

Strategic Marketing: From Product Roadmap to Needs Roadmap Focus, a Cultural-practical Shift

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Abstract—The paper has the aim to represent an empirical model of Needs and Trends caption, analysis, definition and prioritization in a crowded Market with an extended presence of Competitors, and characterized by extensive Product complexity (regarding technical, application, user typology, scenarios of use, needs and request satisfaction capabilities). Diagnostic Ultrasound scanners were utilized for the practical implementation of the model. A general overview of the Market and Competition scenario will be given, as well as the Company's Global Marketing organization and its related interactions within the Company in a 3-year period (2014-2017). The definition of the Needs Roadmap (expressed, unexpressed, not understood – by the customer/user, by the Market, Marketing, etc. - just touched on/at their embryonal stage) and its interfacing/definition of the Product Roadmap, will be presented and discussed.

Index Terms—marketing strategy, needs roadmap, product roadmap, application & educational marketing, product marketing

I. INTRODUCTION

The aim of the paper is to provide a workflow and model for product, product roadmap (single product evolution), and product portfolio roadmap (product offer development in time and characteristics, “meanings”, contents) definition and development in a Global Diagnostic Imaging Company. The specific case of Diagnostic Ultrasound products will be used as a practical reference for a more general approach.

Company and Market (economical, technical and application) overview is provided, as well as Company Global Marketing, Application & Educational Marketing and Product Marketing roles, structure and interactions.

The general topic of the analysis of Market needs and product definition is considered, focusing mainly on the process of collecting, analyzing and defining the “Voice

of the Customer” [1]. Their prioritization methodology, even if mentioned, will not be treated here.

The main idea at the basis of the paper is to shift attention and related focus for internal Company discussions from the Product Portfolio Roadmap to the (Application) Needs Roadmap, therefore to develop first the Needs Roadmap (that is, the Needs that we are willing to satisfy) followed by the Product Roadmap, intended, at its larger extent and meaning, as single product definition and development, evolution and full portfolio definition and evolution over time.

The shift from Product Roadmap (the Traditional Industrial/Engineering approach) to focusing on the Needs Roadmap, therefore from focusing on the Solution to the Needs-requests-tendencies and Trends, would be a major cultural change, both in terms of the Company's approach to its vision, strategy and Market, as well as a re-shaping of the different “actors” involved in the process, as well as their mutual relationship, workflow and communications. Personal bias and behavioral approaches should also not be underestimated, as they can be more powerful than expected, especially in the fragile phases of cultural changes and change management.

On the methodological level, this paper adopts a case analysis method [2] based mainly on the participant's observation, according to the involvement of least two of the three authors [3].

II. COMPANY AND MARKET OVERVIEW

The Company considered in this paper offers a large array of advanced technologies in the key Applications of Diagnostic Ultrasound: abdominal, musculoskeletal, vascular, cardiology, obstetrics and gynecology.

The Company, with 3 European R&D and production sites, is currently active in around 94 countries with direct subsidiary companies and offices in France, Germany, Spain, UK, Russia, US, China, Argentina, India, Brazil and Australia.

A. Diagnostic Ultrasound Market: Economical Overview

The Worldwide Diagnostic Imaging Ultrasound Market is characterized by 12 large players: GE Healthcare, Philips Healthcare, Canon Medical (previously Toshiba Medical Systems), Siemens Healthineers, Hitachi Medical Systems, Mindray, Fujifilm SonoSite, Samsung, Esaote, BK Analogic, SonoScape, SuperSonic Imagine, plus dozens of other additional Manufacturers (where a grand total of 70 can be considered a realistic approximation), some of which target a specific application, product category and/or geography.

According to publications about Market Study Forecasts, with an improved growth outlook for the three major regions (EMEA, Americas, and Asia), 2018 is forecast to be a strong year for the global ultrasound market. Although the annual growth rate is expected to gradually cool in the following three years, the expanding use of ultrasound across many medical specialties will ensure continuous growth of the market at a mid-single-digit rate in the years ahead [4].

B. Diagnostic Ultrasound Market: Technical and Application Overview

Diagnostic Ultrasound (US) is an operator and patient dependent examination, where anatomical and hemodynamic analysis settings have to be adjusted in real-time while scanning.

Diagnostic Ultrasound systems consist of the scanner body, which houses the electronics and can be portable or cart-based, a control panel for system operation, a monitor for the diagnostic image visualization and a set of probes, whose technical and design characteristics are defined by the body area and patient types on which they are used.

More and more Ultrasound investigations are performed daily worldwide, with productivity being one of the main key drivers for users [5].

The patient population is represented by Fetal, Neonatal, Pediatrics and Adult, while Sonographers, Medical Doctors, Radiologists, Surgeons, Midwives, Paramedics and Veterinary practitioners populate the user profile, covering the full range from novices to expert users. Due to their wide distribution, Ultrasound systems are also used by non-sonographers; therefore, a higher level of ease of use has been urgently requested in recent years. These new paths in the use of Ultrasound have completely changed the customer's approach to Ultrasound technologies and devices, as well as the market perception of such diagnostic technology, which is the only one in the field of complex diagnostic imaging characterized by a real-time nature [6].

III. COMPANY GLOBAL MARKETING GROUP ORGANIZATION

The Global Marketing Group, in the 3-year temporal scope of this paper (2014-2017), was organized according to a matrix structure per System/Platform and per application (Product Marketing for the High-End;

Product Marketing Mid-End, Low-End and Portable systems; Application & Educational Marketing) plus two Groups, which worked transversally regarding Marketing Operations (comprising also the MarCom function) and IQ (Image Quality). All these Groups were lead by a Chief Marketing Officer (CMO). Ultrasound product segmentation was based on system types, whether cart based or portable, and price range.

Application & Educational Marketing had the objective of ensuring strategic development and tactical execution of key Application Programs, thus to create awareness on the application benefits of the Company's technologies, and support successful application implementation; granting the correct implementation of downstream marketing activities in order to maximize the results in each country by different application; providing expert sales support; developing train-the-trainer programs to ensure the implementation of training sessions on products for the local trainers and their sales forces; maximizing product knowledge and information uniformity across countries; managing the International School for customers and the end user education and training.

The Application & Educational Marketing Team was composed of 4 Experts plus one Functional Manager, interfacing with 27 Local Marketing and Application Specialist Managers organized in 11 Countries/Regions.

Regarding the Application Specialist role, Ultrasound Imaging is a technology, which usually has to be demoed in order to close the sales process. Application Specialists are the Experts supporting the Sales Team in this activity.

A. Application & Educational Marketing: Main Duties and Activities

The Application & Educational Marketing was shaped with three main duties (transversal to all applications and related to all products) in terms of:

- Strategy;
- Education;
- Content creation.

The main activity related to the Strategic approach of the Marketing function was the Application (Needs) Roadmap, covering 3 to 5 years of application strategy.

A Team of five people carried out the activities with four Application Experts organized per main application:

- General Imaging (GI) & Interventional Expert (where GI is related to Radiology, Urology, Endocrinology and Senology);
- Cardiology & Vascular Expert;
- Point of Care (POC)/musculoskeletal (MSK)/Rheumatology Expert;
- Obstetrics and Gynecology (OB-Gyn) Expert

The team was managed by an Application and Educational Marketing Manager with specific duties covering also special projects regarding system and probe Ergonomics, Design and Workflow issues (a topic of special interest among sonographers in North America, but recently gaining increased attention WW).

The scheme of interactions and information shared among the different roles at Global and Local levels can be summarized as follows.

Product Marketing Managers - interacting mainly with Business Directors and Country-Area Managers for the discussion and planning of numbers/Budget (Number of systems/Average Selling Price – ASP/Product Mix);

Application & Educational Marketing - interacting mainly with Local Marketing Managers in order to set up application strategies according to where the above-decided numbers/Budget had to be achieved, and according to the terms of the offer. “Sales Top Gun & Sales Navigator” was a series of courses and related info material (as background knowledge transfer and to be used during the sales process) supporting the sales people within the sales processes. Specifically, the “Sales Top Gun” was a collection of structured information regarding Market overview - Competitors, Portfolio and Advanced Technologies analysis - Available Resources Guideline; the “Sales Navigator” was a collection of structured information about Everyday Technical and Application resources for Sales people (“Sales Top Gun” and “Sales Navigator” were internal names, not advertised publically outside the Company). Application & Educational Marketing interaction with Local Application Specialist Managers served the purpose of ensuring a general alignment at the tactical/field level for product and application presentation and related activities.

Different streams of interaction, input/output and occasions for discussion were needed in order to ensure strategies, tactics, and activities alignment between the Company Sales and Marketing Departments.

The outcome of the Application & Educational Marketing process was to obtain full Marketing and Sales alignment in terms of long-term strategy, and short to mid-term tactics over the whole Customer journey: the complete sum of experiences that a customer goes through when interacting with a Company/Brand [7].

Nevertheless, the definition of the Needs Roadmap and its continuous update is the main pillar represented by the outputs of the Application & Educational Marketing group, representing its most important Strategic activity, just below and deriving from the Company Vision and the related Company Strategy.

The Needs Roadmap was achieved (and updated, on a Revision-based approach) with interviews to customers and non-customer, Key Opinion Leaders (KOLs – “Influencers”), Market and Competition analysis, technical and application state of the art and tendencies analysis, as well as interviews to people on the field (Sales, Marketing, Application Specialists). The outcome was the “Needs, Trends and Tendencies” Roadmap (more commonly indicated as “Needs Roadmap”), which sustains the Product Roadmap: needs tracing the path for solutions.

The Needs Roadmap represents a pillar between and within the Company’s Vision/Strategy and the Product Roadmap. It represents the fundamental basis, as well as the interface from which the inputs are coming and to which the outputs/changes/updates/limitations have to be compared to and re-evaluated.

In a B2B multi-interface purchase process such as the one for Diagnostic Ultrasound systems (within large

Institutions, Clinics or Hospitals), many actors are involved in the purchase process:

- User – the operator of the system;
- Customer – the final decision maker;
- Technical/Engineering – analyzes and evaluates the system from a technical, installation, management and service perspective;
- Finance/Procurement Office – economical and feasibility of the purchase, capital equipment management, purchase, lease/loan options evaluation, etc.

Therefore, different customer journey touch points [8] should be evaluated based on the different actors involved in a sales process.

Considering the most complex, yet common, scenario, the Needs Roadmap must evaluate all the actors and perform the perception, analysis, definition and prioritization of the different Needs and Tendencies/Trends for all those different actors.

The Buying process for Diagnostic Ultrasound in Hospitals, Clinics, large Institutions, where more Departments or “Actors” are present and active within the Buying Process, may involve everyone listed above (user/customer/finance/Technical-Engineering).

On the other hand, in private practices the buying process is condensed in the interaction with the only “official” actor present: the customer.

IV. METHODS AND WORKFLOW TO DETECT AND ANALYZE THE NEEDS, TRENDS AND TENDENCIES CONSTITUTING THE NEEDS ROADMAP INPUTS

The methods, techniques and “workflow” implemented to detect and analyze the Needs (expressed, unexpressed, not understood; by the customer/user, by the Market, Marketing, etc.; just touched on/at their embryonal stage) were the following:

- Interviews and Direct observations to users/customers of the Company systems (comprising also the customer survey conducted after product installation and use, as well as the more general post Market surveillance process outcomes) to see the real life/world/workflow;
- Interviews and Direct observations to users/customers of Competition products;
- Interviews to the possible (stakeholders)/actors present within the purchase process (indicated as “purchase” and not “sales” process to re-focus, also here, on the customer’s point of view) – user, customer, technical-engineering, finance/procurement office);
- Interview to non-users of the considered products (neither from the Company, nor from Competition) in order to have insights on “why-not-used”;
- Market analysis - Market intelligence and experience/network-discussed/weighted information/insights;
- Competition analysis (direct/applicative and indirect/technical);
- Company performances and history/tendencies analysis (and best/worst case scenarios) using

Internal Business Intelligence (B.I.) as well as Customer Relationship Management (CRM) systems;

- Overview and review, filtering and analysis of the inputs coming from tenders with tender office/experts/sales managers: technical, performance, service and/or economical-finance needs;
- Technical trends/innovation monitoring/state of the art analysis-updates (literature, technical societies, conferences, patents) performed with R&D:
 - Networking with technical journals reviews and Universities/third party research institutions;
 - Update and review/overview of granted programs (public);
- Application trends/guidelines monitoring, review of the literature, guidelines, conferences, educational events, networking with KOLs-Influencers (especially if involved in writing and reviewing the guidelines); application journal reviewers, hospital-universities-large clinics/groups;
- Interviews and continuous update to Company personnel on the field (Sales, Marketing, Application Specialists), as well as back office and sales support.

The inputs, trends and tendencies collected in the above list were placed comprehensively within a shared structured Document and a dedicated explanatory Presentation summarizing and graphically representing the current situation, the expected future scenario, the targets per application in terms of performances and tools, and the actions planned or needed to fill the gaps over time.

The above listed interviews (and, more in general, the whole Needs Roadmap analysis and definition process) were not performed solely once but it has to be intended as a continuous update, delivered via a review-based approach, where the material is updated at particular planned time lines, while the Needs Roadmap is re-analyzed and re-shaped.

Keeping trace of the different reviews in chronological order was a must, enabling a logical base to show also its evolvement over time, and brought about by changed external/internal scenarios. Such workflow was useful when recapping decisions already made, as well as when having to make decisions/prioritizations in a scenario that is similar to what had already been experienced in the past in a comparable application on a different product segment. Moreover, it was a valuable “historical memory resource” to be reviewed in case of incomprehension, double checks and/or major review processes.

V. OVERVIEW OF THE NEEDS ROADMAP

The Needs Roadmap provided by the Application & Educational Marketing was:

- A Worldwide scenario summary of the application situation and trends;

- A picture of the Company situation today in the different Countries;
- A proposed path for the Company to grow in terms of Sales and Branding per Application.

The Inputs, Analysis and Outputs of the Needs Roadmap was constituted by:

Inputs collected - Actions done to understand where we are and where we would like to go:

- Worldwide Market Scenario about the most commercially interesting applications;
- Company Market presence per application per country;
- Company Country survey & Direct discussions and meetings with Local Marketing/Sales;
- Competitors' application presence and activities/tendencies;
- Interviews to MDs, Key Opinion Leaders (KOLs or «Influencers»), Sonographers, expert and non-expert US users (WW);
- Analysis of Application Trends WW – Short, Mid and Long term per application;

Analysis and Output - Outcomes in terms of proposed Needs Roadmap:

- Where we, the Company, were at the time of the Needs Roadmap definition – Company scenario per application – (integrated and supported by a SWOT analysis per application);
- Needs Roadmap proposal - 3 year view –Targeting, Positioning, Value Proposition, Marketing Mix & KOLs/projects list per application.

The Analysis and Outcome of the Needs Roadmap was structured as a matrix having the topics indicated in Table 1, to be decided and covered, per application.

TABLE I. OUTCOME MATRIX OF THE NEEDS ROADMAP

1. Application needs	X	1. Application 1
2. Positioning		2. Application 2
3. Product		3. ...
4. Promotion		4. ...
5. KOLs (project/ status)		5. ...
6. Targeting		6. ...
7. Price		7. ...
8. Point of Sales		8. ...
		9. ...
		10. Application n

Specific additional topics of the Needs Roadmap listed here, comprising both additional inputs and outcomes, were:

- Inputs from technical-application scenario (R&D) – to know today what Competitors may propose in the near and mid-term future;
- Inputs from Application Guidelines (Application & Educational Marketing and Medical Affairs) – to know Application Guidelines active today and what is in discussion/to be active in discussions.

VI. DISCUSSION AND CONCLUSIONS

To summarize, the Needs Roadmap is a living Document with a 3 to 5-year coverage/plan consisting in the definition and prioritization by relevancy and

importance of inputs, whose main characteristics, contents and interactions are graphically represented in Fig. 1.

The method described has a logical base for each step, which can be evaluated and weighed. Prioritization is done first and foremost on a long time frame basis, then for the mid and short term, starting from the Vision and Mission of the Company, then arriving up to the Action Plan (Tactic implementation): the Needs Roadmap is therefore between Vision (World of the “Ideas”) and Action Plan (Tactic originated by the Strategy, disclosed and implemented).

The updates, changes, “reductions-discounts”, re-working (if any) performed on the Product Roadmap (and its contents) must always be evaluated and re-evaluated in light of the analysis performed on the Needs Roadmap.

An additional bonus of the Needs Roadmap Method is that the “reason why” of any action is always stated, thus “naturally” enabling an engaged and self-propelling attitude: knowing “why” the related and following needed activities are better understood and therefore performed in a (possibly) better way.

The Needs Roadmap has to be at the basis of the (strategic and tactical) evaluation process for the product/“service” roadmap. Strategic (here named Application & Educational) Marketing is the driver of the flow/method of the Needs Roadmap, followed by Product Marketing. This Method also enables other functions (R&D, Medical Affairs, Sales support, Tender office, etc.) to update themselves, therefore to have a self-propelling attitude for innovation/networking/collaborations, devoted to a better delivery as a consequence of a better scenario and understanding (or even perception) of the “reason why” at different levels and from different viewpoints.

The “service” mentioned above is not solely considered as the technical and after sales one, while considering the cases of a meaning shift (even if, specifically referring to the Diagnostic Ultrasound Market, the compartment is experiencing a fast shift from a “pure” B2B to a more B2C-price oriented Market, at least for the Mid-Low End and Portable Segments) to a bundling offer constituted by the product, the related knowledge transfer and training, which can be presented together, the technical service contract accompanying the proposal, as well as the leasing contract completing the scenario.

The method here described avoids also short timeframe-only driven decisions and implementations, as it forces a longer time frame “horizon” when planning the Company’s short, mid and long temporal horizon Market delivery and scenarios.

The main conclusion behind focusing on the Needs Roadmap was to start from the needs and not from the solutions: to focus on what we can solve, well before focusing on what we are able to do. The Needs Roadmap was the “place” where the Strategy was “practically” available. From a theoretical point of view, the Needs Roadmap output is the Solution Pipeline, not the Product

pipeline. The Needs Roadmap, therefore, sustains and helps defining the Product Roadmap.

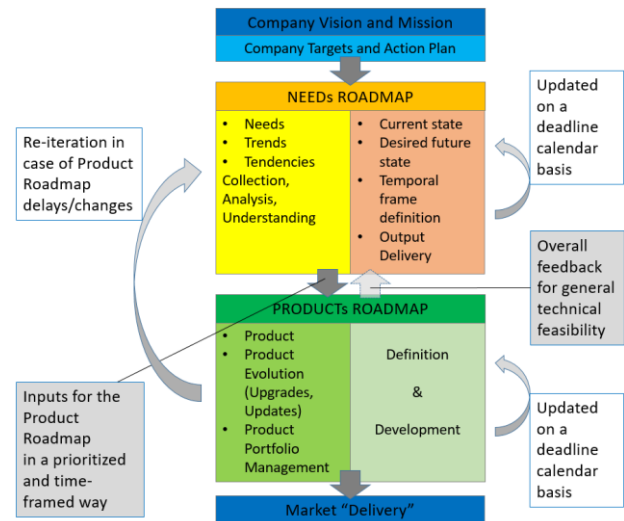


Figure 1. Schematic view of the main characteristics, contents and interactions between the Needs Roadmap and the Product Roadmap.

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