Quality of implementation Ease of use	Overall product quality Product has needed functionality Supports integration goals Delivery of new technology	Quality of phone/web support Executive involvement	Money's worth Avoids charging for every little thing Drives tangible outcomes

Sample Sizes

Unless otherwise noted, sample sizes displayed throughout this report (e.g., n=16) represent the total number of *unique customer organizations* interviewed for a given vendor or solution. However, it should be noted that to allow for the representation of differing perspectives within any one customer organization, samples may include surveys from different individuals at the same organization. The table below shows the total number of unique organizations interviewed for each vendor or solution as well as the total number of individual respondents.

Some respondents choose not to answer particular questions, meaning the sample size for any given vendor or solution can change from question to question. When the number of *unique organization* responses for a particular question is less than 15, the score for that question is marked with an asterisk (*) or otherwise designated as "limited data." If the sample size is less than 6, no score is shown. Note that when a vendor has a low number of reporting sites, the possibility exists for KLAS scores to change significantly as new surveys are collected.

	Standard Evaluations		Estimated Customer Base for Measured Solution(s)
Note: Some organizations may have rated more than one product.	# of unique organizations	# of individual respondents	# of unique organizations
Care Logistics	6	7	1–30
Epic	15	16	>100
LeanTaaS	29	40	51–100
Qventus	6	7	1–30
TeleTracking	15	16	51–100

Note: Some organizations may have rated more than one product.

Note: Data for LeanTaaS, Epic, and TeleTracking represents the combined scores of multiple solutions. LeanTaaS' solutions include iQueue for Infusion Centers & iQueue for Operating Rooms. Epic's applications include Grand Central, Cadence, OpTime, MyChart, Cogito, Slicer Dicer, and Cognitive Computing. TeleTracking's solutions include SynapseIQ and Capacity Management Suite. Additionally, although LeanTaaS and Qventus offer inpatient capacity optimization solutions, they were not measured for this report.

Reader Responsibility

KLAS data and reports are a compilation of research gathered from websites, healthcare industry reports, interviews with healthcare, payer, and employer organization executives and managers, and interviews with vendor and consultant organizations. Data gathered from these sources includes strong opinions (which should not be interpreted as actual facts) reflecting the emotion of exceptional success and, at times, failure. The information is intended solely as a catalyst for a more meaningful and effective investigation on your organization's part and is not intended, nor should it be used, to replace your organization's due diligence.

KLAS data and reports represent the combined candid opinions of actual people from healthcare, payer, and employer organizations regarding how their vendors, products, and/or services perform against their organization's objectives and expectations. The findings presented are not meant to be conclusive data for an entire client base. Significant variables—including a respondent's role within their organization as well as the organization's type (rural, teaching, specialty, etc.), size, objectives, depth/breadth of software use, software version, and system infrastructure/network—impact opinions and preclude an exact apples-to-apples comparison or a finely tuned statistical analysis.

KLAS makes significant effort to identify all organizations within a vendor's customer base so that KLAS scores are based on a representative random sample. However, since not all vendors share complete customer lists and some customers decline to participate, KLAS cannot claim a random representative sample for each solution. Therefore, while KLAS scores should be interpreted as KLAS' best effort to quantify the customer experience for each solution measured, they may contain both quantifiable and unidentifiable variation.

We encourage our clients, friends, and partners using KLAS research data to take into account these variables as they include KLAS data with their own due diligence. For frequently asked questions about KLAS methodology, please refer to klasresearch.com/faq.

Note

Performance scores may change significantly when additional organizations are interviewed, especially when the existing sample size is limited, as in an emerging market with a small number of live clients.

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Our Mission

Improving the world's healthcare through collaboration, insights, and transparency.

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Vendor Insights

Fully Rated Vendors Ordered by overall performance score

LeanTaaS

Figure 1   **LeanTaaS—Customer Experience Pillars**
(n=29)

Overall performance score (100-point scale)	Culture	Loyalty	Operations	Product	Relationship	Value
94.4	A+	A+	A	A-	A+	A

Software grading scale

A+ = 95.0+	B+ = 85.0–87.9	C+ = 75.0–77.9	D+ = 65.0–67.9	F = <58.0
A = 91.0–94.9	B = 81.0–84.9	C = 71.0–74.9	D = 61.0–64.9	
A- = 88.0–90.9	B- = 78.0–80.9	C- = 68.0–70.9	D- = 58.0–60.9	

LeanTaaS is one of two vendors in this report that offers standalone technology for capacity optimization management, and interviewed customers use one or both of the following solutions: iQueue for Infusion Centers and iQueue for Operating Rooms. Across LeanTaaS' large customer base, respondents consistently report high satisfaction, along with a variety of outcomes; these include reconfigured workflows, more physicians self-scheduling, decreased wait times in infusion centers and ORs, more efficient use of the OR, and greater staff satisfaction (staff can take regular breaks). The reporting capabilities provide respondents with greater visibility into their underlying operations, and many customers highlight the system's accuracy. Additionally, multiple respondents mention LeanTaaS' ability to partner, saying the vendor collaborates regularly with customers, offers helpful guidance, and focuses on developing the product to meet customer needs. Integration—specifically with the EMR—can be a pain point, and some say getting the system up and running requires a lot of effort and maintenance. Respondents would like the vendor to enhance the AI and analytics capabilities and allow the product to analyze data across multiple care sites instead of just one.

+ "
"The utilization reporting in the product is the best I have ever seen. Also, along with the utilization, the vendor has a module that advises us on how many blocks we should reduce to bring a particular surgeon or group back in line with optimal utilization. The tool is very transparent and good for us. We have significantly reduced our blocks with the product. It has brought us much more in line with increasing our prime-time utilization and other things we were trying to reach. The system helps us keep track of prime-time utilization, our on-time starts, and our turnover times. The information about turnover times has opened access to our ORs and has really helped us attract some new providers. We would buy the product again in a second. We are trying to convert our whole health system over to the product. The product is our single source of truth for reporting needs. I would tell a peer that we have found the product to be very beneficial." —Manager
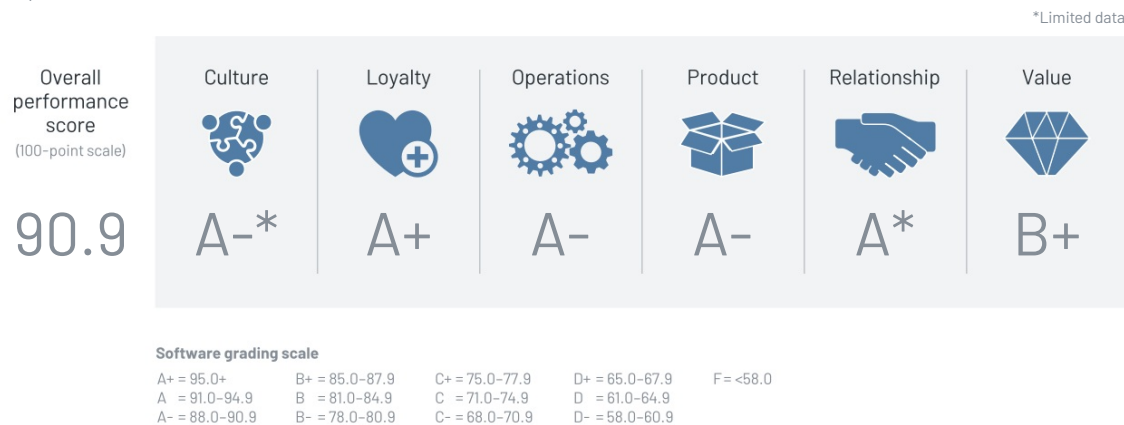"

– "
"The integration between LeanTaaS' system and our EMR has been challenging. Our EMR vendor has a certain way they want things to be done, and LeanTaaS has their own way they want things to be done, so some of the things we have had to do to make the LeanTaaS product function don't work so well in our EMR. We have wound up with a lot of overbooking. iQueue for Infusion Centers is really good for seeing whether we are overbooked in a time slot, but it doesn't do a lot to prevent that from happening. iQueue for Infusion Centers' use also depends a lot on the ability to level load our schedule, and that is particularly challenging for our type of organization. We are relying on a certain type of schedule, and the vendor's solution is always to move some of the patients to another day, but we can't because of other constraints." —Manager
"

Epic

Figure 2   **Epic—Customer Experience Pillars**
(n=15)

*Limited data

Overall performance score (100-point scale)	Culture	Loyalty	Operations	Product	Relationship	Value
90.9	A-*	A+	A-	A-	A*	B+

Software grading scale

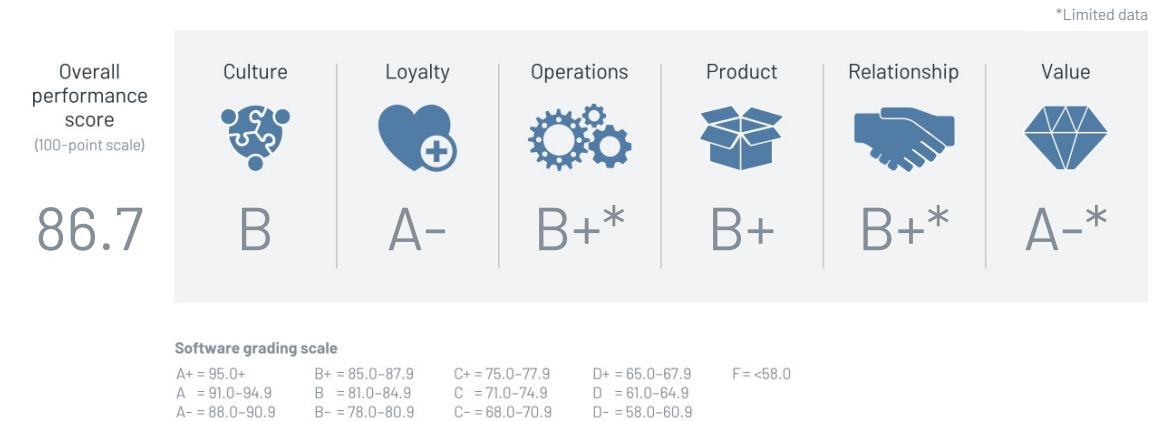|				
A+ = 95.0+	B+ = 85.0–87.9	C+ = 75.0–77.9	D+ = 65.0–67.9	F = <58.0
A = 91.0–94.9	B = 81.0–84.9	C = 71.0–74.9	D = 61.0–64.9	
A- = 88.0–90.9	B- = 78.0–80.9	C- = 68.0–70.9	D- = 58.0–60.9	

Epic, the only EMR vendor measured in this report, offers capacity optimization functionality via the following applications: Grand Central, Cadence OpTime, MyChart, Cogito, Slicer Dicer, and Cognitive Computing. Customers typically use the technology for a variety of use cases across their organizations. Respondents have seen operational improvements at their organizations, specifically around automating dispatch processes, improving perioperative operations, and streamlining communication. The technology meets most respondents' data needs thanks in part to Epic's strong integration capabilities. Additionally, the solution is said to have out-of-the-box functionality and easy customizability, allowing it to adapt to organizations' needs. Some respondents note that product development can feel slow and that upgrades contain unanticipated changes in functionality. Looking to the future, Epic respondents would like additional AI/ML and predictive analytics capabilities, actionable reporting and visualization, and a more consistent mobile experience (especially for Android devices). Though most respondents feel they have a strong relationship with Epic, some would like a better partnership to receive what they need.

+ ❝
"We have had to enhance Epic Grand Central to make things work because every organization is different. Out of the box, the solution is clean and free, but we have had to adapt the product based on what we are using in our IT department, and we have had to spend some of our own money to get where we needed to be. I would recommend the system, but I would let others know that they are going to need to do a lot of work or coordinate with their IT department to make things work. The system integrated well once we figured everything out." —VP ❞

– ❝
"When we put in suggestions or other things, they go into a black hole of Epic research and development, and we never hear anything back. That is frustrating, particularly from an operations standpoint. Epic could do a better job acknowledging their limitations on things related to operations instead of trying to do everything. There are standalone products that are better than what Epic offers, but Epic doesn't play nice with others in the sandbox. As a result, we get forced into a corner and have to use Epic's products, and that is disappointing." —Director ❞

TeleTracking

Figure 3   **TeleTracking—Customer Experience Pillars**
(n=15)

*Limited data

Overall performance score (100-point scale)	Culture	Loyalty	Operations	Product	Relationship	Value
86.7	B	A–	B+*	B+	B+*	A–*

Software grading scale

A+ = 95.0+	B+ = 85.0–87.9	C+ = 75.0–77.9	D+ = 65.0–67.9	F = <58.0
A = 91.0–94.9	B = 81.0–84.9	C = 71.0–74.9	D = 61.0–64.9	
A– = 88.0–90.9	B– = 78.0–80.9	C– = 68.0–70.9	D– = 58.0–60.9	

Note: TeleTracking did not share a full client list with KLAS.

Customer respondents for TeleTracking use either Capacity Management Suite or SynapseIQ, both of which contain capacity optimization functionality. Respondents typically use their solution across the enterprise, and many say their solution provides a high degree of visibility into the patient journey, helps provide actionable insights, and improves organizational efficiency. Mentioned outcomes include increased patient throughput/capacity, improved ability to identify bottlenecks, reduced resource waste, and less overcrowding. Several respondents highlight the vendor's support team and other staff members and appreciate their responsiveness and availability, though some note they didn't receive enough initial support during the implementation. Other mentioned concerns include integration, overlooked product enhancements requests, long product development times, and the product not being fully functional after the implementation. Additionally, although many respondents already appreciate the accuracy and customizability of reports, some would like to see even more improvements to the reporting and analytics.
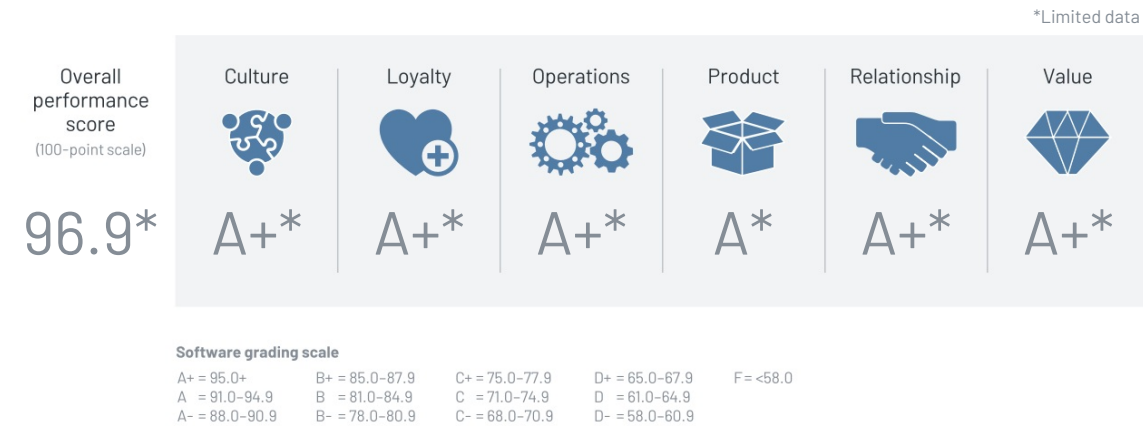
+ " *"TeleTracking's product is a good piece of operational software that allows us to identify data. It also provides us with actionable data that we can use to drive our organization. The system makes it easy for us to keep track of patients throughout all of their outcomes. We can also use it to develop automated reports that drive engagement from our organization for leaders and frontline teams. The wealth of robust data that we get out of the system is incredibly helpful when it comes to supporting our efforts."* —Director "

– " *"We faced extreme challenges during the implementation with TeleTracking. The vendor wanted to go live very quickly, and they were unable to allocate the resources to do so. Additionally, we did not have the support from even local leadership to implement, so we had a very rocky implementation."* —VP "

Limited Data Vendors Ordered by overall performance score

Qventus

Figure 4 **Qventus—Customer Experience Pillars**
(n=6)

*Limited data

Overall performance score (100-point scale)	Culture	Loyalty	Operations	Product	Relationship	Value
96.9*	A+*	A+*	A+*	A*	A+*	A+*

Software grading scale

A+ = 95.0+	B+ = 85.0–87.9	C+ = 75.0–77.9	D+ = 65.0–67.9	F = <58.0
A = 91.0–94.9	B = 81.0–84.9	C = 71.0–74.9	D = 61.0–64.9	
A- = 88.0–90.9	B- = 78.0–80.9	C- = 68.0–70.9	D- = 58.0–60.9	

Note: Qventus did not share a full client list with KLAS.

Qventus is one of two vendors in this study that offers a standalone capacity optimization management solution. Interviewed customers use the system mostly for perioperative use cases, and they report a variety of operational benefits from using the system, including decreased length of stay and maintained care levels despite having fewer staff members. One says they have improved their ability to plan for and react to patient crowding, while another appreciates that physicians can schedule themselves. There are several reports of the vendor listening to customer needs and adapting to help customers achieve desired outcomes. Further, many respondents appreciate that the vendor seeks customer feedback. The implementation is seen by some as slow and resource intensive. Additionally, one respondent wants the vendor to improve the product's functionality by adding more granular time intervals and says the change management around upgrades could also be improved.

> +❝
> *"After getting Qventus' product, we saw improvements every month when we looked at our data. The trend was always improving each month. Interestingly, it took us a good year before the improvements became exponential. The numbers spiked very quickly after several months of sitting at the same number. Throughout the process, we were working collaboratively with the vendor. So we gave the vendor feedback as they made refinements and adjusted their software and tools, and that was part of the reason why we saw a quick spike in our data. We made a significant change that really helped, and we saw improvements quickly."* —COO ❞
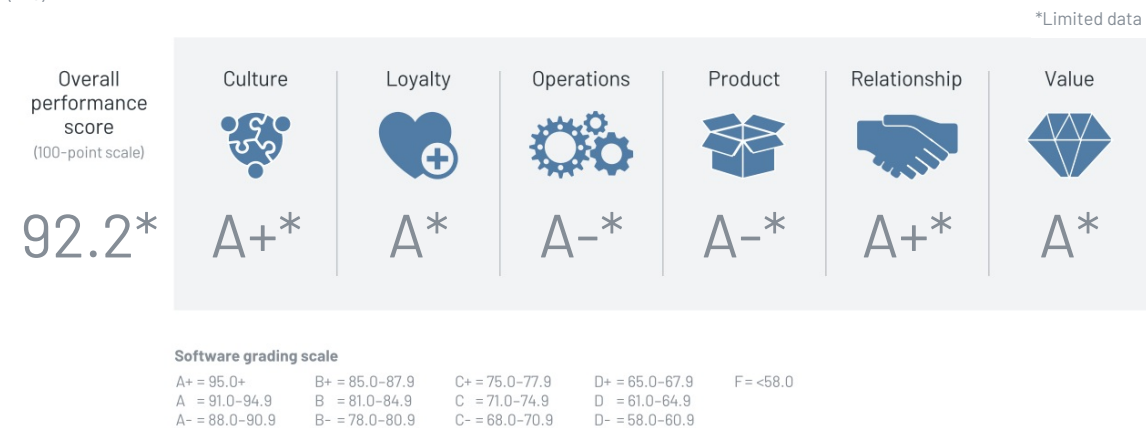
> −❝
> *"I would like to see the vendor venture into more clinical spaces to help us answer clinical questions. Right now, they focus on operational questions, and that is good. I understand that venturing into clinical areas is a whole other set of rules and regulations, but that might be helpful. Another weakness is that the vendor could do a better job of helping us prepare for the change management on our end. We could use more forewarning. If the vendor were more proactive about change management, that would be helpful. It would also be nice to involve a senior hospital leader. That would reinforce that idea of proactivity and would drive performance."* —VP ❞

Care Logistics

Figure 5   **Care Logistics—Customer Experience Pillars**
(n=6)

*Limited data

Overall performance score (100-point scale)	Culture	Loyalty	Operations	Product	Relationship	Value
92.2*	A+*	A*	A-*	A-*	A+*	A*

Software grading scale

A+ = 95.0+	B+ = 85.0–87.9	C+ = 75.0–77.9	D+ = 65.0–67.9	F = <58.0
A = 91.0–94.9	B = 81.0–84.9	C = 71.0–74.9	D = 61.0–64.9	
A- = 88.0–90.9	B- = 78.0–80.9	C- = 68.0–70.9	D- = 58.0–60.9	

Care Logistics offers capacity optimization functionality as part of Hospital Operating System. Interviewed customers use the solution across their organizations and say the product has positively impacted their operations—for example, shortening the length of stay. One customer reports that the rate of ED patients who leave without being treated has improved, and another says their organization's bed planning has improved. All respondents report that Care Logistics keeps their promises, and many also highlight strong issue resolution and follow-up. One respondent noted that after a difficult implementation, the vendor returned to ensure the system was being used at full capacity. Integration is identified as an opportunity for improvement, specifically EMR integration. Two respondents plan to leave Care Logistics, with one citing integration and the other citing an organizational decision to switch systems. Additionally, some customers note the product's reporting functionality isn't easy to use and requires more training than is currently provided.

+ "
"The product has exceeded our expectations, and during the COVID-19 crisis, the product was phenomenal. The visibility we had with the product was more than it was in any other system. The vendor makes things happen, and they have been phenomenal for us. The product became our source of truth during the COVID-19 crisis. Everybody was afraid about who was sick and who was not, and we were working so hard to keep our team safe. The vendor heard what we were saying, and they went right to work on it. The people on the vendor's team have been great with the inner workings and the information. They are quick to return any message. They have been fantastic to work with. If something happens, I can call the vendor, and they will work on solving the issue, even if it is early in the morning or our team hasn't looked at something. I don't know how we would have made it through the COVID-19 crisis without something like this product." —VP
"

– "
"The challenge with the product is its integration with the EMR. The product rides on top of our EMR like a module. In terms of shared documentation and communication, we have done a lot of work with Care Logistics to improve the integration. We are about to open the door to do some more improvements." —VP
"