

YOU WANT ANALYTICS? Here's a proven approach



Perhaps the value of analytics is apparent, but just in case it's not, consider this - organizations that effectively use analytics for decision making routinely outperform those that do not. They are -

23X more likely to acquire customers



6X as likely to retain those customers



19X as likely to be profitable as a result

Generally, it's not a lack of appreciation for the value of analytics that hampers its adoption; it's figuring out how to do so effectively and affordably. The challenges of acquiring and applying the right mix of analytical capabilities, resources, and knowledge to improve decisionmaking are, for many organizations, seemingly insurmountable. According to the most recent survey on big data use by large enterprises conducted by NewVantage Partners, 92% of respondents said that the most significant challenge holding them back from becoming data-driven were people, process, and culture-driven - fewer than 8% said it was technology. For smaller organizations without the bountiful resources of their larger brethren, the obstacles might seem even greater; however, we will offer a blueprint here, that when faithfully followed, has proven its value in practice for a wide variety of organizations.

ANALYTICS, HOW TO DO IT EFFECTIVELY AND **AFFORDABLY?**



AN "ANALYTICS INCUBATOR" IS A FAST, LOW-RISK APPROACH TO ACQUIRING VALUE FROM YOUR DATA

Many organizations generate data that, if accurately collected, categorized, analyzed, presented, and acted upon, would improve their business performance. How to put together a framework to realize the benefits buried in their data is the biggest hurdle. An Analytics Incubator that entails developing a Minimum Viable Product (MVP) offers a fast, low-risk approach to realizing data analytics benefits.

The goal of the MVP approach is to collect supporting information leading to a go/no go decision gaining consensus for pursuing an optimal analytics project scope. Here is a five-step process for developing an MVP:



1. Ideation

Generating ideas for using data to benefit the organization (generate/increase revenue, reduce costs, etc.).



2. Viability

Confirming that the necessary data exists, is suitable for the analytics task identified, and is available within the organization.



3. Prototyping

Developing a proof of concept to test the selected idea, offer supporting information for go/no go decision, and build consensus. Specifications and requirements for a tangible solution are created.



4. Narrative

Results of prior steps are communicated to management in the form of a compelling story.



5. Evaluation

Results are compared to success criteria, and a commitment to embrace and deploy the solution is made – or rejected.



Offering this sequential approach to employing analytics is not intended to oversimplify or sidestep potential obstacles that might arise as an organization proceeds through implementing this framework. Even the success of a proven process like the one described here will be compromised if widespread organizational support and the required analytical and business skills are missing. Here are a few hurdles organizations should clear to realize the maximum benefits from their analytics endeavors.

Organizational silos

A silo might not doom an analytical effort concentrated in one narrow slice of the business, but if the ultimate objective is to scale the analytics program, silos that hoard data, skills, knowledge, and technology will restrict the ability to scale. Eliminating silos by fostering/rewarding collaboration and teamwork, opening closed systems, attaining management buy-in, and providing tools that enhance teamwork and strengthen communication can improve the probability of organization-wide success.

Cultural resistance

Changes can be threatening for some. Figuring out what is causing the resistance (e.g., learning new techniques, perceived loss of status, etc.) and developing approaches to mitigate it can be key to getting more value from analytics.

Missing or insufficient skillsets

Even though much of the analytical software now available does not require a sophisticated mathematician, statistician, or programmer to use, some understanding of statistical techniques and data science is invaluable. People with the data and analytical skills needed to derive the greatest value from the tools and techniques are highly sought after and hard to find. Employing someone with business experience who can apply the analysis results to the organization's specific environment can be challenging. Smaller organizations might find that they can't compete in attracting people with the needed skills.



ANALYTICS INCUBATOR APPROACH FRAMEWORK



Solutions Deployed



STEP ONE OF THE MVP

IDEATION

Encouraging and harnessing the creativity of the people involved in developing the MVP is where the process begins – but before generating creative ideas – it's essential to understand the organization's challenges. This requires answering several questions:



What are the "big" problems the organization now confronts (e.g., declining market share, ineffective advertising campaigns, inability to develop new products/services, suboptimal pricing strategies)?



What is this effort to embrace analytics attempting to accomplish (e.g., data-driven decision making, improved operations, positive ROI)?



What does a "good" idea look like? Does it offer a potential solution to one of the "big" problems?



How will ideas be selected (e.g., alignment with organizational goals, offers a potentially high ROI, is realistic in the short run)?

Facilitated brainstorming/brainwriting sessions have proven effective in generating and selecting the most workable and innovative ideas. These sessions involve the organization's stakeholders and subject matter experts in a structured process. Whereas brainstorming is a widely used and understood technique, brainwriting is growing in popularity. Instead of verbally voicing ideas, brainwriting is the simultaneous documentation of ideas - the advantage of which is that no one interrupts or critiques any individual's ideas.

Session participants then challenge and expand on the submitted ideas. The ideas that survive this process are refined to generate specific hypotheses to be proven – or not. At the end of the session(s), a written summary of the hypotheses serves as the input for the next step in the MVP process. The adjacent diagram offers an overview of the brainwriting process:





STEP TWO OF THE MVP

VIABILITY

In this step, the team determines the viability of the hypotheses by conducting a feasibility study that offers an in-depth picture of the project's goals and risks. The feasibility study weighs the effort's viability by examining the financial, technical, operational, and timing ramifications of moving forward.

- Financial feasibility consists of a cost/benefit analysis of the proposed endeavor before allocating funds. It attempts to accurately depict the project's anticipated ROI and other financial benefits, including the opportunity costs of the investment and any positive financial rewards resulting from attaining a competitive advantage. It also identifies potential risks and attempts to quantify their likelihood and costs.
- Technical feasibility for an analytics endeavor assesses the project's technical requirements and the availability of the resources to fulfill those requirements. It evaluates the useability of internal hardware/software, the cost of internally developing software and/or acquiring it from a third party. It also examines whether technical skills gaps require hiring, reskilling staff, or outsourcing. The dollar costs, if any, are then reflected in the financial feasibility study.
- Operational feasibility assesses the degree of alignment between the organization's goals and a successful project's results.
- The anticipated timing/scheduling of the project provides an estimate of the time required to complete the proposed project given other commitments and determines whether there is enough time available to complete the scope of work within the desired timeframe.

After the feasibility study, the organization should have a clear picture of the likelihood of the project's success, an understanding of the potential obstacles and ideas on avoiding/mitigating them, whether an alternative idea might be more promising, and confidence as to when the work would be concluded. The feasibility study leads to the decision to proceed with the work or not. The team assesses the viability results and associated analyses and assigns a number of points to the ideas that appear viable. Those ideas are then ranked by the number of points received, and those thought most viable are selected for prototyping.





STEP THREE OF THE MVP

PROTOTYPING (MVP FRAMEWORK)

A proof of concept is developed to test the selected ideas and quickly provide a go/no go decision. Here also, a consensus is built to support the optimal solution(s). At this step, the theoretical is made real as the prototype provides specifications and requirements for a working solution.

A structured approach is needed to rapidly build a prototype that serves as an effective mechanism for validating requirements.

- 1. Define scope of prototype: identify reports to be built, data sources required, and metrics to be derived.
- 2. Design prototype screens and reports: create mockups or wireframes.
- 3. Load and convert data: incorporate all source data into the prototype; manual steps and some "cleaning by hand" are reasonable at this stage.
- 4. Iteratively test prototype functionality: validate data and conduct "usability" tests to confirm report interfaces support defined business activities.
- 5. Review and refine prototype with users: conduct a demonstration of the prototype to validate requirements and identify additional business needs.

The prototyping results could include dashboard wireframe specifications, report specifications, and a working system that might employ an analytics platform that can be used to perform the analyses, offer dashboards and reports, and offer useable models that fulfill the original intent of the planning.

The requirements gathering and development of the prototype can provide several benefits:

- Availability of visual reports highlights and confirms the business requirements.
- Increases the likelihood of getting the requirements right and allows users to visualize how to apply the new information in doing their jobs.
- Obtains agreement by all involved parties on the functional scope of the endeavor.
- Having a mockup of the final output reduces the risk of scope creep.
- Solidifies commitment and generates enduser enthusiasm.
- Offers tangibility and value that can be leveraged in the next step in the process.





STEP FOUR OF THE MVP

VISUALIZATION AND CREATING THE NARRATIVE

This step aims to take the results acquired during the prototyping and make clear the insights gained and how those insights can be leveraged to provide value to the organization. Visualization pulls the significant data out and uses charts and graphs to give the audience nuggets of information that might otherwise be overlooked or underappreciated. As Edward Tufte noted in his highly regarded book The Visual Display of Quantitative Information, "...of all methods for analyzing and communicating statistical information, well-designed data graphics are usually the simplest and at the same time the most powerful."

Take care that the visualization techniques fit the data and offer it clearly. The guidelines in the graphic on page 9 offer our suggestions for data visualization.



Creating the narrative entails crafting a story that, along with the visuals, engages the audience and makes a strong case for adopting the incubator's results. The narrative must be compelling and offer measurable business value in the form of improved ROI, reduced costs, enhanced productivity, etc. The story must meld the data, the visuals, and the narrative into an instrument for change.

OUR APPROACH IS FUELED BY VISUALIZATION GUIDELINES

Data visuazlition is more than pretty pictures, it's telling a story and answering key business questions in a visually appealing and instinctual manner. To be effective, a solution should:

BE VISUALLY	Straightforward and easy to understand by its intended audience
PLEASING AND INTUITIVE	Include design elements—colors, shapes, etc—to make it more visually appealing
	Keep it attractive but simple so the user has a positive experience but nothing stands between the message and the audience
TELL A STORY	At its core, data visualization packages data to tell a story
	Compelling narrative is necessary to transform data into knowledge
	Understand the business challenge and align the visuazliation to answer the key question the user is looking to answer. Reduce the noise and allow for quick generation of insights
BE ACTIONABLE	Does the visualization provide guidance through visual clues for how it should be used?
	Visualizations should leverage visual clues—or establish a visual heirarchy—to direct the audience's attention
	This is the "happy or uncomfortable" test: Before you even know what the numbers say, the design of the visualization should make you feel something. It should compel you to worry or to celebrate
	The acctionable outcomes should be obvious and further defined through the interactivity of the dashboard



STEP FIVE OF THE MVP

EVALUATION

The last step of the process ties everything back to the success criteria. Correctly deciding where to invest resources to drive innovation is critical to an organization's long-term success. Making informed decisions that improve the likelihood of success take time and resources. There must be confidence that the recommended action provides the anticipated measurable benefits. This evaluation assesses the value and risk of investing in a specific work scope against the organization's criteria across many checkpoints.

Many organizations have methods of assessing whether to make a specific investment. If you have a process you commonly use that has proven itself over time, use it here to finalize the go/no go decision. If you do not have a method you will apply to evaluate this opportunity, there are many decision-making approaches from which to choose. One such method, the Value Rating Model, has the user weigh financial criteria, strategic fit, ease of implementation, potential competitive advantages, risks, and other factors in determining a score which can either be compared to alternatives or a benchmark score to decide whether the alternative offers sufficient value to pursue. If you are unfamiliar with this evaluation technique, we encourage you to learn more about it.

Regardless of which approach is used to evaluate moving from prototype to final product, there are certain elements that should be incorporated into the assessment. These include the following:



Strategic alignment - does this endeavor comply with the organization's strategic priorities and mission?



Competitive value - is it possible to create a competitive advantage from pursuing this endeavor?



Direct payback - will you meet Net Present Value (NPV) and payback targets?



Business process impact - who are the primary beneficiaries of this activity, and what is the degree of improvement to internal services or service to the customer?



Infrastructure - what is the impact of this endeavor on operational effectiveness, organizational capabilities, and life cycle management?

Risk - can we identify and quantify the market, execution, financial, technology, opportunity, and assumptions risks related to this project. Are the risks worth the potential reward(s) from an organizational perspective?

If the project meets or exceeds the organization's success criteria, it proceeds. If not, the process can restart with alternative ideas or be placed on hold for later re-examination.



DEPLOYING ANALYTICS IS THE START OF THE EFFORT — NOT THE END

Thinking back on the NewVantage Partners survey findings mentioned at the beginning of this piece - the greatest challenges organizations face in their attempts to become data-driven are people, process, and culture driven. The incubator model offered here is clearly process-driven – and primarily focused on the initial phase of embracing and deploying analytics. If adhered to, it gives organizations a starting point from which they can begin to attain value from the data generated by their operations. Successfully bridging the people, process, and cultural obstacles is critical for the organization to scale its analytics efforts and realize maximum value from those efforts. Keep these high-level suggestions, some of which were noted earlier, in mind:

- The competition for experienced data analytics talent is stiff but don't let that hinder your analytics activities. When you figure out the skills you need, there are alternatives to full-time hires. Options include identifying a current employee with the aptitudes and interests in analytics and offering them training; hiring people who lack the experience but have the necessary aptitude/interests to train; and for the shortterm, outsourcing analytics activities until you establish a baseline program and have a clearer understanding of specific job requirements/skills.
- People should bring not only the aptitude for statistics and have strong analytics aptitudes, but they should also be interested in building their skills in communicating and collaborating with team members and stakeholders.

- Organizational silos will make scaling the analytics effort difficult. Try building crossfunctional teams and offering guidance on fostering teamwork and collaboration. This is easier said than done and requires a highlevel, long-term commitment.
- Implementing and scaling analytics requires change, and even positive changes can be threatening to some. Spending time and resources to understand and mitigate any resistance to the changes embracing analytics might entail is invaluable.

Successfully applying the analytics incubator model can lead to a fuller appreciation of the value of the organization's data and fresh ideas on how to use it. It can fuel a cycle of more significant insights that improve operations and financial results.



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