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BEST PRACTICES

AWARDS

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2020 BEST PRACTICES AWARD

GE Healthcare

**2020 GLOBAL
HEALTHCARE COMMAND CENTER
COMPANY OF THE YEAR AWARD**

Contents

Background and Company Performance

Industry Challenges

Globally, hospitals and health systems have been reeling under the indirect impact of COVID-19 on their finances. In the United States, the American Hospital Association estimates $202.6 billion in losses from March to June of 2020[1]. However, Frost & Sullivan finds that COVID-19 has only accelerated the downhill trend that several national healthcare systems were already facing. Prior to the advent of COVID-19, the United States alone saw 16 hospitals close in 2017, 23 in 2018, and 47 in 2019. In the United Kingdom, the National Health Service continues to face challenges such as lengthy wait times. Despite an increase in funding, patients can still wait weeks to see a primary care doctor. In China, hospitals experience a large queue of patients for the treatment of basic ailments, thanks to a near non-existent primary care system in the country's rural parts. Hence, it is essential for hospitals globally to increase efficiencies to better manage resources while catering to increasing demand.

However, hospitals are notoriously inefficient, both operationally and financially. Moreover, with a predicted shortage of 14.5 million healthcare personnel by 2030[2], the number of patients coming to hospitals for the treatment of age-related complications and chronic conditions continues to burden already-scant hospital resources. Financial inefficiencies further exacerbate the situation by adding budgetary woes despite a push for value-based care, a system that rewards achieving outcomes at lower costs and effort.

While technology-based healthcare solutions have emerged in the last decade or so, oftentimes they do not fit into hospital workflows. Additional manual steps are often required to make the solution work, hindering adoption. Despite technology posing real potential to address the challenges hospital face, better implementation practices are needed due to hospitals' large and complex operational model. Vendors who can apply data gathering, prescriptive and predictive analytics, and machine learning to patient flow solutions, allowing for central real-time coordination with command center tools, can positively impact hospital operations.

However, the complex nature of the healthcare industry requires holistic solutions. Vendors who can simultaneously address operational, clinical, and financial challenges through a command center-like model will experience rapid adoption. Moreover, as one-size-fits-all approaches are inadequate, market participants must provide highly customizable offerings that best suit the needs of individual hospitals.

Visionary Innovation and Performance/Customer Impact

GE Healthcare has pioneered the data aggregator approach for hospital command centers. While competitors typically leverage their own solutions as the core of a given offering, GE Healthcare works with hospitals' existing solutions, integrating and analyzing data from all

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[1] "Hospitals and Health Systems Face Unprecedented Financial Pressures Due to COVID-19", American Hospital Association, May 2020.
[2] Global Strategy on Human Resources for Health: Workforce 2030, World Health Organization.

of them to drive efficiency via tools used both in the physical command center and locally in units and departments by many types of health workers.

In 2016, GE Healthcare installed a command center at The Johns Hopkins Hospital in the United States. The project's tremendous success, as demonstrated by complete return on investment (ROI) in less than 24 months, spurred the team to scale the solution for larger hospitals, health systems, and even a national healthcare system.

Customized Approach

While some vendors have been offering operational solutions for over a decade, GE Healthcare differentiates itself through command center solutions that are highly flexible and customizable. For example, the company can support use cases ranging from an interventional procedural or outpatient command center to a hospital or even health system-level command center. GE Healthcare also provides clients the possibility to develop a virtual command center, a coveted capability in a post-pandemic world as it allows for both social distancing and significant cost savings by providing much of the impact of a command center without the need for a physical space.

Other services GE Healthcare's Command Center team provides to its customers include:

- *Transformation Partnership,* an end-to-end approach to help hospitals re-engineer processes. The partnership lasts a minimum of two to three years and is designed to attain the goals outlined by the hospital.

- *Real Time Decision Support Partnership* helps hospitals achieve targeted impact enabled by several command center apps, or "Tiles" as GE calls them.

- *Capacity Strategy Partnership* enables the hospital to develop a plan to reallocate capacity or reengineer processes by using a digital twin model of hospital operations. As a result, hospitals can virtually test changes designed to improve efficiency.

GE Healthcare offers multiple pricing combinations, thereby addressing one of the major barriers hospitals face when adopting command centers. Options include capital expenditure, lease, subscription, and at-risk models.

The success of such approaches is evident in the diversity of command center clientele GE Healthcare has acquired in just a few years. For example:

- 8 transformation partnerships with hospitals and health systems (one of which has 31 hospitals) across the United States and Canada, including The Johns Hopkins Hospital in Baltimore and the Humber River Hospital in Toronto. Health systems include AdventHealth, CHI Franciscan and Tampa General.

- 3 command center partnerships in the United States, including Thomas Jefferson Health and Mission Health.

- The first command centre in the United Kingdom at the Bradford Teaching Hospitals NHS Foundation Trust.

- Technology partnerships for hospitals and large health systems in the Netherlands and the United States.

- Regional capacity systems in Oregon and Florida for near-time, region-wide, automated resource management. First built for COVID-19, these seem destined to replace the manual surge management systems in place in most states and countries.

Frost & Sullivan applauds the sheer variety of conceptual applications that GE Healthcare has developed for its command center offering. From virtual or single department level to large hospitals, health systems, and even countries, the variety of roles GE Healthcare assumes to support the healthcare industry transformation is breathtaking.

Technology Leverage

GE Healthcare employs a unique data aggregator approach to command centers. Specifically, it can leverage hospitals' existing technology solutions to gather and connect data. As a result, it can break existing hospital silos and enable real time decision-making capabilities that simply did not exist before.

To that end, GE Healthcare's command center solution integrates data from electronic medical record software (e.g., Epic, Cerner, MEDITECH, CPSI, and AllScripts) and other information technology solutions for hospital operations such as TeleTracking, Care Logistics, RightCad, and Central Logic. Moreover, the company's innovative real time Tiles-based approach is well-known in the hospital community. Tiles are individual applications that hospital staff use to monitor operations. Typically, hospitals begin with several Tiles, each of which serves as a single source of truth that can be accessed anywhere (e.g., smartphones, computers, laptops, tablets, nursing stations, conference rooms, homes, or the command center itself.) Popular Tiles include Patient Manager, Capacity Expediter, Care Progression, Discharge Barriers, and COVID-19 Critical Resources.

GE Healthcare also works to incorporate advanced technologies (e.g., predictive analytics, artificial intelligence, natural language processing, computer vision, and machine learning) into Tiles to offer capabilities such as forecasting census and physician stress expected-day-of-discharge. Another differentiator is the company's sophisticated "Hospital of the Future" digital twin solution. The solution's powerful simulation capability allows hospitals to test scenarios in a virtual environment to assess impact before introducing changes in the real-world. Frost & Sullivan appreciates GE Healthcare for not only deploying state-of-the-art technological tools but implementing them in ways that provided significant value-add for hospitals.

Customer Support

GE Healthcare provides hospitals with guidance on optimizing the physical design of the command center and can also offer requisite infrastructure with third-party vendors' support. A 24x7 customer support line is also provided for clients. Perhaps the best example of GE Healthcare's superior customer commitment was its ability to provide

hospitals with a COVID-19 support tool in just 3 weeks. Designed to help hospitals manage the surge of patents, the tool has since been deployed at 165 hospitals.

GE Healthcare has also created an ecosystem for all command center customers to interact with one another formally and informally. For example, hospital command centers regularly host other hospitals' command center staff for visits. A monthly newsletter keeps clients updated on progress made by command centers installed by GE Healthcare. GE Healthcare also hosts a forum for participating clients to share best practices with one another. The ecosystem encourages collaboration on solutions. For example, during the development of the Patient Deterioration Tile, experiential input was solicited from client hospitals, including Humber River Hospital in Canada and the Bradford Teaching Hospitals NHS Foundation Trust in the United Kingdom, to accelerate innovation that meets patient and caregiver needs.

Frost & Sullivan applauds GE Healthcare's efforts to not only support their clients through their individual requirements but to foster a robust ecosystem that enables cross-customer collaboration and the sharing of best practices.

Conclusion

With increasing demand and a shortage of resources, hospitals require technology-based solutions such as command centers to achieve efficiency and financial sustainability. GE Healthcare enables customers to develop virtual or physical command centers that support single departments, hospitals, health systems, and even nations. Leveraging state-of-the-art analytics, artificial intelligence, and digital twin technologies, GE Healthcare-installed command centers achieve return on investment in only 18 to 24 months, and increase capacity by 15 to 30 beds, without the need for additional physical beds. GE Healthcare offers a variety of partnership roles and pricing models to expand access to its exceptional services, while its customer support approach fosters a community of command center clients who share best practices.

With its thought leadership, technical excellence, and unmatched value proposition, GE Healthcare earns Frost & Sullivan's 2020 Company of the Year Award in the global healthcare command center industry.

Significance of Company of the Year

To receive the Company of the Year Award (i.e., to be recognized as a leader not only in your industry, but among non-industry peers) requires a company to demonstrate excellence in growth, innovation, and leadership. This excellence typically translates into superior performance in three key areas—demand generation, brand development, and competitive positioning—that serve as the foundation of a company's future success and prepare it to deliver on the 2 factors that define the Company of the Year Award: Visionary Innovation and Performance, and Customer Impact).

- Acquire competitors' customers
- Increase renewal rates
- Increase upsell rates
- Build a reputation for value
- Increase market penetration

- Earn customer loyalty
- Foster strong corporate identity
- Improve brand recall
- Inspire customers
- Build a reputation for creativity

DEMAND

BRAND

Company of the Year

COMPETITIVE POSITIONING

- Stake out a unique market position
- Promise superior value to customers
- Implement strategy successfully
- Deliver on the promised value proposition
- Balance price and value

Understanding Company of the Year

Driving demand, brand strength, and competitive differentiation all play critical roles in delivering unique value to customers. This three-fold focus, however, must ideally be complemented by an equally rigorous focus on Visionary Innovation and Performance to enhance Customer Impact.

Key Benchmarking Criteria

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated each factor according to the criteria identified below.

Visionary Innovation and Performance

        Criterion 1: Addressing Unmet Needs

        Criterion 2: Visionary Scenarios through Mega Trends

        Criterion 3: Implementation of Best Practices

        Criterion 4: Blue Ocean Strategy

        Criterion 5: Financial Performance
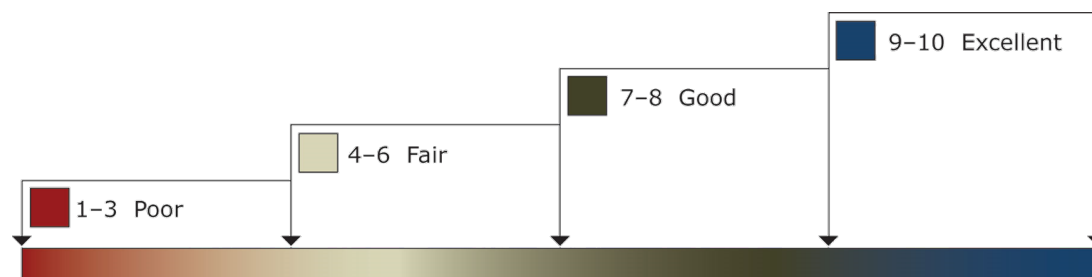
Customer Impact

        Criterion 1: Price/Performance Value

        Criterion 2: Customer Purchase Experience

        Criterion 3: Customer Ownership Experience

        Criterion 4: Customer Service Experience

        Criterion 5: Brand Equity

Best Practices Award Analysis for GE Healthcare Partners

Decision Support Scorecard

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows research and consulting teams to objectively analyze performance according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation. Ratings guidelines are illustrated below.

RATINGS GUIDELINES

9–10 Excellent

7–8 Good

4–6 Fair

1–3 Poor

The Decision Support Scorecard considers Visionary Innovation and Performance and Customer Impact (i.e., the overarching categories for all 10 benchmarking criteria; the definitions for each criterion are provided beneath the scorecard). The research team confirms the veracity of this weighted scorecard through sensitivity analysis, which confirms that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.

The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, Frost & Sullivan has chosen to refer to the other key participants as Competitor 1 and Competitor 2.

Measurement of 1–10 (1 = poor; 10 = excellent)			
Company of the Year	Visionary Innovation & Performance	Customer Impact	**Average Rating**
GE Healthcare Partners	**9**	**9**	**9**
Competitor 1	7	9	8
Competitor 2	8	7	7.5

Visionary Innovation & Performance

Criterion 1: Addressing Unmet Needs

Requirement: Implementing a robust process to continuously unearth customers' unmet or underserved needs, and creating the products or solutions to address them effectively.

Criterion 2: Visionary Scenarios through Mega Trends

Requirement: Incorporating long-range, macro-level scenarios into the innovation strategy, thereby enabling first-to-market growth opportunity solutions.

Criterion 3: Implementation of Best Practices

Requirement: Best-in-class strategy implementation characterized by processes, tools, or activities that generate a consistent and repeatable level of success.

Criterion 4: Blue Ocean Strategy

Requirement: Strategic focus on creating a leadership position in a potentially uncontested market space, manifested by stiff barriers to entry for competitors.

Criterion 5: Financial Performance

Requirement: Strong overall business performance in terms of revenue, revenue growth, operating margin, and other key financial metrics.

Customer Impact

Criterion 1: Price/Performance Value

Requirement: Products or services offer the best value for the price compared to similar offerings in the market.

Criterion 2: Customer Purchase Experience

Requirement: Customers feel they are buying the optimal solution that addresses both their unique needs and their unique constraints.

Criterion 3: Customer Ownership Experience

Requirement: Customers are proud to own the company's product or service and have a positive experience throughout the life of the product or service.

**Criterion 4: Customer Service Experience**

Requirement: Customer service is accessible, fast, stress-free, and of high quality.

Criterion 5: Brand Equity

Requirement: Customers have a positive view of the brand and exhibit high brand loyalty.

Decision Support Matrix

Once all companies have been evaluated according to the Decision Support Scorecard, analysts then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.
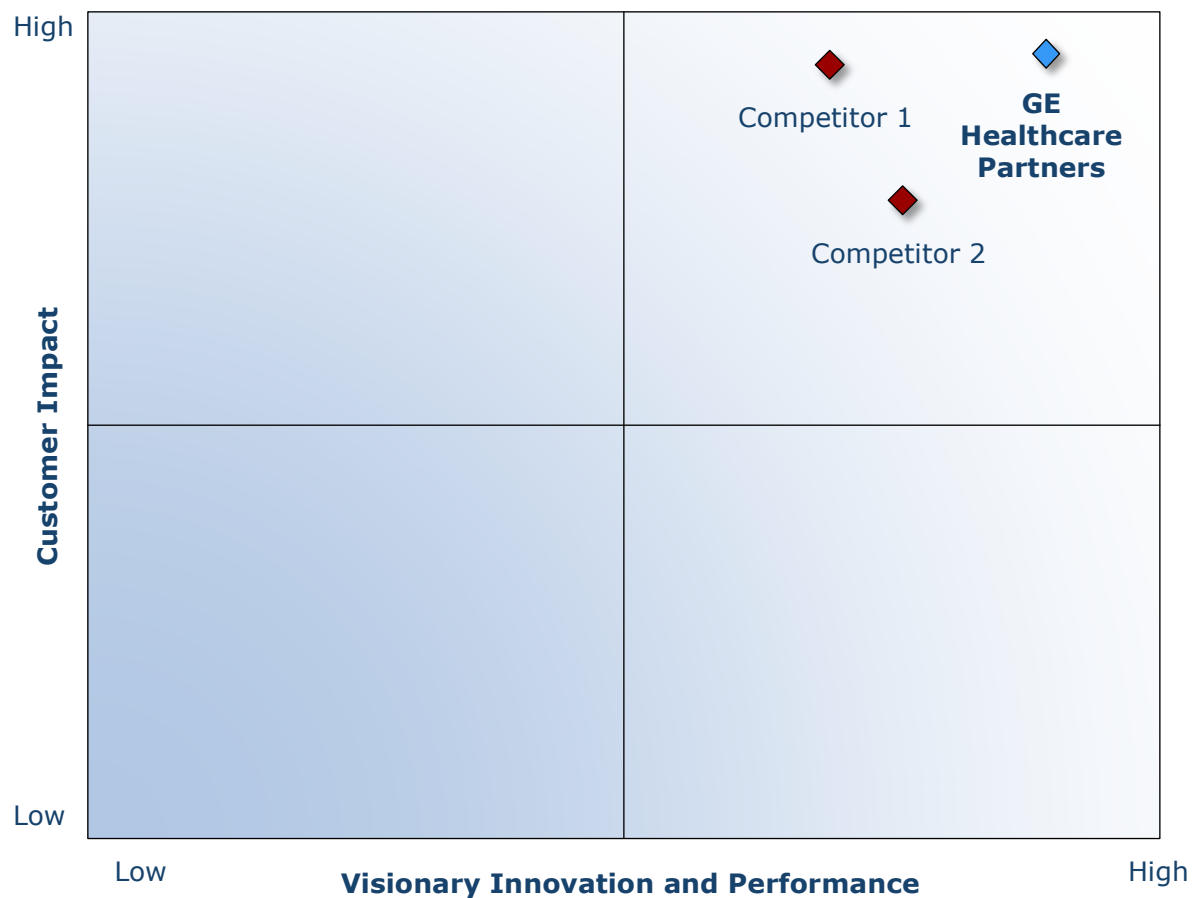
Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan analysts follow a 10-step process to evaluate award candidates and assess their fit with select best practice criteria. The reputation and integrity of the awards are based on close adherence to this process.

STEP		OBJECTIVE	KEY ACTIVITIES	OUTPUT
1	**Monitor, target, and screen**	Identify award recipient candidates from around the world	• Conduct in-depth industry research • Identify emerging industries • Scan multiple regions	Pipeline of candidates that potentially meet all best practices criteria
2	**Perform 360-degree research**	Perform comprehensive, 360-degree research on all candidates in the pipeline	• Interview thought leaders and industry practitioners • Assess candidates' fit with best practices criteria • Rank all candidates	Matrix positioning of all candidates' performance relative to one another
3	**Invite thought leadership in best practices**	Perform in-depth examination of all candidates	• Confirm best practices criteria • Examine eligibility of all candidates • Identify any information gaps	Detailed profiles of all ranked candidates
4	**Initiate research director review**	Conduct an unbiased evaluation of all candidate profiles	• Brainstorm ranking options • Invite multiple perspectives on candidates' performance • Update candidate profiles	Final prioritization of all eligible candidates and companion best practices positioning paper
5	**Assemble panel of industry experts**	Present findings to an expert panel of industry thought leaders	• Share findings • Strengthen cases for candidate eligibility • Prioritize candidates	Refined list of prioritized award candidates
6	**Conduct global industry review**	Build consensus on Award candidates' eligibility	• Hold global team meeting to review all candidates • Pressure-test fit with criteria • Confirm inclusion of all eligible candidates	Final list of eligible award candidates, representing success stories worldwide
7	**Perform quality check**	Develop official award consideration materials	• Perform final performance benchmarking activities • Write nominations • Perform quality review	High-quality, accurate, and creative presentation of nominees' successes
8	**Reconnect with panel of industry experts**	Finalize the selection of the best practices award recipient	• Review analysis with panel • Build consensus • Select winner	Decision on which company performs best against all best practices criteria
9	**Communicate recognition**	Inform award recipient of recognition	• Announce award to the CEO • Inspire the organization for continued success • Celebrate the recipient's performance	Announcement of award and plan for how recipient can use the award to enhance the brand
10	**Take strategic action**	Upon licensing, company able to share award news with stakeholders and customers	• Coordinate media outreach • Design a marketing plan • Assess award's role in strategic planning	Widespread awareness of recipient's award status among investors, media personnel, and employees

The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of the research process. It offers a 360-degree view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often companies make important growth decisions based on a narrow understanding of their environment, resulting in errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry participants and for identifying those performing at best-in-class levels.

360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS

About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, helps clients accelerate growth and achieve best-in-class positions in growth, innovation, and leadership. The company's Growth Partnership Service provides the CEO and the CEO's growth team with disciplined research and best practices models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages nearly 60 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on 6 continents. To join Frost & Sullivan's Growth Partnership, visit http://www.frost.com.