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2020 | BEST PRACTICES AWARD

NUANCE

2020 GLOBAL AI-POWERED SOLUTIONS ENABLING PATIENT SAFETY IN HEALTHCARE COMPANY OF THE YEAR AWARD

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Proper documentation of all patient management processes is critical to delivering quality care; and in the digital age, medical record keeping is evolving into a quasi-science. On the Healthcare front lines, clinicians struggle under the intense workload of attending to patients, filling in and submitting medical paperwork, in addition to pacifying nearly constant interruption from third-party payers asking for prior authorization for routine, low-cost treatments and procedures. These conditions are increasingly contributing to physician burnout, adding to the physical and psychological exhaustion that can result in medical errors and the consequential exit of doctors from their profession.

The advent of advanced electronic health records (EHRs) has introduced significant improvement to the quality of care delivery, patient safety, and patient outcomes; however, clinicians still struggle with these advanced systems. EHRs require lengthy data input for proper and complete documentation of a patient's history, diagnostic/lab test results, clinical findings and analysis, daily observational notes on a patient's condition, preoperative notes, operation notes, and medication notes. In the majority of physicians' appointments with patients, 30% - 50% of the time is spent entering data, which greatly restricts patient engagement. Although nearly impossible to eliminate data entry tasks from a physician's everyday schedule, advanced solutions and practices can reduce the workload and free physicians to engage with more revenue-generating work.

To address the looming shortage of nursing staff and physicians in many places, there is a critical industry need to automate or reduce most non-clinical tasks, thus enabling practitioners to devote more time to patient care. Furthermore, certain complicated patient cases require consultation from external physicians and experts to assist in diagnosis while concomitantly preventing erroneous and delayed diagnosis; yet sharing diagnostic test images, such as radiology imaging, is often challenging for hospitals.

EHRs are intended to make the task of recording and retrieving patient data easier and more efficient. However, even though digital dictation and transcription tools provide 'ease of recording', they often lack fast data retrieval capabilities. Moreover, existing EHR-integrated scribe or dictation platforms are error prone. Specifically, speech recognition and proper identification of medical terms and jargon, language, and accents prove challenging for some software solutions. These limitations result in inaccurate or incomplete documentation.

Visionary Innovation and Performance/Customer Impact

A pioneer and leading market player in conversational artificial intelligence (AI) breakthroughs, Nuance Communications, Inc. (Nuance) offers digital intelligence to assist daily work and life. Nuance operates within several industries, including Healthcare, Financial Services, Telecommunications, Government, Retail, Travel and Hospitality, Social Services, Education, Legal, Insurance, and Utilities. Nuance's AI-powered innovations include solutions that listen, understand, analyze, and respond to human speech

irrespective of language, accent, and industry jargon. Several years of research and proven expertise in AI have led to the company's current market-leading position.

In the Healthcare industry, Nuance offers speech recognition, clinical documentation, and transcription solutions. The company's Healthcare division generates the most revenue, about 50% of the total profits; it is also the fastest-growing, with solutions catering to nearly 75% of US Healthcare providers. Globally, more than 500,000 physicians and 10,000 Healthcare organizations use Nuance's AI-powered solutions for providing matchless clinical, financial, and patient engagement outcomes, thus transforming care provider and patient experiences across the entire care continuum. Nuance's flagship solution, Dragon® Medical One, is a revolutionary cloud-based Healthcare application offered on a software-as-a-service (SaaS) model and hosted on the Microsoft Azure cloud.

Addressing Unmet Needs with Breakthrough AI-powered Solutions

With the escalating popularity of smartphone-based personal digital assistants, millions of people have discovered the benefit of speech recognition software. Back in 1992, Nuance began exploring this technology, efficiently helping individuals using digital voice communication through its flagship solution, Dragon Medical One. Addressing the looming issue of clinician burnout arising from the heavy workload tied to clinical documentation, Dragon Medical One stores and communicates more than 300 million patient cases annually. Continual updates to the speech recognition technology improve the solution's capability significantly, thereby reducing medication errors and ensuring patient safety through improved quality of care. In 2011, Nuance pioneered another important advancement by enabling cloud-support for Dragon Medical One, envisioning a future Healthcare delivery model that would involve care teams spread across various locations.

Widely popular, Dragon Medical One experiences continual adoption among Healthcare customers. The increasing customer volume required Nuance to shift its back-end servers to a top-class cloud infrastructure. Nuance chose Microsoft Azure to distribute its solution at the point-of-care, which has enabled it to double its customer base in less than a year and improve application reliability. Dragon Medical One is HITRUST CSF-certified and offers a tailored clinical documentation experience across several platforms, devices, and solutions irrespective of physical location.

Nuance's PowerMic, a wireless microphone-based smartphone app, also addresses the issue of documentation-related medication errors by transforming any clinician's workstation (along with Dragon Medical) into a dictation station where clinicians can freely dictate, edit, analyze, and navigate the EHR with the help of their smartphone. This flexible and efficient app (iPhone and Android) works with virtual desktops to offer enhanced mobility to clinicians with consistent documentation capability at the clinic, hospital, and even home office.

The challenge of sharing medical images and diagnostic reports with patients and external Healthcare professionals is effectively addressed by Nuance's PowerShare medical image sharing and exchange tool. PowerShare enables access and collaboration in real-time, without the help of any CDs or VPNs, anytime, anywhere, and over the Internet on smartphones, desktops, or other image-viewing devices. The platform is HIPAA compliant,

combined with security protocols to safeguard Protected Health Information (PHI). PowerShare supports patient engagement by making medical images and reports easily accessible to them. Moreover, PowerShare helps physicians interact with other clinicians or medical professionals when seeking a second opinion to prevent diagnostic errors or delayed diagnosis; the medical images and reports can be shared with professionals in real-time, and the process is as easy as sending an email.

Frost & Sullivan notes that Nuance's focus on reducing clinician burnout and ensuring accurate and complete clinical documentation positions it as a leading industry participant amongst the selective few engaged in lessening the impact of medication and diagnostic errors by employing AI and advanced technologies.

Visionary Scenarios through Mega Trends

Frost & Sullivan's independent research shows Nuance to be a frontrunner in introducing breakthroughs that align with Healthcare mega trends, such as seamlessly implementing AI and cost-effective solutions (e.g., digital assistants), shifting towards value-based Healthcare, and increasing automation to reduce or eliminate manual data input errors. The PowerShare Network registers more than 3,500 Healthcare organizations and is continuously growing, assisting clinicians and care providers during the expansion of their referral network, thus meeting the increasing medical needs with the help of integrated viewers to automate radiology reporting.

Nuance's efforts involve the inclusion and improvement of innovative, next-gen patient safety solutions achieved through several strategic partnerships and acquisitions. The company's collaboration with Stryker combines the strength of the PowerShare Network with the latter's operating room (OR) platform to create a paperless, errorless, and more efficient OR, thus enhancing the patient's postoperative experience. Another recent and major strategic activity was the partnership between Nuance and Microsoft in 2019, which includes the integration of Dragon Ambient eXperience (DAX) and Microsoft Teams. This AI-powered ambient clinical intelligence speeds up telehealth workflow solutions adoption, thus reducing clinician burnout. Two more significant partnerships are with Cerner to ensure accurate and complete clinical documentation improvement at the point-of-care, and integration of Nuance's AI-powered virtual assistant platform into Epic's EHRs.

Frost & Sullivan believes Nuance's efforts in introducing new technologies and entering into strategic partnerships with leading organizations are pivotal to positioning the company as a global leader in its domain.

Effective Blue Ocean Strategy with Ambient Clinical Intelligence Experience

Particularly noteworthy is that instead of using fallible dictation software to fill the gaps left in a clinician's notes, Nuance created DAX to fill distinct fields and complete medical charts accurately. Nuance's commitment to reducing clinician burnout issues is exemplified with the implementation of DAX, the ambient clinical intelligence tool. DAX is a comprehensive, AI-powered solution enabled with expert voice assistance that uses ambient sensing technology. This technology securely listens to the physician-patient conversation to provide knowledge and workflow automation to complement EHR

readings. Innovated by Nuance and Microsoft, DAX ensures enhanced patient experience by precisely capturing and correctly contextualizing every word of the clinical encounter and automatically documenting patient care; everything is done without interrupting the physician's attention to the patient.

Built on Microsoft Azure, Nuance DAX is a highly secure HITRUST CSF qualified platform, in compliance with the HITECH Act and abiding by the physical, technical, and administrative protections specified by HIPAA. Available for a wide range of medical specialties, DAX includes ambient device, ambient documentation, and ambient skills. This advanced solution empowers physicians to devote their undivided attention to patient care. Thus, Nuance is preferred over its competitors by customers for delivering enhanced implementation of ambient clinical intelligence that revolutionizes patient safety and care.

Market Leadership and Robust Financial Performance

In the AI-powered speech recognition software industry, Nuance is the clear market leader with nearly 67% of the US market share, followed by the second-ranking player that holds only 15% market share. In August 2020, Nuance announced its third quarter results with revenue of USD338.4 million; revenue and earnings per share (EPS) exceeded expectations, even amidst the COVID-19 pandemic-related headwinds. The Q1 2020 revenue was USD418.2 million (slightly down from USD419.7 million for the same period the previous year) and USD369.3 million for Q2 2020 (up from USD336.6 million in the previous year). The company has successfully surpassed revenue expectations in three out of the four quarters of 2020, and it is expecting increased growth in the coming months. Nuance recorded 11% year-on-year organic growth in the third quarter, with Healthcare revenue rising to 10%, primarily due to the popularity of the Dragon Medical One and DAX cloud-based speech recognition solution.

Delighted Customers Represent Superior Service and Ownership Experience

Nuance has fostered an esteemed base of happy and satisfied customers worldwide who have successfully implemented its AI-powered platforms. A sample of US customers using Nuance Healthcare solutions include SSM Health, Children's Hospital Colorado, Women's Health Connecticut, Rush University Medical Center, and Duke University Health System.

One early adopter of the DAX platform was EmergeOrtho Triangle Region. Since 1952, EmergeOrtho has been treating various sports-related injuries and joint replacements; it has 18 locations in 10 US counties. The Medical Director of this organization, Dr. William Silver, is quite impressed with the DAX platform because it saves him significant time otherwise spent completing patient documentation; the solution frees him to add more patient consultations to his daily schedule.

Conclusion

Being a market leader in AI-powered clinical documentation, Nuance has innovated and upgraded its solutions to address key unmet needs in the industry while easily filling gaps within clinical documentation. The company is a pioneer in ambient clinical intelligence, and with the assistance of Microsoft, it has designed its innovative DAX solution that listens to and documents physician-patient conversations, carefully and securely operating across physical and virtual clinical settings. Strategic partnerships, technological enhancements of solutions to improve quality of care, and increased focus to ambient clinical intelligence and digital assistants underpin Nuance's market leadership and sustain its robust financial performance, even amidst the COVID-19 pandemic.

For its strong overall performance, Nuance Communications, Inc. is recognized with Frost & Sullivan's 2020 Company of the Year Award.

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).

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 & 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.

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

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