12821 East New Market Street, STE #310
Carmel, IN 46032
Phone: (317) 514-6172
Fax: (317) 534-3176
www.metamorsys.com

A MODERN GUIDE TO LEVERAGING ORGANIZATIONAL DATA

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Adapt or Die

> "The greatest danger in times of turbulence is not the turbulence – it is to act with yesterday's logic."
>
> – Peter Drucker

Today's executives are under a constant barrage of dire warnings about "being disrupted" by new business models, new apps or new technologies. Social media, for example, has empowered customers in a huge way. Viral posts can pressure companies to make changes that previously wouldn't previously have happened. Even some "great American companies" are on the verge of extinction (e.g., Sears) due to changes in the business environment. However, these changes are likely "old news". Many companies recognize that they must change or face a challenge to their own existence.

While most executives are well aware of their need to adapt or even transform their companies, this Havard Business Review article (https://hbr.org/sponsored/2017/10/is-your-company-adapting-fast-enough-to-thrive-in-an-increasingly-digital-world) calls out the fact that many, many companies are not ready for big changes. The article also offers some approaches to start the difficult process. While some techniques are intuitive (e.g., creating a strategy and communicate it regularly from the highest levels), others are not. For example, creating cross-functional teams to experiment with completely different approaches may sound like a good idea; but, how are they implemented effectively?

Additionally, data has come into its own (finally, we say!). Whether it's big data, data science or machine learning, every executive loves to talk about these things – they are sexy now! However, the reality is that most companies are not using the data that they already own. The Harvard Business Review summarizes a recent study (https://hbr.org/2019/02/companies-are-failing-in-their-efforts-to-become-data-driven) reporting the following stunning statistics:

- **72%** of survey participants report that they have not yet forged a data culture
- **69%** report that they have not created a data-driven organization
- **53%** state that they are not yet treating data as a business asset
- **52%** admit that they are not competing on data and analytics

Further, they write: "...*An eye-opening 77% of executives report that business adoption of Big Data/AI initiatives is a major challenge*...".

This confirms what Metamor Systems sees with many of its clients: Enabling transformation is difficult and leveraging existing data for that transformation is a major barrier.

What follows is the **Metamor Systems Playbook** for adapting your business and leveraging

your data to drive new innovations from within your company.

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Innovation Starters

> "It is not the strongest or the most intelligent who will survive but those who can best manage change."
>
> – Charles Darwin

Every few years, a new "silver bullet" methodology appears with great hype bringing with it the promise to solve all the business problems. While Metamor Systems has seen, first-hand, the power of changing a methodology, executives must go further to change the way its employees think about their business, business model, products and services. This change in mindset is difficult, if not impossible, working in the traditional way the company has always worked. Even the most forward thinking employees cannot come up with an idea and expect many others to truly "get it" simply by having meetings or writing memos. Trying to transform products and services using these traditional methods is setting everyone up for failure.

To truly manage the changing business environment and drive innovation internally, everyone from executives on down must go back to the basics and re-think their products and customers. The best way – currently – to do that is with an approach created by the Standford Design School (or "d school") called "Design Thinking". While this white paper won't go into a deep discussion of the techniques and benefits, a practical toolkit can be downloaded here: https://dschool.stanford.edu/resources/the-bootcamp-bootleg. As they say, "...*Design thinking helps you excel in understanding people, gaining insights that you can leverage, and experimenting your way to a solution*...". Therefore, this is an excellent way to kick-off approaching your existing business challenges with a new frame of mind.

Of course, there's much more to driving a transformation within a company than a new way to brainstorm new products or services. Analogous to Agile software development, A Lean Product Approach (https://medium.com/the-agile-weekly/the-lean-product-management-manifesto-41dd5d1d03ae) is recommended to be followed. That will enable things like a Minimum Viable Product to be tested by actual users so that data can be gathered on its success (or failure).

Data-Driven Culture

> "It's difficult to imagine the power that you're going to have when so many different sorts of data are available."
>
> – Tim Berners-Lee

It's true: data is power...but only if its used and interpreted into actionable knowledge. Beyond creating new products or services and re-booting your understanding of your customers, your internal data (including new data you're gathering on your new products) must be used throughout the organization. Then successes can be easily communicated throughout the company reinforcing the success of the

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new approach, products or services. However, doing this – creating a data-driven culture – is also very difficult.

Everyone knows the cliché: "Culture Eats Strategy For Breakfast". Of course, the lesson of that is that corporate culture is a much stronger force than any high-level strategy. Executives must continually cultivate a data-driven culture day after day, week after week. However, the benefits are so powerful, the investment in time and energy are more than worth it. Again, that topic is too broad and deep to go into detail, but a Forbes article (https://www.forbes.com/sites/brentdykes/2017/10/26/creating-a-data-driven-culture-why-leading-by-example-is-essential/#7862b9e16737) succinctly covers the most important points:

- Incorporating data into a daily routine and/or dashboard
- Senior executives must make decisions based on the data rather than "gut feeling"
- Data-related communications must come from executives regularly to reinforce its strategic importance
- Emphasizing the use of metrics and other data to help facilitate meetings can make them more effective
- Data literacy training must be offered to a wide variety of company employees due to the wide accessibility of the data (more on that below)
- Placing displays of key metrics in prominent areas reinforce the importance of the data

To enable the items above, data have to be accessible, aggregated, cleaned and matched. All too often these critical foundations are neglected in the rush to implement some big data initiative. When this happens, the initiative either takes too long to be effective or doesn't produce the desired results. To truly leverage your valuable data to gain meaningful insights, Metamor Systems recommends key foundational pieces to be put in place. Those are described in our final section.

A Good Data Foundation Enables Everything

> "Noise free data is a source of great strength."
>
> – Lao Tzu (Father of Taoism)

Isn't amazing that an ancient philosopher can "hit" the data "nail on the head"?! Maybe the amazing thing is that even centuries later, this quote is more true than ever. While its never "sexy", Metamor Systems knows that good, clean data is a strategic asset to your company. This is the work that sometimes doesn't get done in analytics projects. When neglected, reports, dashboards and analyses are challenged or proved incorrect. It leaves executives with the feeling that analytics is over-hyped and isn't as important as "gut feeling".

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On the contrary, many examples have shown that well managed data can enable everything from an effective data warehouse, advanced analytics and even machine learning or AI. It

doesn't have to be just the companies that invest many millions of dollars that get the

benefits. A good data foundation can be affordable and feasible. Like many other large initiatives, it does take time and an incremental approach to get the entire company where it needs to be. However, the following areas can really enable and drive great business insights from your data.

Getting validation from the following TechCrunch article (https://techcrunch.com/2017/06/23/five-building-blocks-of-a-data-driven-culture/), here are the areas to focus on for laying a solid data foundation:

Source of Truth

Unless and until leaders agree on what the source of truth is for any type of data, there will always be a lingering debate about the validity of the data. This is truly a killer of any data project. If people don't believe the numbers, there's no reason for starting. Therefore, making conscious decisions about the source of data is important. The technology staff will also benefit from the direction and avoid getting caught up in lower-level disagreements about the data.

Along with an approved source of data, the data must be cleaned and matched. All systems have some level of error embedded in the data. While some minor issues may be acceptable, any major data cleaning efforts must be on-going and automated. This ensures that metrics don't tend to skew as time goes on. Additionally, common key data-points (i.e., Master Data) must be matched and standardized. For example, customer information must be matched across systems and standardized to ensure apples-to-apples comparisons.

Data Dictionary

Another "un-sexy" but necessary item is the data dictionary. All too often, this is neglected in companies because of either "analysis paralysis" or letting "perfection get in the way of good". Typical scenarios are the following:

1. A well-meaning analyst sets off to create a data dictionary only to be blocked by different departments having different definitions of a similar concept; or,
2. A company will spend so much time making sure they get all data included and just the right definitions that a dictionary never gets created and used

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At Metamor Systems, we create data dictionaries that are living documents and widely accessible by many in the organization. This way, definitions can be added as needed and the right people can get to the information easily. A data dictionary then enables common business rules and calculations to be created once and re-used by many in the organization. This enables efficiency and reduces disputes.

Data Accessibility

Years ago, the approach to implementing analytics in the company was for a central group to control all the data, tools, and access. All too often, this resulted in only select staff getting access to the tools to see metrics and perform data analysis. Lack of access to data resulted in individual departments sometimes building their own business intelligence systems incurring money, resources and time. Fast forward to today, advances in IT infrastructure and business intelligence tools can eliminate the expense and redundancy.

While it is true that it won't be productive to give everyone in the organization access to raw data, making cleansed, matched and summarized data available is key. Then departments can focus their efforts on becoming more data literate. That is, staff in various departments can use (and therefore, must learn) powerful data visualization tools (e.g. Tableau or PowerBI) without coding. Therefore, departments should invest in training and developing some of their business staff to be data analysts. Once the data is available, each department must use their own subject matter experts rather than some central group that is somewhat removed from the business. This is the key to discovering real business insights and creating a data-driven culture for lower-level employees.

Decisions Based on Data

While it may be obvious, the final piece of the foundation of a data-driven culture for executives is making sure that decisions are based on the data and analyses done. If staff learn to use data tools and data analysis only to find that executives continue to "go with their gut", everyone will be demoralized and the value of the data will always be called into question. If this is done by the executives, then the same approach will filter down through the rest of the company and data won't ever be used effectively. Executives must lead by example for data initiatives to be successful.

Conclusion

> "It is a capital mistake to theorize before one has data sources. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts."
>
> – Arthur Conan Doyle, Sherlock Holmes

In just a few short pages, we've covered a lot of ground. We've gone from the business driver of needing to be more adaptable all the way through how to change the organization and enable a data-

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driven culture. Clearly, the reality is complex and each part of this document requires a much deeper dive than this paper can provide (in a reasonable reading length).

Metamor Systems deals with these areas all day, every day. We can help enable your organizations journey to be more adaptable and resilient as the pace of changes continues to increase. Please contact us for a personalized discussion of where your organization is today and how we can help. At the very least, we hope that this paper provides valuable and actionable information regardless of our involvement or not.

info@metamorsys.com

http://metamorsys.com