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## Actionable Analytics

*How to convert thought into action and bridge the gap between analytics creation and consumption.*

According to a recent industry report [1], companies that invest in analytics have 33 percent higher revenue growth, 12 times more profit growth and 32 percent higher return on invested capital than their peers. To further this point, a recent examination of Nucleus Research ROI case studies found organizations earn an average of \$10.66 for every dollar spent on deployment of analytics applications such as business intelligence (BI), performance management (PM) and predictive analytics [2].

### The Analytics Creation-Consumption Chasm

While substantial returns are widely associated with analytic investments, for every such instance of success, one could easily find a case where investment in analytics did not yield the anticipated benefits. Consider the following case studies:

- A large retailer, with due diligence, used analytics to come up with a sound customer relationship management framework. It procured and stored data that could be mined to understand customer behavior, and it engaged analytics consultants to build the predictive models, but it missed one piece in the puzzle. The firm did not invest in the technology that could use the metrics obtained from the models to guide the campaigns that could actually establish contacts with the customers. As a result, all the analytics investment languished without adding the business value it was intended to achieve.
- Another large consumer packaged goods manufacturer invested in a state of the art demand forecasting tool and hired an army of IT consultants to use it to predict demand for various products, yet the company could not get its supply chain team to use the tool to plan demand and logistics. When the inevitable post-mortem happened, it turned out that inappropriate inputs to the forecasting tool had caused very high errors in the forecasts. In this case, analytics was commoditized before the right intelligence was put in place.

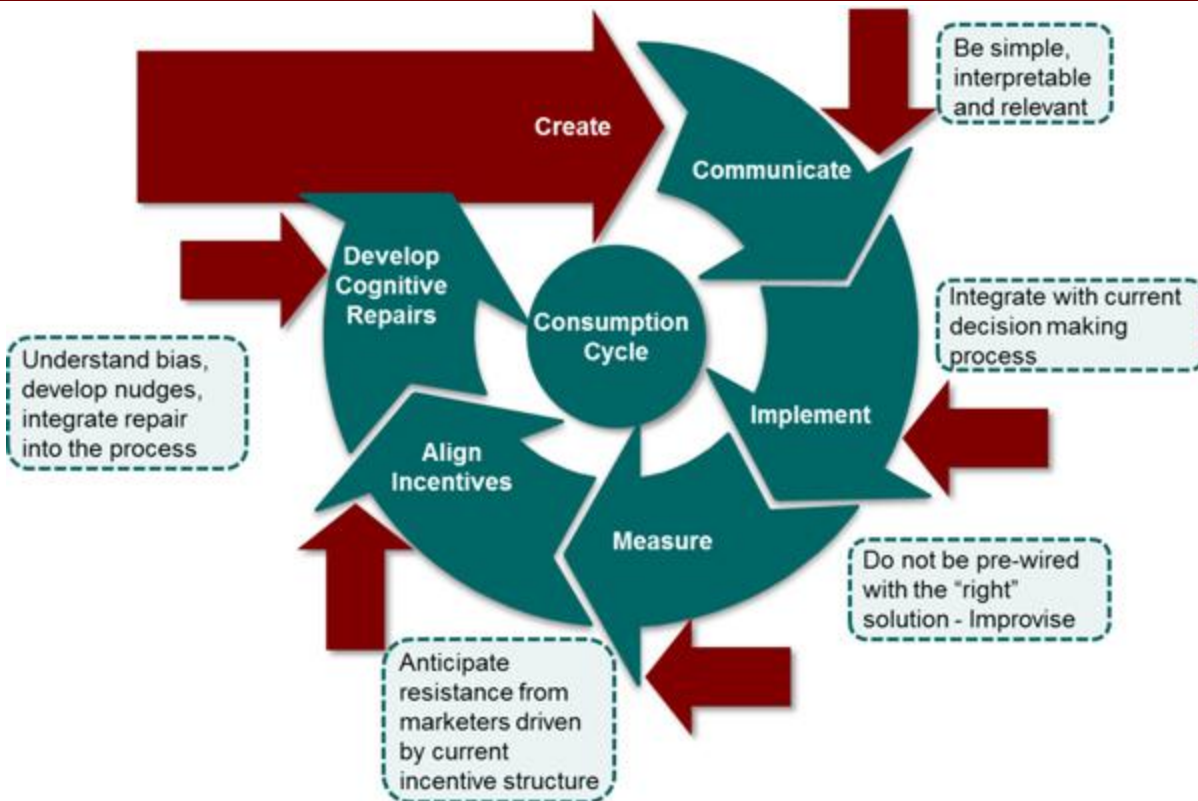


Analytics is still evolving. Requirements are ambiguous, talent is scarce and managerial bandwidth that understands analytics is at a premium. So what are some typical symptoms of an analytics investment in need of saving or at the very least, a new roadmap? The trouble signs are numerous:

1. **The business problem is not clear:** In a rush to jump on the analytics bandwagon, business practitioners often forget that the business problem needs to be well-defined for the analytics solution to be relevant to the problem at hand.
2. **Appropriate stakeholder(s) are not involved:** If a firm is using analytics to design a promotion campaign for a certain product, the demand planning teams need to know what's changing to get the product on the shelves. Like any project team, the right stakeholders need to be involved at the right time. This is especially true when multiple functional groups are involved in a specific business problem.
3. **Mystery math:** With the explosion in data and the availability of technologies that bring applied math to the analytics workbench, analytics practitioners begin to regard the technical analysis as an end in itself. Mathematical techniques are tools necessary to solve the business problem at hand.
4. **The right expectations are not set:** Sophisticated mathematical techniques are often expected to act as magic wands, solving any and every problem at hand. More often than not, this creates unreasonable expectations. As the key sponsor of a failed forecasting project famously said, "Why should there be any error in the forecast if you have used sophisticated mathematical techniques?" This was clearly a case of a mismatch in expectations – it was never communicated to the executive that no mathematical technique, however sophisticated, could accurately predict the future.
5. **Lack of continuity:** As basic a management principle as it may sound, the best analytics ideas tend to lose advantage and diminish in value, due to a variety of reasons ranging from internal organization changes to getting lost in the shuffle of organizational initiatives.
6. **Losing relevance:** Analytics needs to be extremely agile to keep up with changing business priorities. Quite often, the quest for the perfect mathematical technique delays the solution to an extent that it is rendered irrelevant. For example, a launch pricing analysis is irrelevant after the product launch has already happened.

### Bridging the Chasm

It is becoming increasingly apparent that investing in the creation of analytics alone does not guarantee effective consumption of analytics by businesses. To truly leverage analytics as a competitive differentiator, companies will need to ensure that the consumption cycle is tightly integrated with the creation of analytics (see Figure 1).



**Figure 1: A corporate consumption cycle is tightly integrated with the creation of analytics.**

As is apparent from Figure 1, building an effective consumption cycle in an organization requires coordinated efforts across people, process and technology dimensions. Perhaps most importantly, it requires an agile mindset that is willing to learn with a “fail fast” mentality and improvise to stay aligned with the continuously changing business environment.

**Process:** For analytics to be effectively embedded in decision-making, “nudges” need to be introduced across every stage in the decision-making process. Some specific activities that should be adopted include:

- *Clarity around the business agenda, which in-turn drives better hypothesis generation, better analyses and insights which drive better consumption.* Front loading thinking of the business problem is important. For instance, implementing marketing programs and designing target groups without thinking through the measurement process and the data complexities and continuous planning may lead to failure. It might result in faulty measurements and eventually a drain of resources without one ever knowing if the campaigns really worked. Even a few such cases of faulty analysis are enough to make the business users lose faith in analytics.
- *More often than not, creation of analytics is an iterative process.* The faster the business learns from iterations, the better the consumption. In a fast-changing world, the analytics processes need to be closely integrated with the business teams to continuously validate the hypotheses and to make course

corrections as and when required. This calls for a close alignment between the analytics teams and the final business users.

- *What you cannot measure, you cannot improve.* Like most organizational initiatives, analytics can become a self-serving enterprise, existing only to generate sophisticated models with little or no thought to consumption. It is important to ask the right questions on a continuous basis – how many people are using the sophisticated dashboard? Is it really necessary to refresh the customer segmentation on a monthly basis if there is little change in the purchase behavior on a month-on-month basis?
- *As analytics evolves organically, three types of organization models are also evolving:*
  1. *Centralized analytics:* A single team that owns the data and services all the analytical needs across all the business functions. While this carries the promise of an integrated data infrastructure and the economies of scale, a centralized model will not be able to provide the agility and flexibility that is required to keep analytics relevant within the business.
  2. *Decentralized analytics:* Each business function owns its own data infrastructure and analytics team. While this ensures the agility and flexibility, this model runs the risk of creating different functions within an organization that choose to adopt their respective sets of tools and methodologies. While this approach gets each function off the ground quickly, it runs the risk of creating redundancies or worse, conflicting approaches ultimately resulting in fiefdoms.
  3. *Federated model:* This seeks to marry the advantages of both the centralized and the decentralized models. While each function is allowed the flexibility to deploy analytics, a governing council ensures that there is broad alignment on data policies and infrastructure. Needless to say, this model is extremely hard to execute and requires commitment from the leadership.

**Technology:** Technology is radically changing the way data is produced, processed, analyzed and consumed. On one hand, technology helps evolve new and more effective data sources. On the other hand, as more and more data gets captured, technology steps in to help process this data quickly, efficiently and visualize it to drive informed decisions. Now, more than any other time in the short history of analytics, technology is poised to play a pivotal role in ensuring that analytics gets better consumed.

- *Procuring and capturing data from new sources:* Technological advancements are paving the way to capture data that is fundamentally changing organizations' understanding of customer behavior. New technologies enable one to connect customer perceptions with actions, thereby making information more real and actionable. Organizations that were once dependent on surveys to measure customer perception of their products can now collect telemetry data – data that enables them to understand each action that a customer performs not only on their products but on competitor products as well.
- *Ability to analyze unstructured data:* Newer technologies have accelerated the pace of data capture. Data can run into terabytes and even petabytes, and desktop computing is neither quick enough nor scalable enough to meet the challenges of data processing. Organizations can invest into constantly increasing

server capacities or move toward “big data technologies” like Hadoop, which can parallelize data processing and synthesize results faster, thus leading to quicker decision-making cycles.

- *Real-time analytics:* In a complex world with intertwined systems and processes, the exchange of real-time information is critical to get the maximum out of one’s business. Split-second decision-making, once a forte of Wall Street investment bankers, is finding applications on the Main Street, aiding businesses to adapt to customer needs through customization, enhance revenues in areas such as search and display advertising, and reduce operational costs through real-time optimization engines.
- *Visualization:* Analytics is as much about presenting the information as it is about crunching numbers. Right representation not only helps draw correct insights, it also facilitates executive level buy-in for analytics consumption. With the data deluge threatening to overwhelm businesses, effective visualization is increasingly becoming critical to ensure effective consumption.
- *Better feedback loops with social media:* Consumers in today’s world are more empowered than ever. Perceptions are formed easily and spread instantly through social networking Web sites such as twitter, Facebook, YouTube, etc. While traditional sources such as sales data lack indicators of performance, social media is a direct and leading indicator of customer perception and hence it is imperative to listen and react to the voice of customers. Organizations with evolved social media strategies have leveraged it to manage brand image by influencing customer perception, understanding keyword associations that have led to enhanced paid-search marketing and for product innovation through understanding user sensitivities.

**People:** In the end, it all comes down to people. The best of intentions can go awry if the goals of the analytics professionals and the end business consumers are not aligned. This is even more critical given the highly iterative nature of analytics, which demands that generators and consumers work closely on a continuous basis.

- *Organizational alignment:* The leaders need to define business priorities and problems to be solved and define roadmaps that are time-bound but at the same time measurable and achievable. As intuitive as it may seem, without focus and direction, no processes or technology will make a difference.
- *Executive endorsement and sponsorship:* It is important for the leadership team to endorse fact-based decision-making and identify champions for consumption of analytics. Consumption also requires a lot of walking the aisles, socializing the insights and maneuvering the dynamics across various business groups. Without conscious focus on these activities, the visually rich reports or sophisticated statistical models not drive any real business value.
- *Investing in analytical human capital:* The organization needs to mobilize resources required for analytics and hire the right talent and retain them. There is an increasing demand for analysts who can learn new skills as the situation demands, be it math, business or technology.

## Conclusion

In today's business world, probably not a single business function is questioning the need for analytics. Yet, as it often happens in an evolving discipline, companies that are investing in analytics often find that the businesses do not consume the outputs for a variety of reasons. And as companies realize that one of the many factors that separate failure from success is their ability to effectively use analytics to make better decisions, it becomes necessary for the key stakeholders to ensure the right set of investments are made on the process, technology and people dimensions to bridge the gap between the creation and consumption of analytics. The sooner businesses can get this done, the better their chances are of leveraging the potential competitive advantage offered by analytics.

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