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Abstract

Organizations are continually looking for ways to differentiate themselves from their competitors in a continuously and increasingly harsher competitive environment. Consequently, the sales force needs better, faster and uniform information about its customers and any relevant developments that occur.

CRM, being, in particular, a part of sales force automation (SFA) systems are focusing on improvement of the productivity of the sales force, by automating parts of the company sales process, mapping and visualizing these processes, guiding sales force and making them more efficient.

Currently, as DataArt is facing challenges in increasing win rates, focusing on higher deal size, SFA and CRM become a crucial part of the company. I fully understand that there is no direct link between the increase of the sales rates and CRM efficiency, but at the same time, negative effects are too evident not to be recognized.

The objective of this study is twofold: to show the impact of product development practices to sales automation and CRM development, and to emphasize the impact of Sales Operations as a discipline to DataArt sales processes and pipeline management. I hope this study also will contribute to providing a better understanding of the role of Sales Operations (S&Op) as a determinant of sales performance and enablement. I decided to focus on the Lead management in the first place not only because of the criticality of the higher part of the sales pipeline to general sales forecast, but because at the middle of 2018 DataArt haven't established company-wide lead management approach, thus creating a critical gap, that I as Sales Operations Executive, had to eliminate first.

INTRODUCTION

Today's business environment is complex and requires faster decisions, better allocation of scarce resources, and a clearer focus. Salespeople are no longer selling just a "product"; instead, they are providing a valuable "solution" to customer problems. DataArt paradigm is not different – our Engagement Managers (EMs) act as consultants or experts to provide customized solutions or complex services to our customers.

However, as we move deeper into the 21st century, many companies begin to struggle with the implementation of sales force automation (SFA) tools because of higher standards to information and knowledge exchange. According to HubSpot annual overview, 22% of salespeople still do not know what CRM is, and 40% continue to use natural methods like Excel sheets and email programs to store customer data. [1] Even more so, according to Gartner, a CRM vendor selection has little to do with success – its likelihood is far more dependent on how the CRM is implemented.

The most considerable obstacles to successful adoption were found to be in the lack of clearly defined CRM strategies, bad company politics, or, in most cases, cultural resistance to change. Whether at the enterprise level or in mid-market, there is a lack of fundamentals such as CRM mission, vision, and most important of all, the involvement of all stakeholders in the planning stage; all often overlooked during planning and implementation, and that is where the core problem lies when CRM adoption rates are low. [2]

Distressingly, DataArt in 2018 demonstrated all symptoms above, which led to shallow SFA/CRM adoption rate, and multiplied by company organizational structure, with highly independent Sales and Production offices, introduced quite a challenge, both strategically and tactically.

To tackle these challenges, newly appointed Chief Business Development Offices and Head of Sales, decided to introduce the position of Sales Operations Executive, as well as Sales Operations function/discipline. Sales operations were envisioned as an essential ingredient in sales force success because of the growing demand for data analytics and process optimization.

Being a product consultant in DataArt Financial Services, and playing Delivery Management role for product-based solutions, I decided to join the team and applied for the position – and starting from June 2018, I have been in charge of all sales technical tools and systems, including data storages, and internal CRM support service team.

Being a product (or solution consultant, how we call it in DataArt) I had multiple successful cases of product management principles application (facilitation sessions, jobs-to-be-done and custdev interviews, etc.) – and where we, working along with client stakeholders or subject matter experts, were able to analyze, define and build complex solutions, with adherence to time, scope and cost requirements. That is why I saw obtaining Sales Operations position as a part of Product as a Service Initiative expansion, aimed to deepen company knowledge of product management techniques and best practices, strengthen our onboarding and knowledge sharing initiatives and provide an example of proper set Agile delivery processes.

HOW TO IMPLEMENT CHANGE?

My study in the MSTM program provided me with the understanding that implementing any new process should be completed through a structured methodology and has clear and measurable results. It is crucial that the change process is effective quickly and cost-effectively. Using outcomes of Digital Transformation approach by Deloitte, I have indicated the key stages, which are captured in this paper, as follows:

1. **Assessment. The following areas are assessed in detail:**
    - Lead Generation
    - Salesforce automation (SFA) tools and processes
2. **Process Creation**
    - Introduce a repeatable process (lead management in our case) which ensures the sales team excellence

- Create a vision of internal sales tools which assist the sales team move the prospect through their buying stages

3. Implementation

- Creation of a set of Key Performance Indicators and agreed measurement criteria which is easily accessed and reported through existing tools
- SFA/CRM implementation and policy creation
- Implementation of a sales training program

CHAPTER I. HISTORICAL KEY CHALLENGES FOR DATAART SALES FUNCTION

1.1 What is DataArt?

DataArt was started in 1997 in New York as an IT advisory and development services firm. After the 2001 internet downturn, the company adopted a strategy of building technology and domain expertise in a small number of key industry segments. By becoming an IT consultancy with both technical and business knowledge, DataArt aimed to help clients with end-to-end services, from ideation to design, development, implementation, and support. With 2500+ full-time staff and 20 locations across the globe, to work efficiently, the company supports a flat structure, where production/development offices are quite independent.

Thus, historically DataArt has been developing, while split into industrial verticals. Each vertical or “practice”/industry segment has its process and approach to business development. Furthermore, each location has got its geographical and national specifics, often heavily driven by the personality of the office head.

Such diversified environment and absence of single decision center help development center to flourish by adapting to the national or geographical specifics, but from the other side, every transformation becomes a challenge, be it a policy change or new tools adoption.

On the current stage, the low level of business flows standardization makes DataArt further growth difficult, more risky and inefficient.

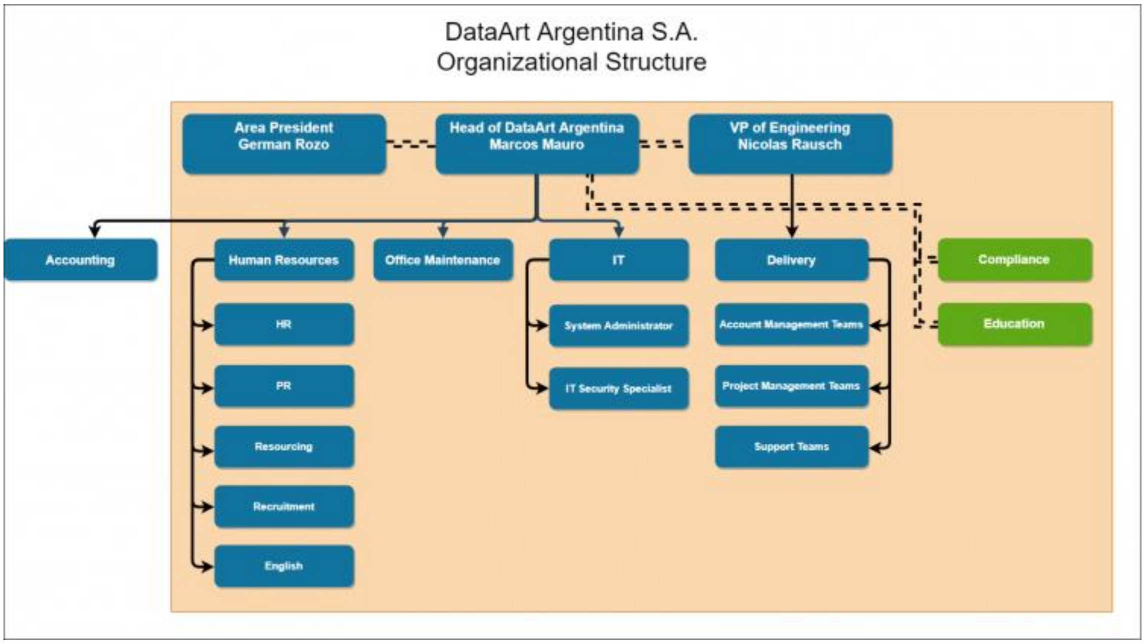


Figure 1 Office organizational structure (DA Argentina)

1.2 What is "Sales" at DataArt

- **New Sales**: Signed MSAs AND SOWs with new clients, with revenue received during the budget year (now same as calendar, starting from 2019).

- **Total Sales:** New sales plus the expansion of existing projects or new projects from existing clients. Delivery Managers (DMs) play a particularly critical role in existing project expansion.

- **Current Sales department organizational structure**: Sales generally occurs at the practice level, with some regional sales professionals working across practices. Many Engagement Managers (EMs) have part-time sales responsibilities in addition to assigned accounts. Solution Architects, DMs, practice-level marketing teams and others as needed, support sales. Until the beginning of 2019 – no dedicated sales force. Overall, DataArt established 4 Sales offices: 2 in the USA (Dallas, NY), 2 in Europe (UK, Switzerland), all highly independent, with Head of Office playing the significant role in sales enablement.

- **Marketing** as a function works as sales/EM support, creating business cases and keeping materials up to date across the practices.

1.3 General observations and challenges, by the new Head of Sales

- Average CAC (Client Acquisition Cost) is quite high -- $87k/new logo. Ideally, CAC/LTV should be <.5, and always less than 1. Currently, a new client needs to generate $650k gross revenue over five years to be "worth the acquisition investment."
- YoY decline in High Value "Golden" opportunities from 39% to 19% points to challenges around GTM strategy, positioning, opportunity targeting and indirectly, to productivity.
- UK versus US opportunity $ ratios (40% versus 44%) points to a combination of UK strength and challenges in the US GTM/Sales approach.
- Company positioning, messaging, presentations, and proposals need to evolve. Develop tools and standards for presentations, projects, engagement, responses, etc.
- Lead, Opportunity and Sales strategies should be refined – focus on the right accounts and engagements; adequately support sales efforts (staffing, quality proposals, etc.); implement CRM-assisted lead and partner nurturing

1.4 Evolution Strategy (presented in August 2018)

1. Build and institutionalize baseline sales tools and practices.
2. Develop Sales Operations competency within the organization
3. Create, codify and institutionalize sales processes across practices and regions.
4. Enhance DataArt positioning, presentation, proposal standards.

5. Indicate sales pipeline metrics. Create, update, disseminate and use key reports, based on KPIs, etc.
6. Institutionalize pipeline reviews at regional, practice and global level
7. Develop rigorous internal sales education curriculum and mentorship program.
8. Strengthen EM/Sales team with new (from the market) sales representatives – 10 sales generalists will be hired during 2019.

Main guidance principle for tools and sales systems support was defined as following: **Sales systems (SFA) should DRIVE success,** making the lives of sales professionals easier and more productive, and making the output higher quality with a greater close rate.

Low sales technology adoption rate as a major risk.

To fully realize the ROI potential of technology investments, direct sales organizations must first be actively engaged in the regular use of their sales processes before the technology is deployed [4]. Committed sales leadership, solid technical deployment and a conscious strategy for change management have proved to be essential in increasing technology adoption, yet they do not guarantee success (Gartner, 2007).

To embrace new technology successfully, a Sales Automation toolset must replicate, automate, reinforce and communicate the organizationally accepted and practiced sales process. The process drives productivity and technology powers process. However, DataArt culturally considers oneself as process agnostic, not-hierarchical one, that increases the time to market heavily, especially considering the decrease in new sales as well as existing accounts stabilization.

Sales systems landscape in DataArt:

- MS Dynamics CRM on-premise (used by Sales, marketing and HRM)
- Activities sync tools (Riva, CRM plugins, CRM Bot)
- SalesBoard – frontend wrapper above the Dynamics CRM, to provide a more user-friendly experience

CHAPTER II. THE LEAD MANAGEMENT AS A PART OF GLOBAL SALES PROCESS.

Before acquiring or introducing a new SFA technology, as a Sales Operations, I had to:

- identify and document the core sales processes we wished to automate;
- inspect these processes and confirm that they are used regularly;
- configure its application into SFA to match current process maps.

Usually, sales process adoption is a prerequisite to technology deployment. However, in our case, as SFA adoption rate is generally low, we decided to introduce a new technological solution as an essential part of the sales process. As a trade-off, we expected the process of adoption to be longer.

Core Sales Processes

- Account Management: Standardized approach to the development, growth, and retention of long-term, highly profitable, customer-centric client relationships
- Contact Management: Tactics and strategies for developing, maintaining and leveraging executive-level decision-making relationships and successfully planning, preparing and executing the senior-level sales call
- Opportunity Management: A structured methodology for identifying, analyzing and closing complex, multi-decision-maker value-driven competitive sales situations as solutions or transactions

2.1 Why focus on Lead cycle management?

As was indicated and presented by the Head of Sales, all abovementioned core processes required a review and set of changes to increase the sales organization performance. However, as DataArt has not institutionalized a lead management approach yet, Sales Operations first task was to introduce one.

Even more so, according to several research papers, Lead cycle and Lead generation is crucial for healthy sales organization performance.

Sixty-two percent (62%) of respondents indicated that the need to increase top-line revenue was the most significant pressure driving changes in demand generation processes. This pressure leads to an equal desire to improve lead to sales conversion rates (cited by 55% of all respondents) and more efficient lead management processes [6].

Also, Aberdeen Group research uncovered three critical components that are incorporated into Best-in-Class lead management processes. This "trifecta" of strategies and capabilities empower sales and marketing functions to maximize revenue and generate far more leads than all other organizations. (See fig.2)

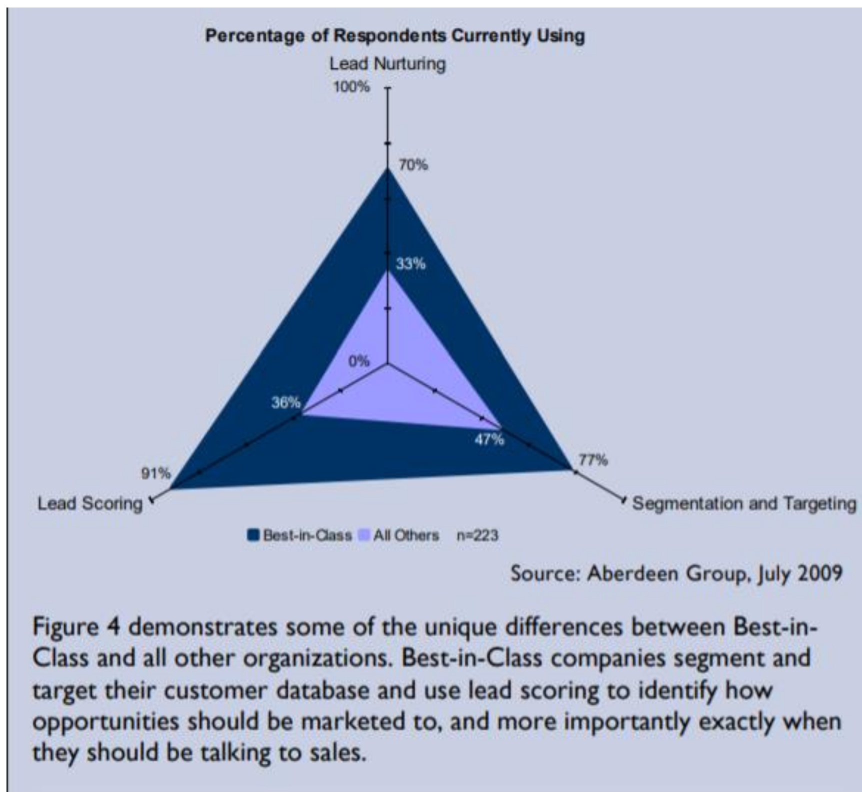


Figure 2. Key Capabilities for Successful LLM

The systematization of the processes governing Lead activities is seen as a key to improving the effectiveness and efficiency of the firm’s sales by other researches. In fact, not all customers are equally valuable to the firm in terms of sales or profits, whereby a key goal is to specify different resource allocations for different types of customers and whereby the economic value of the customer essentially determines the customer's type to the firm. With customer acquisition rate growing higher, introducing proper lead management and qualification, the process is essential.

The customer acquisition process, according to key sales activity impact research (Parvinen, Petri & Aspara, Jaakko & Kajalo, Sami & Hietanen, Joel. (2013), has a significant impact on profitable growth among the B2B service companies, DataArt being one of them.

Specifically, the research emphasizes the general benefit from more systematic and arguably extensive pre-analysis of customers and prospects. Pre-purchase phases are and should be, longer and deals more extensively considered (Moncrief and Marshall, 2005) in service selling. As the initiation of long-term relationships leads to customer/supplier-specific investments and termination clauses, more deliberation on customer selection is needed in the pre-phase. The increased risk from termination also means even more time spent on operational planning and predetermination.

2.2 Sales Process Mapping exercise

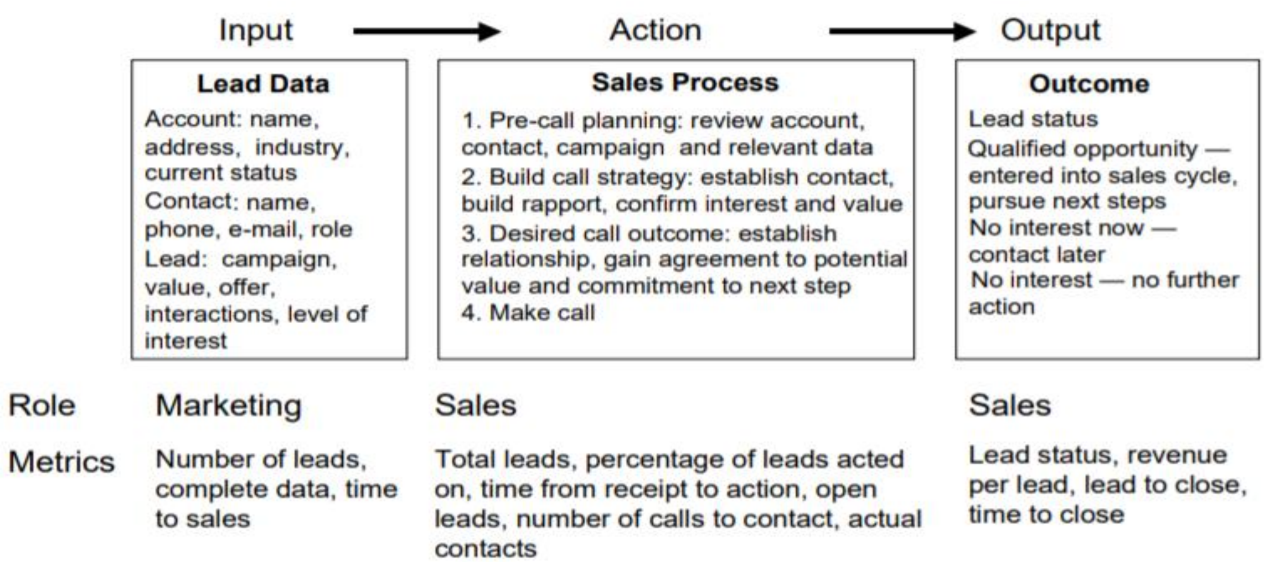


Figure 3. Sales Mapping outcomes, diagram example.

Sales process mapping is a conscious effort to define the data input, actions, and output of each sales process. It specifies the roles, their responsibilities, and the appropriate metrics. First broken down by individual processes, which are then linked together and integrated, the sales process becomes a road map to achievement for all sales [5].

A process map defines the data elements from the enterprise, such as name, address, phone number, historical revenue, order status or installed products. It also identifies the sequence of actions or activities to be completed and then generates an outcome that will initiate the next event (lead qualification into opportunity). The output of the process, such as a status change in the sales cycle, additional product interest, and revenue potential, creates real-time intelligence that is tactically used by the salesperson to advance the opportunity. When captured and shared through technology, it can be leveraged by the enterprise to increase market visibility.

For example, in a simple process to forward leads to sales from marketing, the data required from marketing is the lead name, company, as well as the area of interest (description) or promotion that attracted the prospects' attention (lead source data). Sales took the steps *(see Figure 3)* are to contact the prospect, confirm interest, identify a business opportunity and arrange for the next level of interaction, be that a face-to-face sales call or additional information with agreed-to follow-up steps. The positive outcome of this process is to advance the lead as a qualified opportunity, which results in its entry into the sales cycle, or, negatively, the reason for the dismissal of the lead.

2.3 Lead Lifecycle Management in DataArt

Lead Lifecycle Management (LLM) creates a seamless flow between marketing, sales, and service to maximize the number of sales-ready opportunities; whether these come from newly acquired logos or existing customers. It is not completely fair to insist on completely lack of thereof in DataArt, but lack of understanding of leads as the part of the sales cycle was evident, as well as lack of proven and agreed approach.

The complexities of nurturing and driving sales opportunities across marketing, sales, and customer service demand required a more structured approach to lead management.

Leads in DataArt CRM/SFA tools

Microsoft Dynamics CRM was introduced earlier in 2010, and until 2018 got more or less stable adoption within Business Development part of the organization. However, existing pipeline covered only last funnel stages, focusing more on the Opportunities (see fig. 4) and associated stages. Without dedicated sales force, one of the main sources for business growth is upscale (more than 50%), and existing accounts nurture and expansion, with minor or no existing marketing efforts in forms of mass mailing campaigns and events support.

As of the Lead stage and conversion rates, without a single policy of lead qualification, practices tend to measure new contacts and accounts as leads, or by creating an "early stage opportunity" that never matured enough to become a deal.

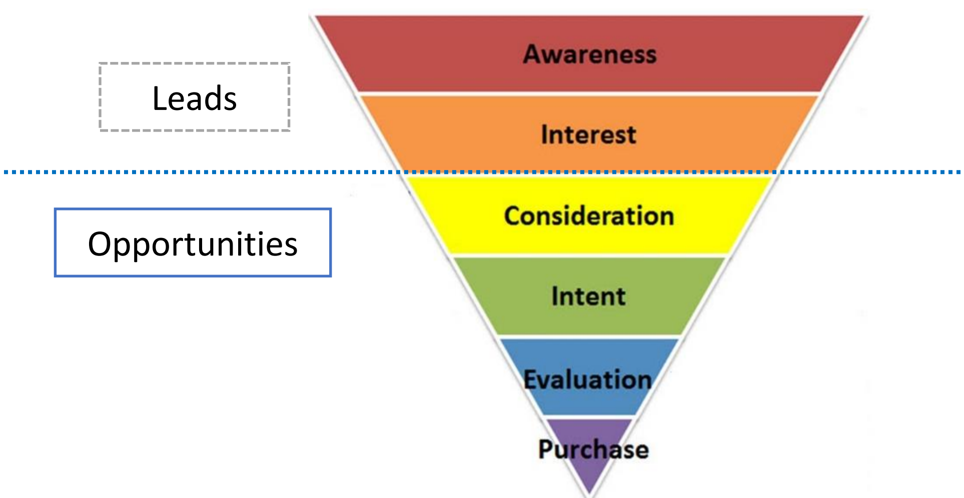


Figure 4.CRM and Sales Pipeline. Until 2018, lead as an entity does not exist

Lead as one of Contacts or Company/Account States.

- When Sales or Marketing person create a Company (Account), one of the Company entity attribute (Type) gets “Lead” value and actually remains the same all the time after.
- Additional attributes are used to show the additional property – Status: [Cold, Warm, Hot]. When it comes to the Sales Board, another status appears which is “Relation Stage.” This Status has such values (Prospect; Client; Ex-client).
- There are more than 5000 Companies with Company Status = “Lead.”

2.4 New approach to Lead Cycle Management (and mapping outcomes)

As a Sales Operations, I engaged our Head of Sales Offices and practice (vertical leaders) in individual process mapping sessions, to create a solid understanding and transparent, easy to understand, new scheme.

To prevent relapse, I applied the following principles to the outcome:

- Naming convention, even followed by descriptions, should be as transparent as possible and correspond to the sale situation, or a common business case.
- All previous statuses and CRM entities have to be aligned with the new process, to prevent further inaccuracies in data. Only one entry point exists for lead management and creation.
- The available amount of lead statuses, or stages, should be limited.
- Lead and Contacts to be considered different objects, and a person’s information should be stored in one or the other but not both simultaneously – so considering lead entity attributes we should focus on the unique ones.

Lead statuses and SLAs. Triggers to state change

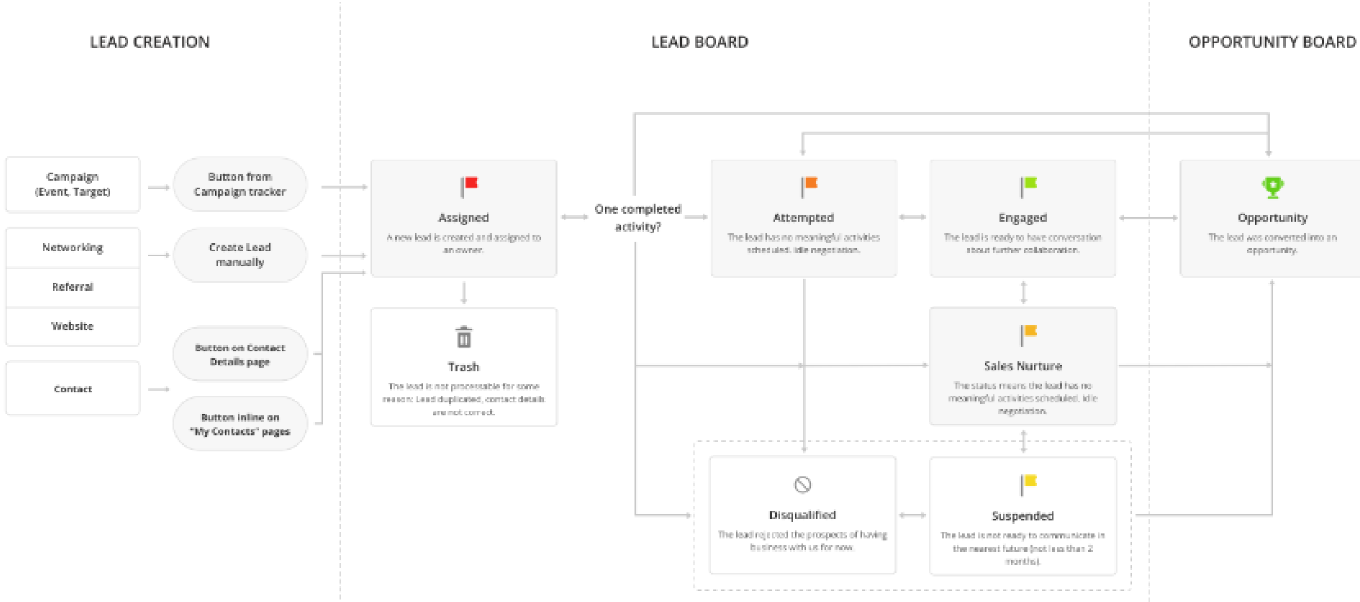


Figure 5 New Lead Management flow with statuses

Lead Status: Assigned.

Corresponds with Open status, but as we are introducing new definitions between Marketing qualified lead (MQL) and Sales qualified (SQL) one, from the cycling perspective, we do assign a new lead to the sales representative. General SLA for lead to be in this state is 24-32h. The idea is to bring to Sales attention that a new qualified lead needs processing.

Lead Status: Attempted (to Connect)

Indicates that lead was processed and any type of activity to engage with a prospect, was made. Usually, as soon as any type of activity (call, email, appointment) was registered, the SFA tool should assign this status. We do expect Sales to enrich the lead data with important details to track the qualification process (BANT, see below). In this stage lead is likely to live for two months (without any updates) or 3-5 unsuccessful contact attempts.

Lead Status: Engaged

Indicates that Sales not only established a dialog but started to warm it up – this status is considered as pre-Opportunity (pre-qualified). On this stage is important to cover at least 3 of 4 BANT required attributes.

Lead Status. Nurture.

Despite efforts of the Sales rep, or Marketing departments, some of the leads require more actions to warm it up to the qualification. We recommend to reconnect with such prospects every month, as well as making them part of direct mailing/marketing campaigns to create awareness.

Lead Status: Suspended.

The lead is primarily being engaged through long-term nurture, and there is no active engagement from sales. Leads are placed in this status by an automation rule after a specified timeframe after typically six months. We recommend lead owners to reconnect with such leads once in 6 months or at least, annually, to define if there is a possible business for us.

Lead Status: Trash (Rejected). An MQL that was rejected by inside-sales before engagement, after assignment. Reasons for a lead to be rejected include no contact information, competitor, misrouted, etc. Leads that are rejected are reviewed by Sales operations to improve the statuses definitions.

Lead Status: Disqualification.

A lead that inside-sales or direct-sales engaged or connected with, but which the sales team has determined to be non-viable. A conditional field is to be used to capture the disqualification reason. Disqualification reasons include: unable to reach, no interest, not ready to buy (in timeframe defined by the company), went cold (aka stopped responding), etc.

2.5 Lead qualification process

The BANT system, initially created by IBM for their sales team, provides a simple way to qualify the leads who were most likely to buy and disqualify the ones who probably would not – that's, obviously, one of the goals we decided to pursue. Earlier lead identification as disqualified helps sales team focus and, in the end, decrease CAC.

Here is how it breaks down – the process requires least three first parameters to be defined before the conversion occurs:

- **Budget (mandatory).** If our prospects have no budget for our service, then they can't become a customer. This doesn't necessarily mean that the budget won't come along later, but it means that this person is likely in the beginning stages of the buying process and not ready to make a purchase.
- **Authority (mandatory).** The second key to this system is confirming that the person we are speaking with actually has the authority to buy or identify that person within the organization.
- **Need (mandatory).** Does the person or company have an actual need for service that we are selling? Have they identified that need internally?
- **Timeline.** We do recommend identifying it as well, but the average cycle time for an opportunity is high, and our customers also know that despite the project was budgeted and SoW signed, an actual start might be delayed. By default, we treat this like 12 months from the initiation.

CHAPTER III. PROBLEM DEFINITION AND CURRENT SFA SOLUTION ANALYSIS

3.1 Problem definition from the current CRM/SFA perspective

As a Sales Operations, jointly with Head of Sales and using Sales/Lead mapping process and multiple interviews, I defined major issues and requirements, which CRM system should be addressing:

- Fully support a new lead management process by visualizing and guiding all user types, engaged in the lead generation activities
- Eliminate difficulties in measuring and managing the activity tracking
- Establish proper source definition and their recognition on early stages
- Eliminate ineffective lead source definition and across the different sales channels.
- Take into account the restricted type of technology solutions that the DataArt could implement or adapt due to the large and distributed branch network with limited communications and security restrictions
- Provide technological means to overcame general DataArt low SFA/technology adoption level

3.2 Technology Acceptance model

The Technology Acceptance Model (TAM) is based upon the theory of Reasoned Action (Ajzen and Fishbein, 1980) and is the most widely used theory explaining technology acceptance. TAM (Figure 6) is concerned to be a successful theoretical model in helping to understand and to explain the use of behavior during the implementation of SFA.

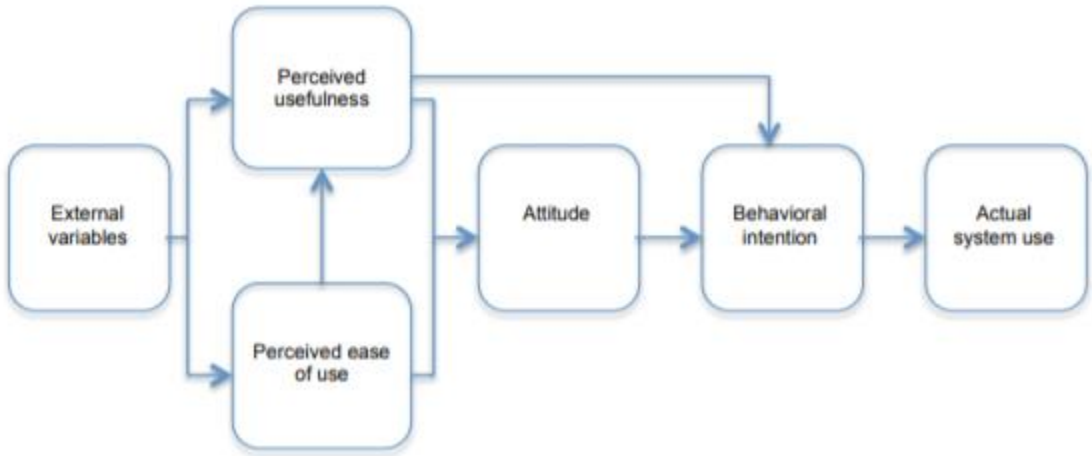


Figure 6. Technology Acceptance Model (TAM)

According to TAM, usage behavior is determined by intentions toward system usage. These intentions are based on two related beliefs; Perceived ease of use (PEOU) which refers to the degree a salesperson encounters his or her use of SFA to be free of effort, and Perceived usefulness (PU) which means how the salesperson considers the SFA to be useful. PEOU influences PU because the easier the information system is to use, the more useful it can be. Key points in TAM are the external variables, which consist of individual, organizational and social influences that affect usage behavior and provide a better understanding of what influences PU and PEOU. In DataArt, for example, one of these variables is company flat organizational structure, without a single decision center.

However, understanding the system usage extent is necessary, but it is not enough to produce value – researchers suggest the complex nature of system use could be better addressed by determining whether the full functionality of a particular system is being used for the intended purposes. Also, it is necessary to find how salespersons are using SFA systems: for example, tasks related to customer relationship activities differ from the internal related tasks, such as administration, planning, and communication or reporting.

According to a recent InsideSales.com survey, sales reps only spend 35.2% of their time actually selling, with the majority of their day spent on administrative tasks, research, and other non-selling obligations. These can be things like:

- Logging activities and updating lead records in a CRM
- Looking up prospects' phone numbers before a call and writing up call notes afterward
- Researching a prospect online (i.e., finding their location, job title, and social media accounts)
- Emailing content to prospects depending on where they are in the buying cycle [8]

It means that working on the solution analysis and future vision; we should focus on not only external (customer relationships), but rather on internal activities and outcomes. New SFA deployments usually bring significant changes in the way salespeople do their jobs, so without the perception of real advantage, a sales force is less likely to accept the new lead management system and wholeheartedly use the technology.

To address this type of resistance, Sales Operations needs to clearly demonstrate the advantage(s) (e.g., more selling time, shorter sales cycle, less paperwork) of using the new approach over the current state [8]. To communicate value, and gather enough insights, Product development approach, with the Solution design phase, seemed to be the best way.

3.3 Internal Product development

From the classic PdM perspective, internal systems, as CRM or SFA tools, fall to "internally consumed software" if it does not generate revenue for the company; its primary users are employees or internal systems, and it meets non-strategic operational needs. In DataArt things get a little more complicated because employees can choose whether to use an internal system.

Key differences between internal and external product development

Cost Impact vs. Revenue Impact

Internal products are usually focused more on cost reduction and may or may not have a direct impact on revenue.

Efficiency Focus vs. Market Focus

Product managers for internal products usually focus more on aspects that improve internal efficiencies.

So the internal product development is characterized by those two major themes. Additionally, Product development processes are usually run by cross-functional teams that integrate the demands, needs, and limitations of a wide selection of product "constituents."

Second, the product development process embraces a wide variety of tools and techniques (disclosed in the next chapter). The integration of product development methodologies and technologies enables the enterprise to reduce a product's time to market ensures that the characteristics of the product match the needs of its intended customers.

Further, these two trends - an integrated team-based structure and an integrated approach to the tools and techniques of product development - are intimately related. The combined talents of a team and its ability to act concurrently, that is, to conduct multiple activities at the same time, are necessary support of an integrated process that utilizes a wide-ranging collection of development techniques [9]

Product development requires a position of the Product Manager, that was, in my case, combined with Sales Operations responsibilities. Main tasks that I had to perform as an SFA Product manager:

- Describe clear benefits to the individual user (not just the company), and get the word out for all stakeholders, subject matter experts (SME) and personas of influence

- Identify stakeholder delegates who will be responsible for ongoing evangelism, employee reminders, contests, and other ways to encourage participation. In my case – Practice Heads and Sales leaders
- Along with the technical team, create a sustaining engineering plan and end-of-life plan for the old approach, with backing from management, so that late-adopters will eventually have to get on board.

3.4 Solution design as a part of the Product development approach

In DataArt, the Solution Design phase, which usually precedes the PoC or MVP development, is its essence inherits the Design Thinking approach. If suggested to an external client, the service includes the whole creative process from looking at a business problem and **identifying a solution** in the form of a **software concept** to developing this initial concept through to actual **product development**.

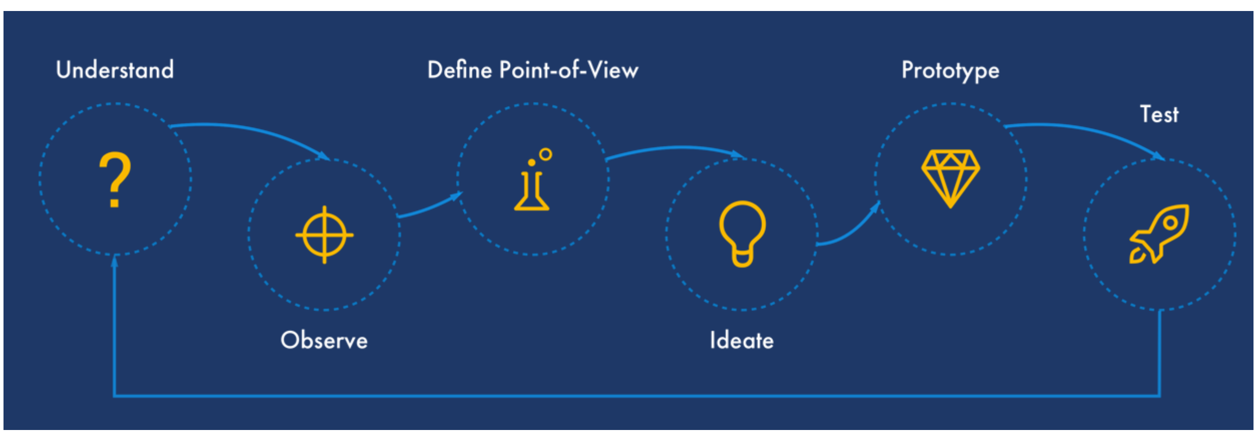


Figure 7. Design Thinking process

The Solution Design lays the foundation for the successful delivery of the first phase of the new Lead Management approach integration in the current toolset, and the subsequent evolution of the product.

The exercise, or, better say, set of practices, consist in discovery, analysis, estimation and planning, and prototyping for both the UI solution and to manage technical risk (proof of concept, or POC) if needed.

During this phase of the engagement, as a Product Manager, I had to create and lead the team, which will:

- Perform a deep dive into existing artifacts and processes, especially focusing on the user perception of existing SFA tools
- Run users analysis; user needs elicitation and customer journey mapping for key functional requirements and UX/UI decisions
- Analyze key business drivers and agree on success criteria for the project among all stakeholders
- Decompose high-level business requirements into a detailed list, perform initial estimates
- Identify key quality attributes for the system architecture

Solution design. Key questions

End-users

- Which tasks they do and how?
- What kind of problems they face while doing their tasks?
- Do any of those problems require real-time data or updates?
- What kind of datasets do they use?
- How big are those datasets?
- How involved are the calculations?
- What kind of data visualization capabilities are required?

Data providers and data consumers

- What kind of interfaces does CRM provide?
- Who are other data providers and consumers?
- What kind of interfaces does the platform need to provide?

Operations

- What kind of monitoring and control interfaces are needed?
- What kind of restrictions must be in place?
- Are there any data security requirements now or in the future?

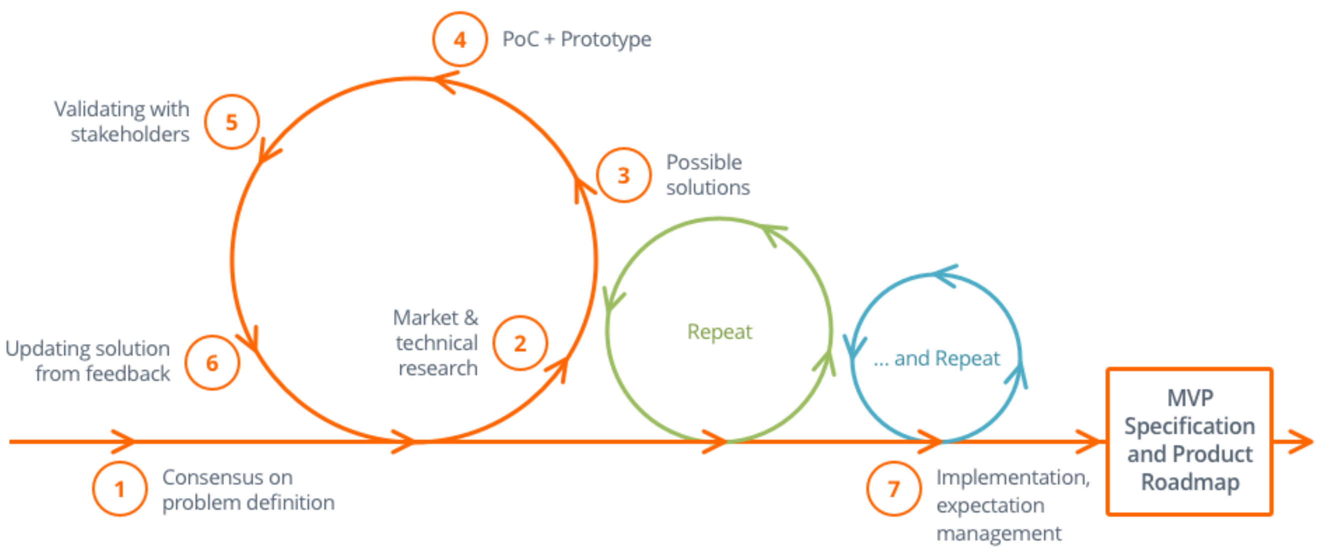


Figure 8. Solution design process

Key Solution design deliverables

- User types and detailed descriptions of the main workflows
- In-depth analysis of the existing system as well as a general understanding of the lead management approach
- Prioritized scope for the functional prototype delivery in 2018-2019
- Technical design document, including a. Architecture and modular decomposition of the system b. Agreed technology stack c. Integration approach for legacy application d. Continuous integration approach
- Visual concept and interactive clickable prototype

Solution design team composition (duration 5-6 weeks)

Role	Involvement	#
Software Architect	40-60 h	1
Senior QA Engineer	40-60 h	1
Product Manager	50-60%	1
Business Analyst	Full-time	1
UI/UX designer	Full-time	2

3.5 Analysis tools and techniques used during the Solution Design Phase

Target groups/Personas identification (extract)

A user persona is a representation of the goals and behavior of a hypothesized group of users. In most cases, personas are synthesized from data collected from interviews with users.

Head of Sales / Executive level users)	Rarely work with lead themselves, their main goals – planning, forecast and reporting on a company level, KPI revision, pipeline reviews, etc.
Marketing Coordinator	Work closely with Sales to enrich leads with data, can assign leads to sale representatives. Work on leads early stages (MQL), often do mass upload operations after major events or marketing campaigns.
Sales representative	Main user persona. Manage leads through the whole lifecycle.
Head of Practice	Closer to Executive level, but usually support Practice level sales, provide forecast and reporting on a Practice level, provide pipeline reviews for specified practice
Sales Operations	Work on a process level, check sales stages outcomes, track data quality, and investigate possible gaps. Rarely create leads.

JTBD interviews

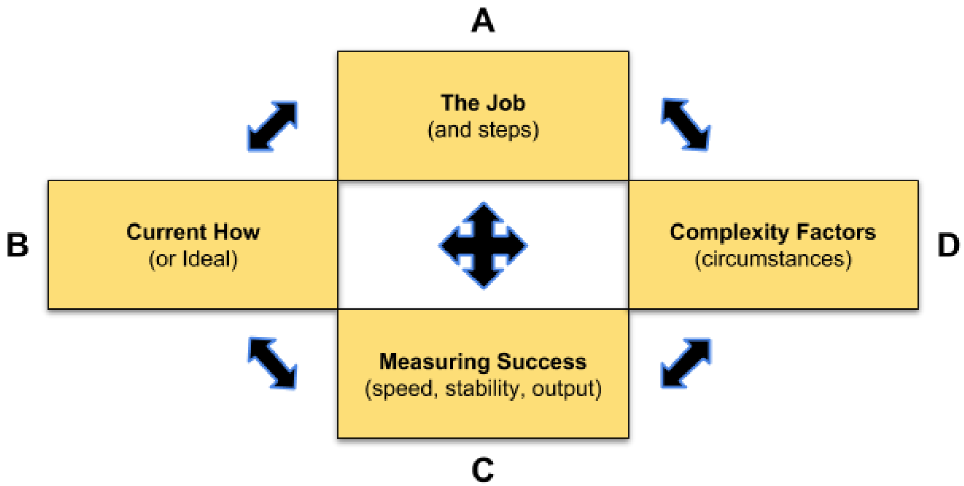


Figure 9. JTBD Interview approach

JTBD approach, provides with a stable model, through interviews, that describes a market, and reflects how that market defines value. Usually, interviewer follows a certain framework, or guide (see below), to define the **job** - a task that people are trying to accomplish, a goal or objective they are trying to achieve, or a problem they are trying to resolve. Instead of sticking to user stories on the early stages, I decided to use this approach to focus on the outcomes of the "jobs," to define a working scenario and understand our user's expectations.

- **Progresses the person desires.** Those are the jobs-to-be-done or how the customer wants her life to be different in a certain circumstance.
- **In what circumstances the person desires the progress?** When did the job arise for the first time? When does it happen? What triggers the pain or the struggle?
- **Which obstacles block the progress?** What are the forces that make people hesitant or unable to make the decision? What needs to be solved first?

These interviews are:

- performed with job executors (solution agnostic)

- investigations of a core job-to-be-done
- designed to uncover all needs across the job, not just current pain
- designed to uncover related jobs, emotional jobs, consumption jobs, and financial metrics
- designed to facilitate the search for unknown segments in the market to help job executors get more of the job done, or more jobs are done, on a single platform

Identified common scenario (used as a benchmark for further comparison):

User: sign into CRM -> Create New Lead -> Fill in General Information-> Fill in Company Summary -> Create Lead -> Fill in Stakeholders-> Fill in Activity -> Move to Lead to status "Engaged" -> Go to Leads Dashboard -> Find your Lead -> Move Lead to Opportunity (qualify)

Customer user journey

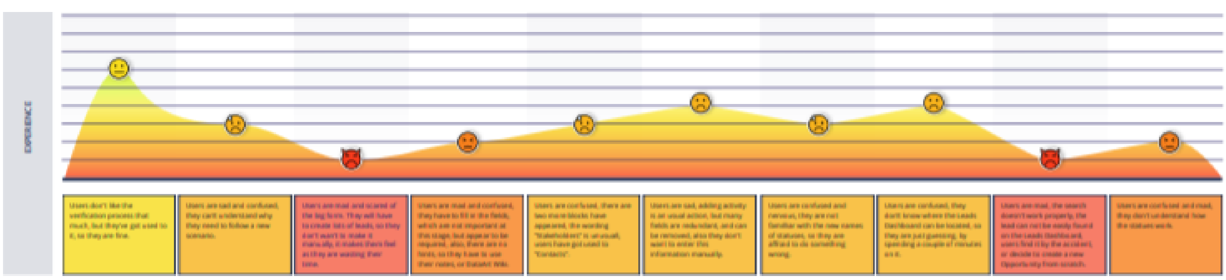


Figure 10. Customer user journey

A customer journey map is a visual representation of the process a customer (SalesBoard/CRM user) goes through to achieve a certain goal (Manage Leads). Our user journey map notes the channels in which these interactions happen, as well as emotional state/perception of experience.

Usability testing for the existing solution

The Usability Testing Procedure evaluated the Leads Management, as a primary goal, to indicate possible issues on Lead lifecycle, as well as other stages of system interaction.

Lead management initially consists of following interface options:

- Creating new leads.
- Tracking leads on Leads Dashboard.
- Editing leads.
- Managing leads statuses.
- I am converting a lead into an opportunity.

After an initial analysis of the interface of SalesBoard app we came up with three hypotheses that we wanted to test during further research:

- H1: How easy users would go through New Lead Creation flow.
- H2: How easy for users would be to find a Newly Created Lead.
- H3: How easy for users would be to convert a Lead into an Opportunity.

Based on the hypotheses mentioned above, the Product development team have come up with one use case scenario that was the foundation of our testing script.

METHODOLOGY

Remote Moderated Usability Testing — is a method of website usability testing when the user is in a different location to the researcher. A test can be moderated by the researcher watching and interacting with the test participant using internet screen sharing tools and a telephone connection.

Each usability test session takes approximately 30-60 minutes per participant and can be conducted via any other online meeting application, which allows sharing the screen.

Testing procedure:

1. A researcher with a facilitator role calls to a participant;
2. The Facilitator conducts pre-test interview by following a questionnaire, while another researcher with a note-taker role (from now on the “Note-Taker”) writes down notes;
3. The Facilitator provides a participant with the task, which is relevant for his role. Makes sure he understands it;
4. The Facilitator asks a participant to share a screen and start the test;
5. The Facilitator observes and moderates the test, while the Note-Taker fixates the user’s comments and progress.
6. The Facilitator conducts a post-test questionnaire after finishing the test.

Testing outcomes (see more in Appendixes)

3.6 List of findings

Lead (general)

Based on the collected data, the Solution design team has built a schema of user flow, which displays the main tasks of each role on every step of the lead management process. Alas, findings in general indicate, how little SalesBoard gets used.

It is noticeable that all users have at least three different applications to track their progress outside the DataArt SFA tools. This makes users wonder if there is any other solution, that has more comprehensive functionality and can relieve them from dealing with a bunch of ordinary applications. The majority of users did found an answer to this question, and it is:

- Trello - Minimalistic interface simplifies the process of tracking Leads statuses.
- Salesforce - Helps to analyze the effectiveness of the sales department, collects static data, which captures the full sales-process (Few practice

leaders were considering to move their processes outside the DataArt ecosystem completely).

- HubSpot: Supports the process of Leads finding and acquisition.
- MS Excel: A Simple, well-known solution for almost every problem.

In one way or another, users wanted to avoid corporate applications, as they tend to be "slow," "outdated," and "developer-oriented." This can be easily proven by observing the journey of a typical user trying to complete a regular task (see Fig. 10 above).

- Most importantly, not all of our users understood, what the Lead was, in the context of Sales Board and Lead Management. They noticed that they would normally start with creating the Contact or Company, and do not feel the big difference between the Lead and those entities.
- Users struggled with filling in the form, as they were not familiar with some of the fields (e.g., "Subject"), and have not seen any hints, which could help them. Some of the fields were considered unnecessary and feeling overloaded; users did not want to continue the Lead creation.
- Finally, when the lead was created, users were surprised by the number of statuses and their names, most of the users were not familiar with this terminology and had to guess what is what.

List of findings: lead (stakeholders & activities)

- When users got to the second part of Lead creation, at first, they did not notice new blocks that have appeared. Even when they did, users claimed that wording was not aligned with their experience and expectations, so they were afraid to touch those blocks.
- Users thought that Stakeholders represent clients we already have, so they did not touch this section, because it is too early to call our contacts like this.

- The majority of the fields that were presented in the Activity section were considered to be redundant and confused users.

3.7 Technical analysis

Key quality attributes (QAW). Workshop outcomes.

Quality Attribute Workshops (QAWs) provide a method for identifying a system's architecture-critical quality attributes, such as availability, performance, security, interoperability, and modifiability, that are derived from mission or business goals. The QAW does not assume the existence of software architecture. In its essence, it is a set of facilitation techniques to ask of stakeholders according to verify business goals application on the product/service technical implementation. [11]

Main non-functional requirements are following:

Attribute	Description
Performance/Latency	Page render, and latency-critical features should complete within 3 seconds each. For UI, it is advisable for any operation that takes longer than 200 ms to show a progress indicator to ensure user satisfaction.
Availability	99,99%, 24/7 scheme with limited maintenance time
Modifiability	Currently, existing links to CRM and other tools is a subject of the upgrade process and should be replaced in the future.
Security	On-premise. AD authentication

Build-or-buy Decision

After receiving the first results, Solution Design team decided to investigate one more option, especially after receiving feedback that several Sales offices started using different CRM systems or tools. However, in our case, the decision we were considering was about a reason and financial capability to move either all users or only sales (bizdev ones), from the MS Dynamics CRM + our Frontend, to a different vendor. Alternatively, we should stay with Dynamics, but consider changing the Frontend part (as the one existing one does not hold well against criticism).

Selection Decision Process Key-points

An optimum software solution requires a clear understanding of several key points:

- Particular tools and techniques that will be used in lead management implementation
- Required workforce and skills to implement the project
- Number of trainers to enhance users' skills
- Number of users to train
- A pragmatic period needed to finish the first phase
- Organizational perimeter, limitations, and potential political problems

(In Appendix A main CRM vendors comparative table can be found)

According to an August 2002 Forrester Research brief, internal CRM systems still account for a substantial number of installations. On the high end, as many as one in six services firms rely on the homegrown CRM technology. Nevertheless, as solutions from dedicated CRM vendors evolve, the "build" decision is relevant for a shrinking number of organizations.

The ground-up approach has its challenges. For example, the risk is entirely internal. Most companies don't tend to use lessons learned from past projects to steer their internal customer in the right direction, and DataArt is no exception.

Internalizing development can seem like an attractive way to use existing resources. But without proper governance, custom development is often more expensive in the long run – especially if there's no single strategy for internal IT projects. So if after the Solution design our vision gets a greenlight and sufficient funding, it might be beneficial to the internal team to get the opportunity to be involved with new technologies.

Some aspects of user interaction have a relatively common, predictable workflow. This is where packaged software has almost total dominance, and we considered to expand existing CRM installation with 3rd party integrations.

There is also the argument that in many cases packaged software ends up being significantly faster to implement and deploy than a custom solution. A software build cycle typically extends the term of the project between 30 and 50 percent. That time can get expensive, of course.

In the end, we decided to proceed with the hybrid approach" leave the MS Dynamics be as we have deep links between CRM itself and internal processes as HR management and Accounting – and high cost of ownership and customization for any new solution.

So DataArt internal team will integrate and shuffle the pieces in a manner that best suits the company structure.

In the meantime, I want to recommend this approach for other companies – in nowadays management should carefully consider whether their IT resources are best spent reinventing a wheel that the CRM vendors in their tier have already built.

QA, Governance and Management Outcomes

QA findings

#	Issue	Recommendation	Priority
1	Lack of knowledge and experience in Sales Domain. Not enough oracles for QA engineers to retrieve that knowledge	1. Define a common Salesperson's workday flow 2. Describing most common user cases 3. Updating demands for functionalities according to user needs	Medium
2	Big scope of regression testing (considering variety of systems, browsers, devices and resolutions)* Lack time for regression due to big scope of changes and multiple platform*	1. Write automated test for most important and frequently used scenarios (common user cases) 2. 2. Use Unit tests for new functionality during development 3. Increase stabilization / code freeze	High
3	Additional resources will be required to perform performance testing - appropriate environments and staffing	Get environments in different locations	Medium
4	Unclear scope of testing environments, platforms, browsers and versions	1. Define environments, devices, browsers and their versions where testing should be executed 2. Get and use defined environments, devices and browsers for testing 3. Add analytics tool to the platform	Medium
5	Due to high level of dependency of SB on CRM there is a challenge of coordinating development and testing of both systems as well as testing the integration between them	Preliminary research of demands both in CRM and SB	Medium

Requirements management /Product development

#	Issue	Recommendation	Priority
1	Business requirements are communicated by single users and are not confirmed by key stakeholders. This leads to controversial features and misunderstanding among users while they work with SB.	1. Define a core Business team 2. Implement the requirement management flow	Critical
2	Requirements are communicated by different users to different team members via different sources. It can lead to loosing some requirements and increase SB team efforts for managing requirements and building consistent backlog	1. Implement a single place for change requests [email for PO, Slack for the Team] 2. Assign a single person responsible for gathering requirements [BA]	High
3	Users see developed functionality only on Prod. This leads to numerous change requests after release; users might work with features that don't fully meet their needs	1. Demos 2. UAT testing 3. Add additional environment for Demo/UAT 4. Support WiKi on the New Features 5. Release notices 6. "How to" education page in SalesBoard	High
4	Users don't know what exactly was released and what benefits it brings to them	1. Video tutorials about features released 2. Release Notes page 3. Add actual version on UI for end users 4. Robert will notify Sales Team about new functionality on regular Sales meetings	High
5	User polling (for example, Head of Practice, MKT). User Satisfaction? Usability? Feedback on new/current features ?	1. Improve feedback functionality.	
6	Business requirements are communicated by single users and are not confirmed by key stakeholders. This leads to controversial features and misunderstanding among users while they work with SB.	1. Define a core Business team 2. Implement the requirement management flow	Critical

Dev findings

#	Issue	Recommendation	Priority
1	"Lead new" entity utilization instead of native Lead	Investigate possibility to utilize native Lead entity.	Medium
2	Poor overall page loading performance in UK and USA	Investigate issue with page load timings from different locations (manually or with special tool). Consider adding US-based server.	Medium
3	"Opportunity board" page loading takes to much time	Review data loading and processing. Define acceptable loading time. Server utilization statistics should be monitored.	Medium
4	Redundant functionality (opportunity checklists, contact's involvement and frequency, etc)	Review, confirm with stakeholders and remove.	Low
5	UI freezes while page updates	Use JS framework on new pages. Update existing pages if needed	Medium
6	Activity creation dialog box contains some outdated elements*	Adjust UI and refactor code	Low
7	Code quality	Introduce code review practice. Include unit test into estimate.	Medium
8	Lack of environments for dev, UAT and demo	Add additional hardware staging environment.	Low
9	Some specific/non-standard/ work-around technical case are to documented	Short description should be in JIRA comment section (or ticket body) / Code comments	Medium

CHAPTER IV. SOLUTION VISION AND IMPLEMENTATION

During the analysis phase, Solution design and Sales Operations analyzed exiting CRM approach and SFA platform, and discovered the following problems:

- Low user productivity (on both technical and UX levels). MS CRM and Salesboard user experience are dated and often relies on multi-step workflows and hierarchical menu-based navigation. Needed functions are often hidden under several layers. Visual presentation does not meet the expectations of a modern generation of SFA tools.
- Despite having MS Dynamics CRM version (on-premise) up to date, the frontend part of the ecosystem, SalesBoard, is built on ASP with a mix of FE stack. Overall, it is legacy technology with no clear migration path, shrinking talent pool and uncertain lifetime.
- Costly and slow upgrades. Current system architecture leads to increased dependencies between backend and frontend requiring skillful change management and increasing both testing and development costs.

Key success factors for a new Solution

Adoption

- Great end-user experience (for all roles)
- Support for necessary and always changing interfaces for further features development
- Possible switch to DevOps model for IT Operations and accompanying cultural shift

Adaptivity

- Compatibility with current and future API interfaces
- Ability to accommodate new end-users priorities and requests
- Ability to accommodate data security and compliance requirements now and later

4.1 Solution vision

Introduce a new platform (based and built upon flexible boards and grids, using MS Dynamics CRM as a core), composed of a set of API services for internal and external consumers, built on microservices principles, and using Single Page Application approach for the FrontEnd part. The two main objectives of the Lead management platform are acceleration and extended value.

A platform serves an ecosystem of different types of personas from end-users to developers, producers, and partners. The goal of the product management approach is to focus on the platform ecosystem. The multiplier effect is successful when the platform ecosystem is larger and more powerful than the company itself.

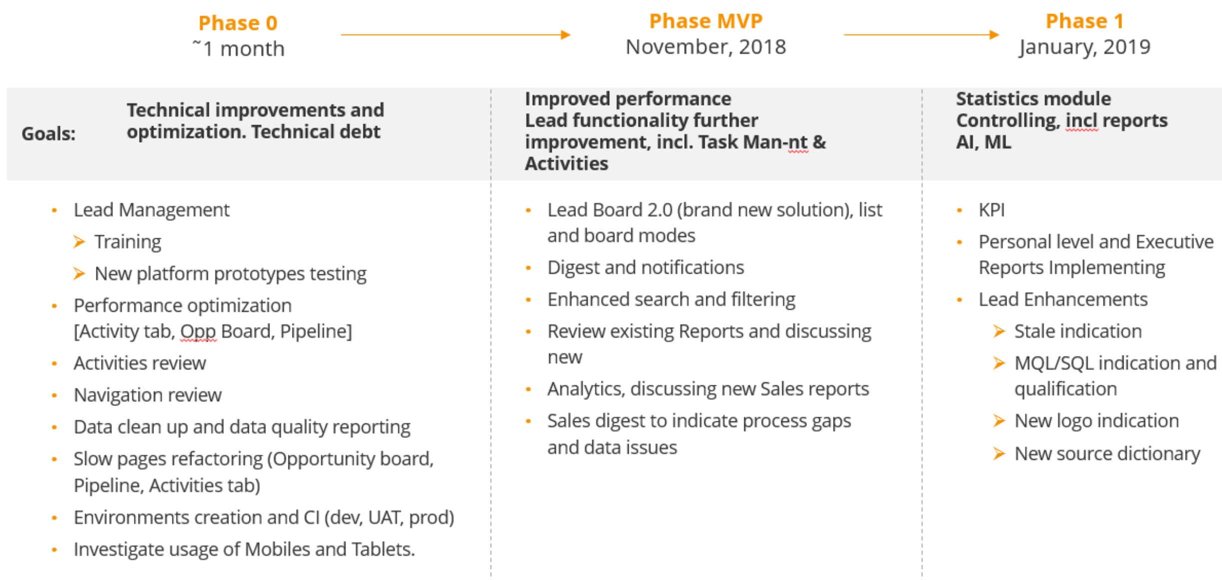
Developers also become a core part of the ecosystem; they are enabled to create complementary experiences through APIs.

The platform is predominantly built using microservices, or patterns so that business capabilities can be exposed easily and apps can be built on top of the platform, or the platform can be integrated/enriched with different 3rd party tools.

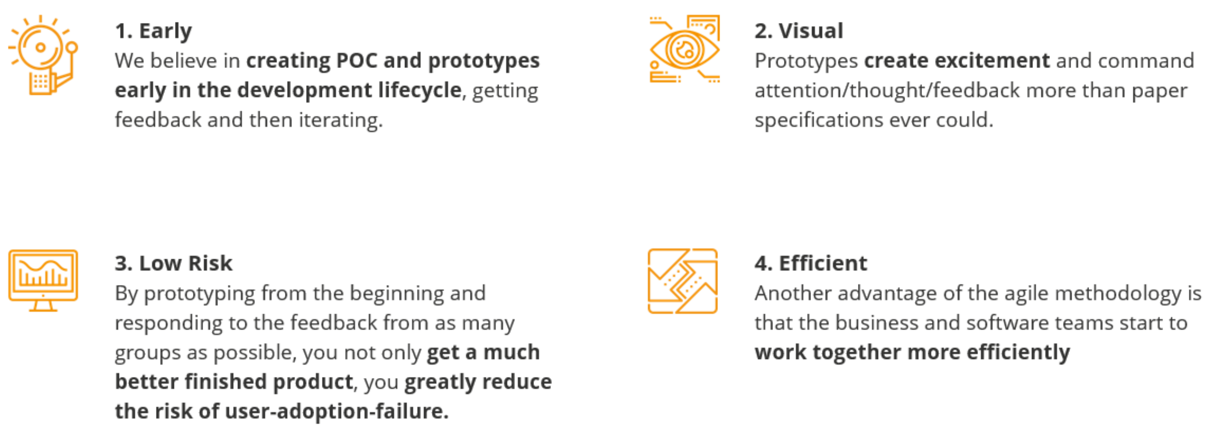
As of the product management approach, Sales Operations will balance between features that provide quick wins, and foundation development on which DataArt internal consumers will build their integrations and even apps.

Instead of sticking to the accustomed Scrum approach, I suggested building the governance based on Kanban, and release-driven cycles as a Sales Operations and product manager goals are collaborated and proved through a strong business case and lead through influence.

Platform Roadmap (based on a team of 11)



Prototyping and feedback loop benefits



Through multiple sessions with all types of user personas, we succeeded to engage the majority of stakeholders into collaboration and testing, thus, helping us to create a brand new product concept.

- Board view inherits an existing approach to show all personal business entity data in the form of status-driven (Kanban) board. Enhanced with major filters and indicators, board aids users in the more efficient management of daily routines.

- Grid view best suited for multiple operations over the business entities, with reach multi-parameter capabilities, suited even for deep search
- New Lead/entity panel view – all important data for a particular entity one click away. Provides the user with overview, management and activities creation capabilities
- Lead expended view contains all lead details, with full control over the entity and extended data link/aggregation capabilities.
- FAQ section provides the user with simple navigation and built upon most common questions we got through the testing stage. A short video accompanies each item/article.
- Digest **indicates gaps in data or missing details of main business entities – activities, leads, opportunities.**

4.2 Architectural decisions and requirements addressed

To meet the requirements listed in the previous section, the proposed solution has the following capabilities:

- Set of API, to integrate with report server (Sisense)
- available and reliable during business hours
- flexible to be used for a large number of reports
- easily modifiable for new features

The proposed solution utilizes modern React web technology stack. To meet all expectations on backend side ASP.NET Web API technology used which is reliable, fast and mature. Until the new platform provides users with all functions, old and new solution will coexist.

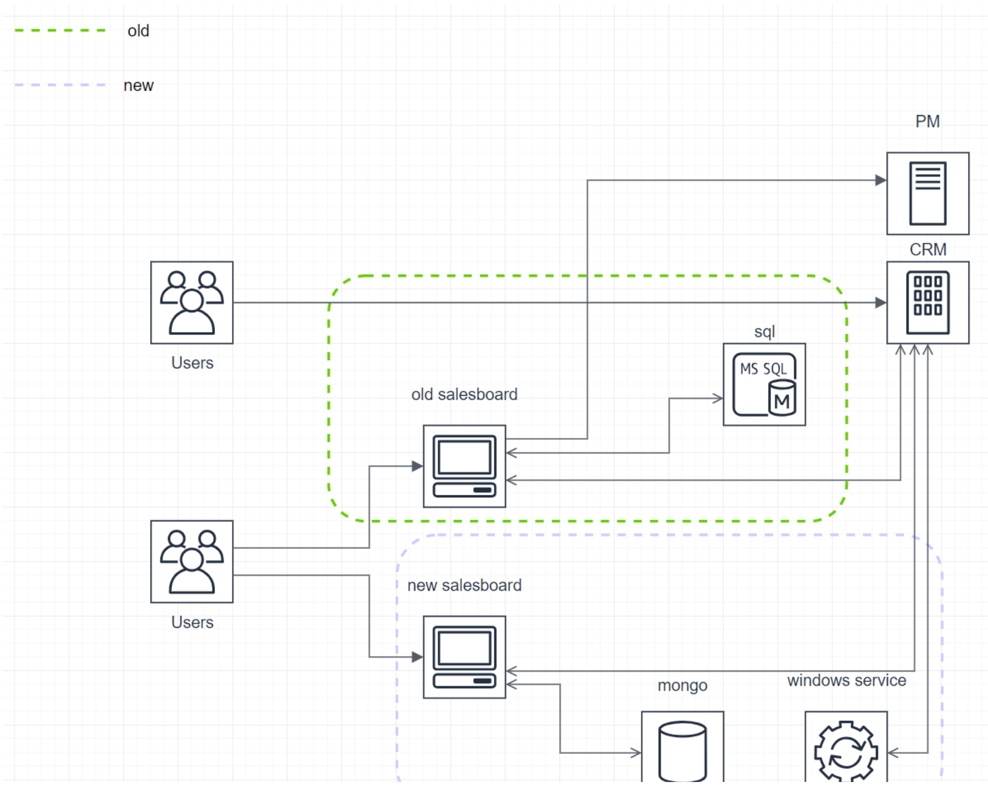


Figure 11. Architecture overview

4.3 Benefits of the selected approach

- The proposed solution has high performance and allows multiple options for further performance tuning.
- Performance-wise React stands high in MVVM framework benchmark tests while remaining a very popular framework among developers.
- The core grid engine (AG-grid) uses row and column virtualization, animation frames and many other techniques to reduce page rendering time further.
- Webpack module bundler allows utilizing some performance-enhancing approaches such as bundling, minification, lazy-loading, etc.

- Planned backend caching layer persists rarely-updated data and allows to minimize the number of expensive API calls, as well as response conversions that accompany them. The caching strategy can be changed and fine-tuned as external load increases, providing the optimal trade-off between network and memory consumption.

The proposed solution provides high extensibility and maintainability in a long-term perspective.

- Designing the front-end application around React-powered Web Components achieves code modularity and reusability, allowing for the safe addition of new modules and replacement of existing ones.
- Using TypeScript allows developers to use the newest ECMAScript features as they come out (before modern browsers implement them) while allowing the entire codebase to remain compatible with older browsers. Strict type-checking prevents new code from breaking functionality across the system, which increases the overall stability of the application over its growth.
- Using a code analysis tool (TypeScript linter) keeps the codebase clean and consistent across all modules.
- API layer allows for the introduction of configurable in-memory response caching.
- View model mapping. API layer allows transforming Web API output to a view model that is fine-tailored to the needs of specific Proposed solution view. This allows us to strip responses of unnecessary fields, rename specific fields to match their purpose and so on. On top of this, the service may serve as the de-coupling layer that, in case of Web API modification, prevents cascading changes to front-end React application, keeping View Models consistent.

4.4 Implementation results and highlights, Q1 2019

- The solution's "platform" approach, with a focus on API and services, made it possible to integrate into the necessary company systems with no impact. Based on these and, other advantages the new leads management system was selected as the preferred solution and started distributing leads. Since MVP release in November 2018, the New LeadBoard manages up to 600 leads monthly.
- Leads sources from multiple disparate sources within the DataArt and other partners are "centralized" on the leads system and distributed automatically and consistently to the sales teams.
- Each lead is provided with the comprehensive client and campaign information describing the prospect as well as the steps to be followed in the sale.
- The lead management platform provides a simple easy to use feedback options that match the expected sales steps to be followed. Additional outcome reasons and comments can also be captured. Based on the feedback received the system uses a workflow process to remind the salesperson of the expected next action step or if the lead SLA is not matched. Escalation messaging, automated lead allocation rules, etc. are impacted by feedback received.
- Detailed information on each lead and the lead's progress through the sales process is maintained on the system. This has ensured that Service Level Agreements in terms of client engagement and lead priority could be set and strictly managed by sales management.

Results in numbers	Pitfalls
▪ The new platform was successfully released in November 2018. January 2019 – Personal Statistics release. **Within time, scope and budget** ▪ We established a proper release cycle, balancing support activities with new development ▪ Platform users now participate in features prioritization and form release backlog through UAT, feedback sharing tools and Kano-driven quarterly surveys ▪ Overall Customer satisfaction survey indicates Product team quality work as high (4,8 out of 5) ▪ Total MVP costs (includes SD phase) – $90 ▪ A FAQ with videos and release notes, webinars, and customer education efforts were first time integrated within the process as a primary part of it – first education, feature release following ▪ Proper UAT and demo sessions with more than 15 key stakeholders ▪ Performance optimization results due to new technical approach: o Search- up to 50% faster	▪ Heavily underestimated political and cultural complications ▪ Top-management, as usually, considers this project as an experiment rather than company-wide mandatory program. No enforcement, but no huge impediments as well. ▪ Adoption rate is still not the best, especially for the UK office, which considers this as NY office initiative only ▪ We are still struggling with finding the optimal communication and stakeholder management approach ▪ Resource scarcity. Until recent time, when we got recognition, it was hard to engage proficient developers into the project, despite proper processes and new technologies stack ▪ Limited financial support – to keep the budget, we have to work with junior members, spending time on mentoring and shadowing. ▪ Communication takes more than 30% of all development activities ▪ In some cases, I had to enforce agile practices within the development team

○ Opportunities Board - up to 20% faster ○ Contacts Overview - up to 50% faster ○ Edit Opportunity - up to 30% faster	rather than wait for the adoption – a lot of conflicts and turmoil with the "old" part of the team ▪ We needed to spend time on onboarding and educational materials for the development team as well to decrease onboarding time

CHAPTER V. CONCLUSIONS

My thesis paper covers the initial phase of new platform creation, along with establishing Sales Operations discipline which drives product decisions and supports the strategic vision of the Head of Sales.

Product development and Minimal Viable Product (MVP)

- Product development approach, despite all complications and impediments, can be applied to internal projects with proven positive results, increased retention. But without center of expertise from the Sales Operations part and collaboration with Head of Sales, I don't think such setup can be possible
- Based on the idea validation numerous discussion with end users, subject matter experts, tests and market products analysis, a product vision (platform) and definition was created with a list of base and add value features.
- New Lead Management approach introduced and fully supported by the new platform (workflows, triggers, etc.)
- MVP prototype was created. The prototype was used to perform product demos and to receive feedback (15 formal demos). Based on the feedback received, the MVP version was released in November 2018
- Competitors analysis was done (see Appendix) to support "build or buy" decision
- First two phases of the platform successfully released (November 2018 and January 2019 – two major milestones)

5.1 Organization Culture and internal policies impact

There are many times when a firm initiates changes that affect its internal culture, and it is important to recognize that the implementation of any major solution will be one of those changes. Strong support from a firm's executives and a clear, long-term plan are very important.

Even though SFA/CRM as a tool itself was recognized, the adoption rate was still small, due to organizational culture and freedom to select business processes on a practice/office level if they lead to growth or participants comfort. Thus, introducing a new lead management process was equivalent to "new CRM" integration, as it changed major processes completely and affected a pipeline management approach.

Before integration or new tool or platform development, we also need to assess the status of three critical aspects of the organizational culture — communication, collaboration, and learning — to make an informative decision. The following is a detailed conclusion of these aspects:

1. Communication. To assimilate any new tool, communication channels among employees, as well as departments, need to be in place and working. DataArt with our multiple similar in its core initiatives suffers from the lack of it greatly. Organizations can use technology to build these links; however, sharing of information is possible only if individuals are willing to participate. The best way to realize this "dream" is the development of an organizational culture that fosters the communication of information.

Corporate governance team must highlight the positive outcomes of information sharing initiatives so that other members will be motivated to follow such a path, or there is a huge risk to be involved into political games of blaming.

2. Collaboration. Often, CRM is perceived as a tool or technology dedicated to helping the marketing, sales, and customer service divisions.

This incorrect perception hinders collaboration efforts within an organization and should not be ignored. Management team should do their best to make sure that the CRM initiative receives support from each department.

For SFA/CRM initiatives to be successful, employees and departments will need to perform as integrated teams instead of individuals or detached functional units. Unlike other software systems that are designed specifically for one business function, such as accounting or operation management, a SFA solution has an organization-wide scope, so all of the departments and employees across the company use it. In general, different business units in any organization aim to achieve their unique and department specific goals, and this often creates isolation. This philosophy of isolation creates a vacuum, and one entity that typically suffers is the customer.

A CRM strategy takes into consideration a way of thinking, interacting, and collaborating with others in the organization. The success of CRM as a solution and strategy depends on the realization of a collaborative working environment, one that is free of isolation.

3. Learning. Organizations and individuals alike are faced with a wealth of information as technology innovations occur daily, making use of technology as easy as it can be. With a large inflow of information, within DataArt especially (as we do not have corporate knowledge management policies) I find it difficult to retain and manage this information. Considering information as an input to the knowledge creation process, proper knowledge management is becoming increasingly difficult. For this reason, many organizations are developing and modifying their learning philosophies. For an organization to adopt a cultural change, learning must take place. In the context of CRM, organization learning will occur among employees, management, and customers. Knowledge management, in this case, will include collecting, storing, managing, analyzing, and disseminating customer knowledge throughout the organization.

To adapt the current platform strategy, even more, DataArt needs to enhance an ability to learn. Within an organization, individuals need to understand what knowledge they need to gain, how they should maintain such knowledge, where they can find the information that will lead to knowledge, and how they can use this knowledge effectively. It is important to keep in mind that individual learning and organizational learning are complementary to each other, and any cultural change involving learning should include individual employees.

For SFA/CRM success, it is essential to have a mechanism for coordination that enables an organization to identify with its customers through collaborating with them and responding to their needs. As this kind of “interface” did not exist prior, we spend a tremendous amount of time to introduce one, using Design Thinking and Product Management Approach. Otherwise, as in DataArt, the CRM initiative will face tough resistance from within.

4. Scarce resources and a lack of focus. Most companies have too many on-going projects for the available resources. Inadequate balancing of resources, a not-so-popular label of “internal projects for bench-losers” often translates to additional pressure to multitask which leads to a greater time to complete the project. The result often is a delayed time, higher failure rates, poor quality of information and lowered morale.

5.2 Transitioning from Services into Product Management

Working as a consultant and playing an actual role as a Product Manager is very different. While the transition from consulting to product management may feel familiar, the behaviors that make you an excellent client services consultant can work against you becoming a great product manager. Especially, if you are also acting as a Sales Operations, completely different role. However, your success depends on unlearning some consulting habits.

Stop consulting. Meeting my users, tired of constant system issues and “neglect,” I was trying first to address all of their pains: being a Sales Operations, you know the solution, you can implement it, and you're good at it. But in the end, time spent addressing that customer's issue detracts from your ability to create the next iteration of your product – and in our case, a whole new platform! — solving a larger, perhaps yet undefined issue.

Define the prize for your product. Being a Delivery manager, I was not unfamiliar with “iron triangle” limitations – but in comparison with Product Management, now I can say, those goals (as hard as they seem) are easy and clear: finish the project on time and budget and make sure the client is happy with your work. For product managers, you need to work harder to define your specific goals — the "value" for your product, especially in cases, where there is no direct ROI to measure.

If I can turn time back, I would start from clarifying my goals and goals of my product with the stakeholders. It sounds easy to “Introduce new lead flow and make people use it. Why you are spending so much time (e.g., money) on the usability?!” Alas, people just won’t.

Shift from "commander" to "collaborator."

On project teams, in many cases, the project manager (not to mention the Delivery manager one) has control over resources needed for the project's success. In the hierarchy of the project, "what they say goes,” even if we are working in an Agile environment. Not so for a product team. Don’t try to repeat my initial approach – telling salespeople what to do in the same tone that worked so well with your project team (even if it’s polite and assertive, and enthusiastic tone). You must still lead but through influence rather than authority. Especially in DataArt, with our organizational culture/ It took me almost six months to get enough credibility to do pipeline reviews and have people actually listen to my suggestions.

The same thing works with the development team. Creating a feedback culture, true Agile environment is not easy in itself, but playing a Product role in the internal project means that you constantly need to explain to engineers why creating Feature X is more valuable than Feature Y based on your research, not on the Stakeholder A (or almighty Client) told the team.

Leading through influence can be learned, but it is more time consuming and requires you to create evidence to support your recommendations.

Shift your focus from "customer" to "market." In my case it means that despite keeping in mind all interview results, it's even more important to have a big picture, strategic vision ready, and constantly check yourself – are we going into the right direction? In DataArt, where sales discipline is very low, I had to determine real problems that need to be solved from the imaginary ones, caused by a change in desired system behavior, for example.

Most existing "customers" have a difficult time articulating a solution anything significantly different than what they are using today. And I learned it a hard way, as one of the main stakeholders, after he switched to Trello and created his own lead flow, had a really difficult time to accept a new standard. Yes, because both visually and functionally, it is not a Trello. Customers are typically poor at defining solutions because they are unaware of what's possible, and have rarely studied what's available in the market beyond their initial selection decision.

Solve the problems of your buyers as well – use all power of the Stakeholder management. Actually, it's not a pitfall, because being a Sales Operations helped me to see through noise, becoming a Subject Matter myself. A very common issue in DataArt – get all sorts of complains about "make data entry simpler." And I completely agree that it's not good to have a lot of unimportant fields, that just take your time without any value. But as attractive such approach, in general, is to the end user, it is not attractive at all to the Head of Sales, Operations (me) or COO, trying to lower costs.

Get out of the building. I honestly don't remember on which module I heard this phrase for the first time, it seems like almost every our professor said it time and time again. But the value of it I understood only while I started to act as a real Product Manager.

5.3 Integration Process for the CRM/SFA tools

When systems involve behavior changes from multiple departments or functions, project risks are increasingly high. As David Taber explains in "Salesforce.com Secrets of Success," moving to a new CRM solution demands serious coordination and incentives for users who aren't very interested in participating.

- Don't get every department on the system at once, even if you are asked to. Start with a small core, and spread it out to other groups incrementally as you gain confidence in the system and build user enthusiasm.
- The data is more valuable (and expensive) than the system it resides in. Code and functionality don't matter if the data is rubbish, so focus on accurate info and easy access/update first, when support in with the new features.
- Avoid big bangs. Plan for several rounds of technical adjustments as early users shakes down the new system. Set up an agile backlog to prioritize ongoing enhancements.

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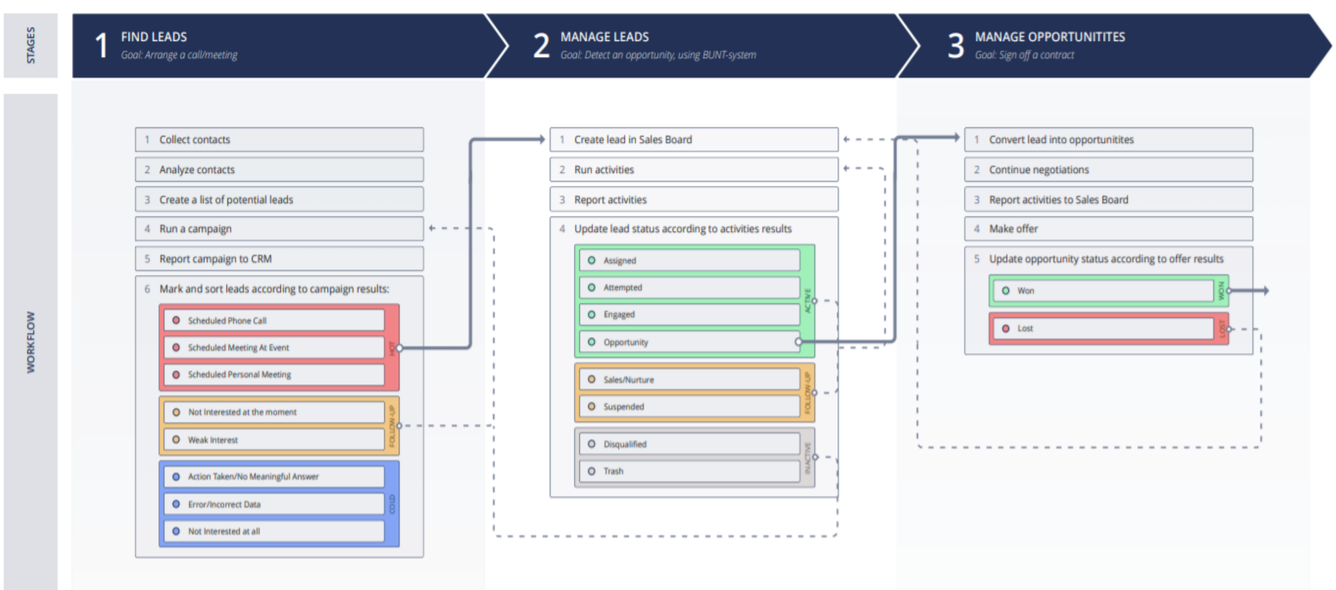
Appendixes

A. CRM comparison

	Salesforce CRM	Microsoft Dynamics 365	NetSuite CRM	Zoho CRM	Oracle Sales Cloud	HubSpot CRM+ Sales	SugarCRM	Pipedrive	Insightly
Starting Price	$25.00/mo/user	$65.00/mo/user	$129.00/mo/user	$12.00/mo/user	$65.00/mo/user	free	$40.00/mo/user	$15.00/mo/user	$29.00/mo/user
Price for 200 users Annual	**$180,000**	**$228,000**	**$309,600**	**$ 48,000**	**$480,000**	**$ 96,000**	**$ 96,000**	**$ 69,600**	**$117,600**
Free Trial	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Free Version	No	No	No	Yes	No	Yes	Yes	No	Yes
Features: *Activity Dashboard*	√	√	√	√	√	√	√	√	√
Activity Tracking	√	-	√	√	√	√	√	√	√
Calendar/Reminder System	√	-	√	√	√	√	√	√	√
Document Storage	√	√	√	√	-	√	√	-	√
Email Marketing	√	-	√	√	√	√	√	-	√
Internal Chat Integration	√	-	√	√	√	-	√	√	-
Lead Management	√	√	√	√	√	√	√	√	√
Lead Scoring Rules	√	√	√	√	-	√	-	√	√
Campaign Management	√	-	√	√	√	-	√	-	-
Opportunity Management	√	√	√	√	√	-	√	√	√
Mobile Access	√	√	√	√	√	√	√	√	√
Quotes/Proposals	√	-	√	√	√	√	√	-	-
Segmentation	√	-	√	√	-	√	√	√	√
Social Media Integration	√	√	-	√	-	-	√	-	-
Task Management	√	-	√	√	-	√	√	√	√
Territory Management	√	√	√	√	√	-	√	√	√
MS Outlook Integration	√	√	√	√	√	√	√	√	√
Linkedin Sales Navigator Integration	√	√	-	√	-	√	√	-	√
Marketing Automation Integration	-	-	√	√	-	√	-	-	-
Deployment	Cloud, SaaS, Web Mobile - Android Mobile - iOS	Cloud, SaaS, Web Installed - Windows Mobile – Android, iOS	Cloud, SaaS, Web Installed - Mac Mobile – Android, iOS, Windows Phone	Cloud, SaaS, Web Mobile - Android Mobile - iOS	Cloud, SaaS, Web Mobile - Android Mobile - iOS	Cloud, SaaS, Web Mobile - Android Mobile - iOS	Cloud, SaaS, Web Installed – Mac, Windows Mobile – Android, iOS	Cloud, SaaS, Web Mobile - Android Mobile - iOS	Cloud, SaaS, Web Mobile - Android Mobile - iOS
Typical Customers	Small Business Mid-size Business Enterprise	Freelancers Small Business Mid-size Business Enterprise	Mid-size Business Enterprise	Freelancers Small Business Mid-size Business Enterprise	Small Business Mid-size Business Enterprise	Freelancers Small Business Mid-size Business Enterprise	Freelancers Small Business Mid-size Business Enterprise	Freelancers Small Business Mid-size Business	Freelancers Small Business Mid-size Business Enterprise
G2crowd reviews' score	4.2/5	3.6/5	3.3/5	3.8/5	3.7/5	4.2/5	3.6/5	4.3/5	4.1/5

B. The customer journey, additional data



C. Usability full review

Task	Heuristics	Score	Comment	Total Score
Create a new Lead	1. Visibility of system status	3	System loads slow, any action takes patience and time	3
	2. Match between system and the real world	2	No hints at fields at all	
	3. User control and freedom	3	"Back" button isn't obvious, before leaving the form there is no preventing pop-up/message,	
	4. Consistency and standards	3	The loading process is different depending on the part of the screen	
	5. Error prevention	3	Before leaving the form there is no preventing pop-up/message	
	6. Recognition rather than recall	2	Can be used without on-boarding, but some things aren't obvious and as far as there are no hints, hard to find	
	7. Flexibility and efficiency of use	3	Only one way to create Lead, obvious one at least.	
	8. Aesthetic and minimalist design	2	Bad consistency, ok styles (read #4)	
	9. Help users recognize, diagnose, and recover from errors	2	Some errors are not highlighted, or not prevented (like leaving the form with empty fields, or not saving the data)	
	10.Help and documentation	2	There are support guys, but no documentation presented	
Go home,	1. Visibility of system status	3	System loads slow, any action takes plenty of time	3

and try to find created Lead	2. Match between system and the real world	3	Hard to find Leads Dashboard, Leads page has different functionality, Filters on dashboard work inappropriately (not all statuses presented in the dropdown or there is a mess in what is status and what is state), what is "only stale"???	
	3. User control and freedom	3	Filters are not pre-saved if you go into some Lead, and then go back, default filters are shown, and there is no way to find the lead you were into.	
	4. Consistency and standards	3	Names of entities are inconsistent, dropdown for statuses and table header are inconsistent, icons are inconsistent, loaders are inconsistent, buttons have inconsistent behavior but the same look	
	5. Error prevention	3	Before leaving the form (Add activity) there is no preventing pop-up/message,	
	6. Recognition rather than recall	3	The system cannot be used without on-boarding; many things are hidden and not obvious.	
	7. Flexibility and efficiency of use	2	Main actions can be made in different ways and usually appear everywhere which is good but isn’t obvious sometimes.	
	8. Aesthetic and minimalist design	2	Bad consistency, ok styles (read #4)	

	9. Help users recognize, diagnose, and recover from errors	3	Some error is not highlighted, or not prevented	
	10.Help and documentation	2	There are support guys, but no documentation presented	
Create a new Account/ Company	1. Visibility of system status	3	Searching isn't obvious	3
	2. Match between system and the real world	2	No hints at fields at all, some notifications are presented	
	3. User control and freedom	3	"Back" button isn't obvious, before leaving the form there is no preventing pop-up/message, changes won't be saved	
	4. Consistency and standards	3	Loading is different from other parts of the interface	
	5. Error prevention	3	Before leaving the form there is no preventing pop-up/message, changes won't be saved unless you press "save changes."	
	6. Recognition rather than recall	2	Can be used without on-boarding, but some things aren't obvious and as far as there are no hints, hard to find	
	7. Flexibility and efficiency of use	2	There are two ways to create an account/company; the user can choose	
	8. Aesthetic and minimalist design	2	Bad consistency, ok styles (read #4)	
	9. Help users recognize, diagnose, and recover from errors	3	Some errors are not highlighted, or not prevented, no hints	
	10.Help and documentation	2	There are support guys, but no documentation presented	

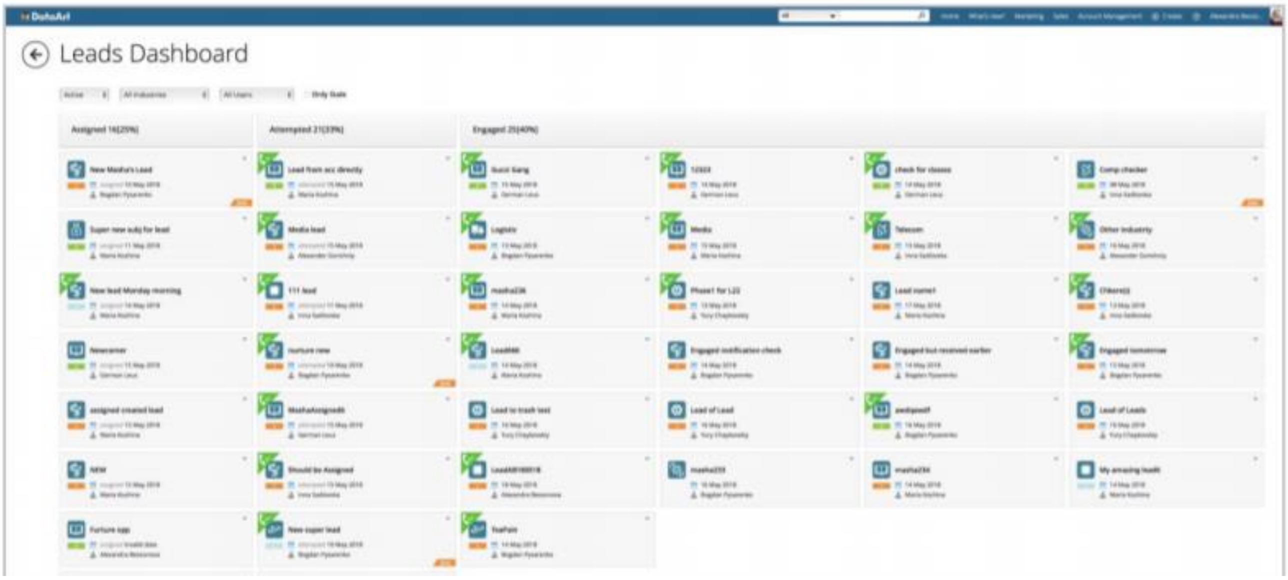
Add Contacts to Lead	1. Visibility of system status	3	When you are creating a new stakeholder with "space" instead of text in a required field, system loads, but still shows the form without any changes	3
	2. Match between system and the real world	2	Contact and Stakeholder are the same things, but it's not obvious, no hints at all	
	3. User control and freedom	2	The form refreshes if a user clicks on the option "add existing," and then tries to go back	
	4. Consistency and standards	3	Error messages are inconsistent	
	5. Error prevention	3	The system does not react on "space" instead of real attributes inside the fields when deleting a stakeholder, you don't know if you delete it in the context of lead, or the whole system you are not prevented from deleting it, and also from leaving a page.	
	6. Recognition rather than recall	2	Can be used without on-boarding, but some things aren't obvious and as far as there are no hints, hard to find	
	7. Flexibility and efficiency of use	2	There are two ways to create contact/stakeholder, and the user can choose	
	8. Aesthetic and minimalist design	2	Bad consistency, ok styles (read #4)	
	9. Help users recognize, diagnose, and recover from errors	3	Some errors are not highlighted, or not prevented, no hints	

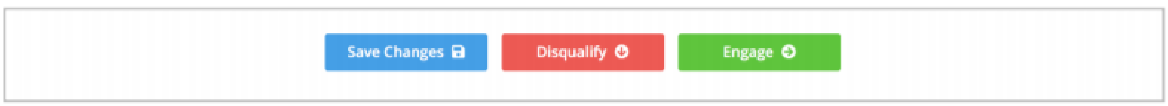
	10.Help and documentation	2	There are support guys, but no documentation presented	
Report Activity	1. Visibility of system status	1	Loading is shown while opening the pop-up	3
	2. Match between system and the real world	2	No hints	
	3. User control and freedom	2	Information is saved while a user is navigating through the tabs, but the user is not prevented from closing the pop-up without saving the info	
	4. Consistency and standards	2	The absence of hints can cause some cognitive overload, Organizer/Owner/Assignee almost the same thing, somehow the emails/calls appear after adding first activity	
	5. Error prevention	2	User is not prevented from closing the pop-up without saving the info	
	6. Recognition rather than recall	2	User should always keep in mind what is what	
	7. Flexibility and efficiency of use	2	The activity can be created from different pages	
	8. Aesthetic and minimalist design	2	Inconsistent layout, labels are to close to fields	
	9. Help users recognize, diagnose, and recover from errors	3	The accidentally created activity cannot be deleted	
	10.Help and documentation	2	There are support guys, but no documentation presented	
Change Lead status	1. Visibility of system status	2	Some description is presented on top of the form, but absent for each button of status change	2

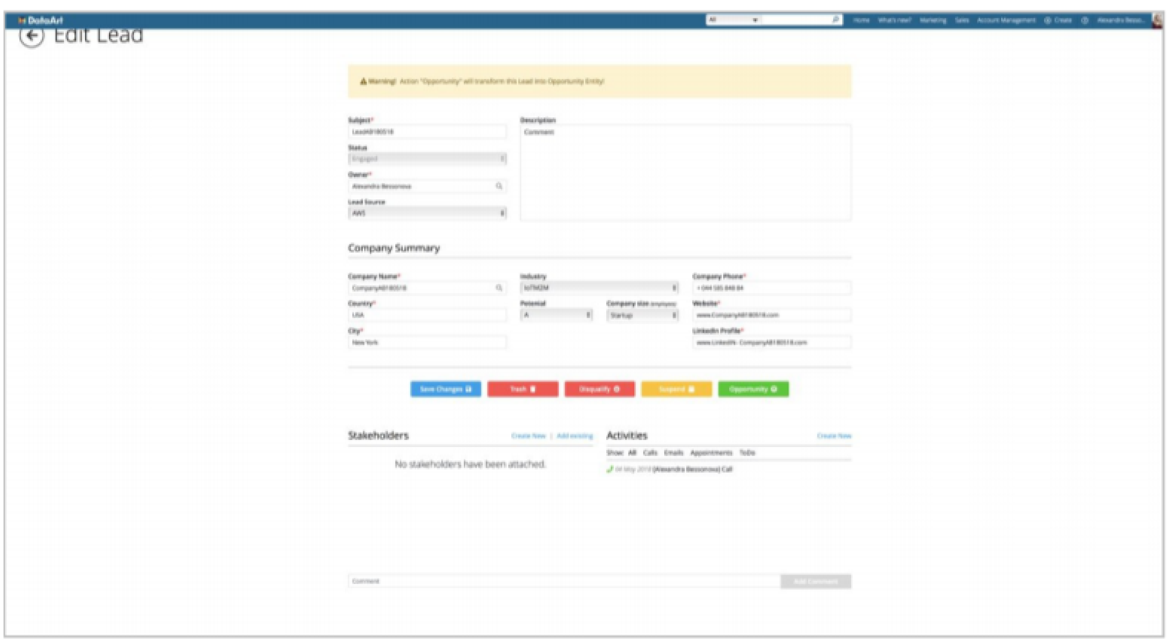
	2. Match between system and the real world	2	No status description	
	3. User control and freedom	3	Buttons with opposite meanings are to close to each other, and can be hit accidentally, hard to understand how to go back from one status to another,	
	4. Consistency and standards	2	The absence of hints can cause some cognitive overload	
	5. Error prevention	2	Confirmation for almost every move needed, except for "Opportunity" and "Engage."	
	6. Recognition rather than recall	2	Creating Activity for moving the Lead from Assigned to Engaged isn't obvious	
	7. Flexibility and efficiency of use	2	Status can be changed from different pages, but it's not obvious sometimes	
	8. Aesthetic and minimalist design	2	Some explanation to status change is needed	
	9. Help users recognize, diagnose, and recover from errors	2	Confirmation for almost every move needed, except for "Opportunity" and "Engage," but going back to the previous status is impossible…	
	10.Help and documentation	2	There are support guys, but no documentation presented	
Convert into Opportunity	1. Visibility of system status	3	System loads slow, any action takes patience and time, Notification + Re-direct (not visible, when the system is going to bring you to another page)	3

	2. Match between system and the real world	3	"New Lead" in the header, "Opportunity info" in the title.	
	3. User control and freedom	3	Not obvious how to get back to the form, once you closed the "Opportunity info" sections it's hard to understand how to open it again.	
	4. Consistency and standards	3	Icons on top of the "Opportunity page" are similar in look, but have different behavior, inconsistent table behavior, error message surprising.	
	5. Error prevention	2	While editing "Opportunity," no "save" button presented, not obvious if the information is saved, the user is afraid to press "Back" button	
	6. Recognition rather than recall	2	Icons are not prominent, so you should remember what is what	
	7. Flexibility and efficiency of use	2	"Add an activity" at several places but not reasonable	
	8. Aesthetic and minimalist design	2	Tooltips are helpful, but it is not enough	
	9. Help users recognize, diagnose, and recover from errors	2		
	10.Help and documentation	2	There are support guys, but no documentation presented	

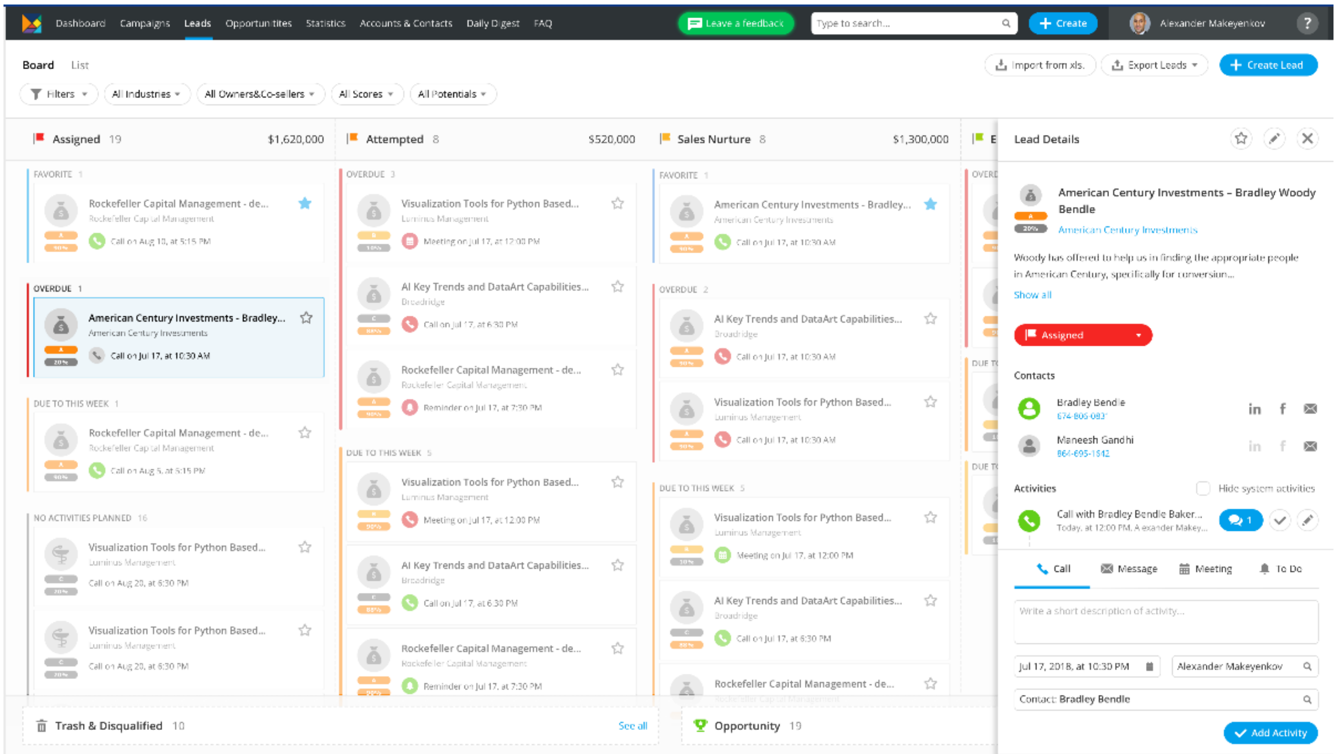
D. Old system UI

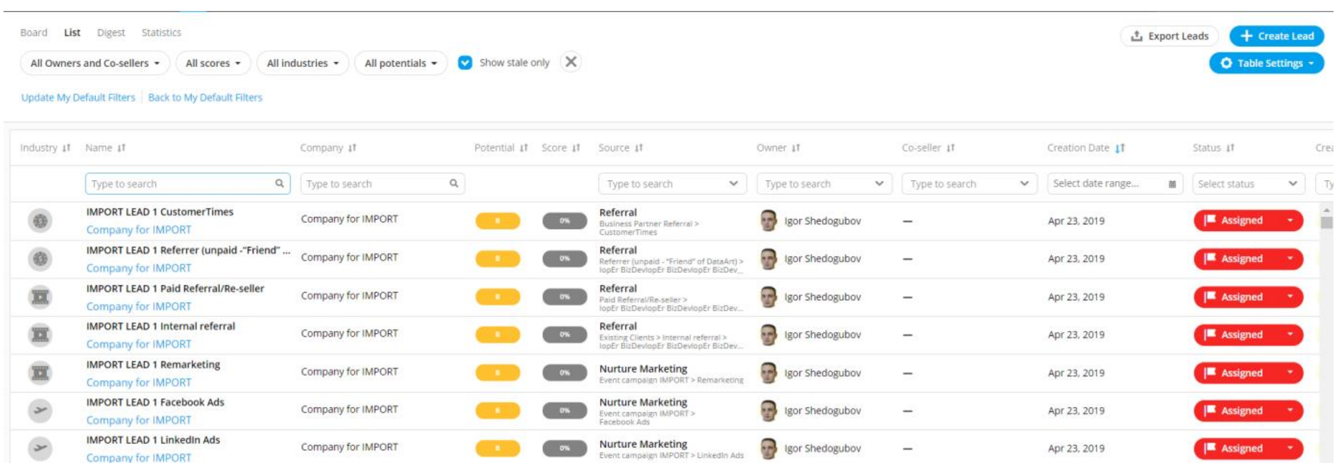


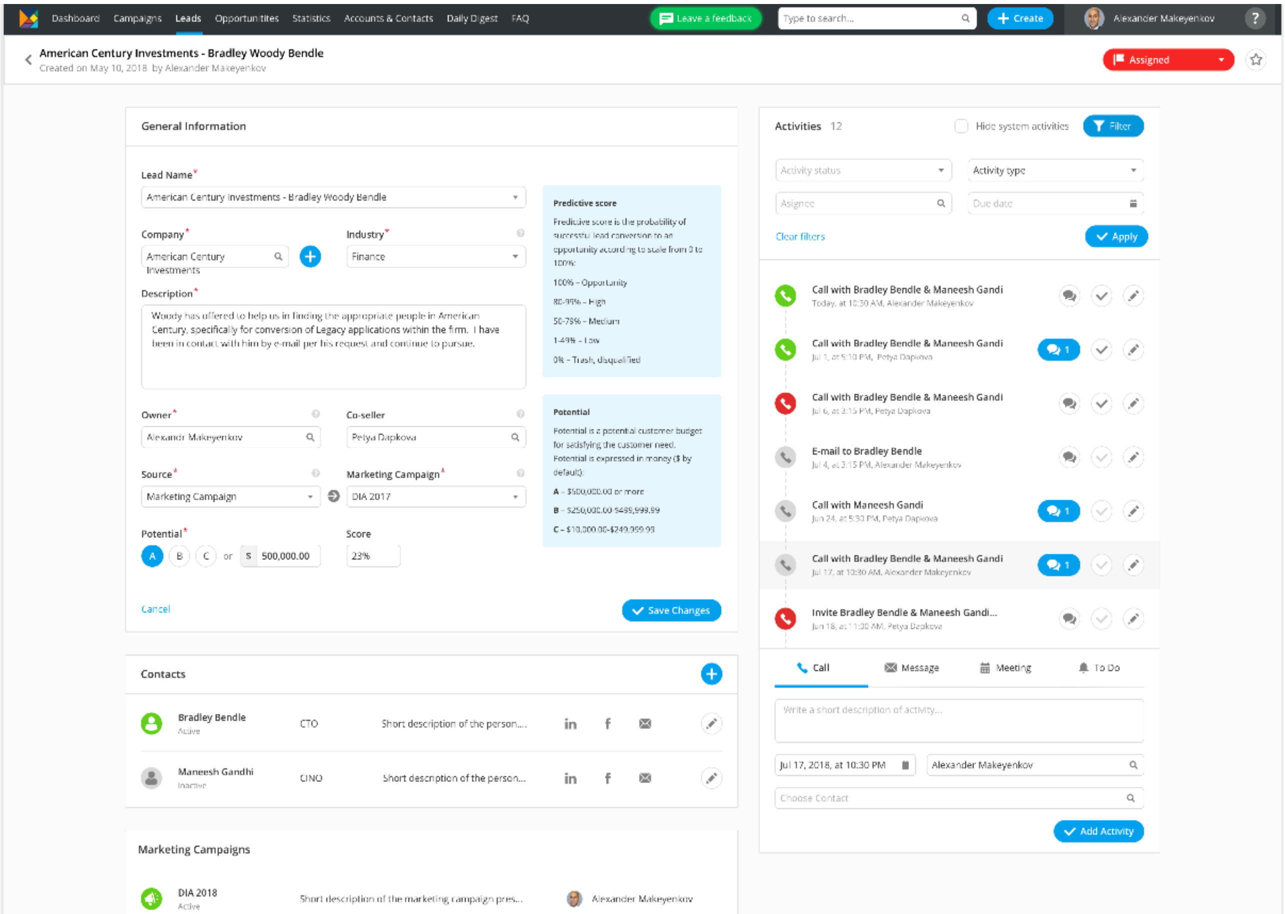




E. NEW SYSTEM UI






Dashboard
Campaigns
Leads
Opportunities
Statistics
Accounts & Contacts
Daily Digest
FAQ
Leave a feedback
Type to search...
Create
Alexander Makeyenkov
American Century Investments - Bradley Woody Bendle
Created on May 10, 2018 by Alexander Makeyenkov
Assigned
General Information
Lead Name
American Century Investments - Bradley Woody Bendle
Company
American Century Investments
Industry
Finance
Description
Woody has offered to help us in finding the appropriate people in American Century, specifically for conversion of Legacy applications within the firm. I have been in contact with him by e-mail per his request and continue to pursue.
Predictive score
Predictive score is the probability of successful lead conversion to an opportunity according to scale from 0 to 100%:
100% – Opportunity
80-99% – High
50-79% – Medium
1-49% – Low
0% – Trash, disqualified
Owner
Alexander Makeyenkov
Co-seller
Petya Dapkova
Source
Marketing Campaign
Marketing Campaign
DIA 2017
Potential
Potential is a potential customer budget for satisfying the customer need. Potential is expressed in money ($ by default):
A – $500,000.00 or more
B – $250,000.00-$499,999.99
C – $10,000.00-$249,999.99
Potential
A
B
C
or
$
500,000.00
Score
23%
Cancel
Save Changes
Contacts
Bradley Bendle
Active
CTO
Short description of the person....
Maneesh Gandhi
Inactive
CINO
Short description of the person...
Marketing Campaigns
DIA 2018
Active
Short description of the marketing campaign pres...
Alexander Makeyenkov
Activities 12
Hide system activities
Filter
Activity status
Activity type
Assignee
Due date
Clear filters
Apply
Call with Bradley Bendle & Maneesh Gandi
Today, at 10:30 AM, Alexander Makeyenkov
Call with Bradley Bendle & Maneesh Gandi
Jul 1, at 5:10 PM, Petya Dapkova
Call with Bradley Bendle & Maneesh Gandi
Jul 6, at 3:15 PM, Petya Dapkova
E-mail to Bradley Bendle
Jul 4, at 3:15 PM, Alexander Makeyenkov
Call with Maneesh Gandi
Jun 24, at 5:30 PM, Petya Dapkova
Call with Bradley Bendle & Maneesh Gandi
Jul 17, at 10:30 AM, Alexander Makeyenkov
Invite Bradley Bendle & Maneesh Gandi...
Jun 18, at 11:00 AM, Petya Dapkova
Call
Message
Meeting
To Do
Write a short description of activity...
Jul 17, 2018, at 10:30 PM
Alexander Makeyenkov
Choose Contact
Add Activity