

TURNING DATA INTO DOLLARS

a SAS Best Practices white paper

A Framework for
Successful Data
Monetization



by
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WHERE'S THE MONEY IN DATA?

There is little argument that there is value in data. In fact, many executives would say their data is one of their most valuable business assets. Yet as we progress further into the age of digitization, many of those same executives are asking "How do we use data to drive revenue?" or "Where's the money in data?" It is much easier to consider and treat data as a valuable asset than it is to monetize it and actually generate value from it.

Data monetization, the term used to describe a variety of approaches to turning data into dollars, is a whole new ball game when it comes to managing and using data. It demands the strategic use of data with different business processes and a unique blend of skills and capabilities, and sometimes even requires new operating models. There are a variety of considerations for businesses looking to launch monetization initiatives. This white paper will introduce a framework to help you understand methods for monetization and build a strategy to successful business value generation through data.

THE FOCUS AND STATE OF THE PROBLEM

The most important factor in any monetization effort is the product, service or practice should solve a problem or have value in the context of the consumer's use. When considering value for the consumer, it first must have value of utility in order for it to have an exchange value to monetize. This is true whether there is to be exchange of currency in a sales transaction, an exchange of goods or services in a barter or trade deal, or an exchange of internal capabilities that reduce operating costs.

All data monetization efforts require that data is ultimately used to drive actions or decisions that solve a problem for an end consumer. This fundamental requirement is where most businesses fail when attempting to monetize data because the typical approach is to ask how selling data can increase revenue, which assumes that the value is the sale of the data itself. In order to successfully monetize data, businesses must flip this approach and start with the end in mind. The questions should be "What problem can our data solve?" and "How valuable would it be to the end consumer if these problems were solved?"

All data monetization efforts require that data is ultimately used to drive actions or decisions that solve a problem for an end consumer.

It is important to note that “end consumer” does not always mean customer. Monetized data solutions can be for internal end consumers as well. Monetization is about solving problems, driving action or decisions, and creating solutions that provide unique capabilities with high utility value that the end consumer would not otherwise be able to generate on their own.

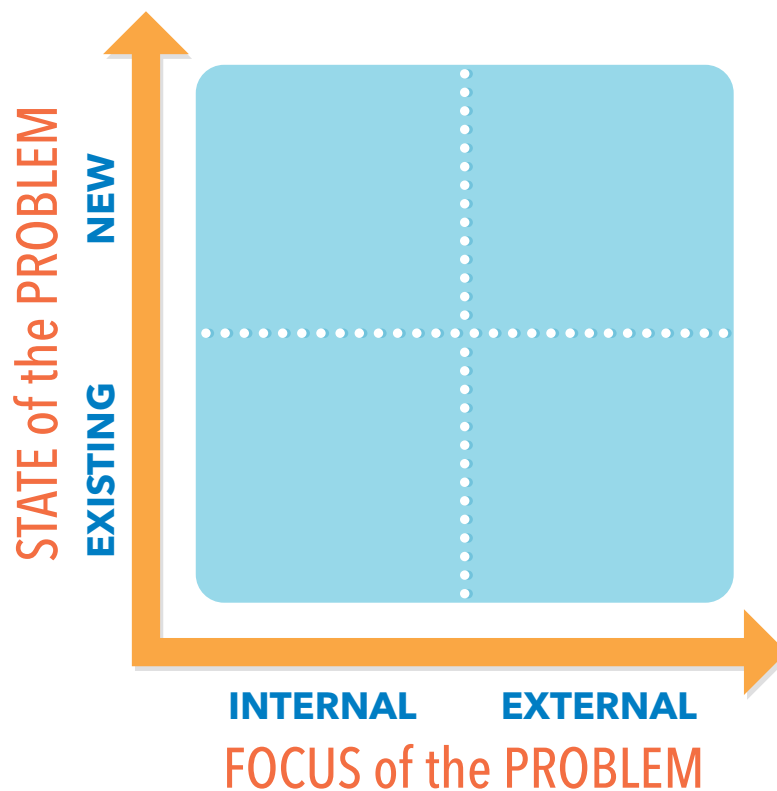


FIGURE 1
the data
monetization
framework

Two aspects of “the problem” define the data monetization framework, the focus and the state (see figure 1). Focus determines if the problem to be solved is based on an internal or external need. The problem state, existing or new, determines if the problem solution will require demonstration of value for the end consumer.



FIGURE 2
the focus of the problem

Focus

If you are looking to reach more customers, sell more products or improve business processes, the focus of the problem is internal. If you are looking to improve the customer experience, create additional functionality or utility in products, or provide a solution to a customer's problem, the focus is external.

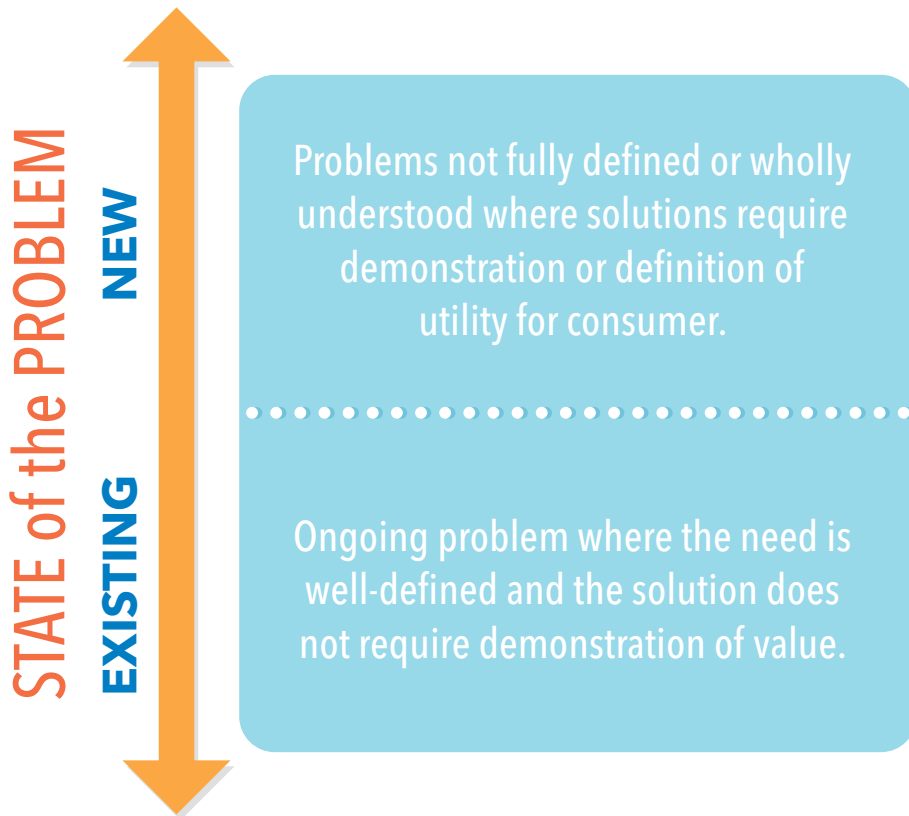


FIGURE 3
the state of
the problem

State

The state of the problem is determined by how long the problem has existed. If it is a current, ongoing problem where the need is known, the state is “existing.” If the problem is recently identified or has not been ongoing, the state is “new.” The needs of existing problems are well-defined, whereas the needs of new problems may not be specific or wholly understood. This means that while all monetization offerings ultimately provide solutions to problems, monetizing opportunities for problems with a state of new will require greater demonstration and definition of utility for the end consumer.

Areas of Practice

There are three areas of practice that businesses must consider to successfully monetize data - collection, packaging and delivery. These three key aspects of developing information-based solutions distinctly define the requirements and approach necessary for each of the four monetiza-

tion opportunities – business optimization; new products, services and channels; increased market share; and new business models. Defining the problem in the terms of state and focus determines the monetization opportunity at hand and is critical as each of these opportunities have unique considerations and approaches for the collection, packaging and delivery of data-based solutions.

BUSINESS OPTIMIZATION

When the focus of the problem to be solved is internal and the state is existing, then the defined monetization opportunity is business optimization (see figure 4). When using data for business optimization, the value generation and recognition is not defined by revenue dollars or asset assessments for accounting ledgers. The monetized value of data in business optimization is defined by reducing costs or improving productivity in business operations. While the value of business optimization can certainly be defined in monetary terms, the value can also be recognized in soft terms such as increased employee satisfaction, reduced time and effort, or increased accuracy and quality, all of which have significant value for the overall business.

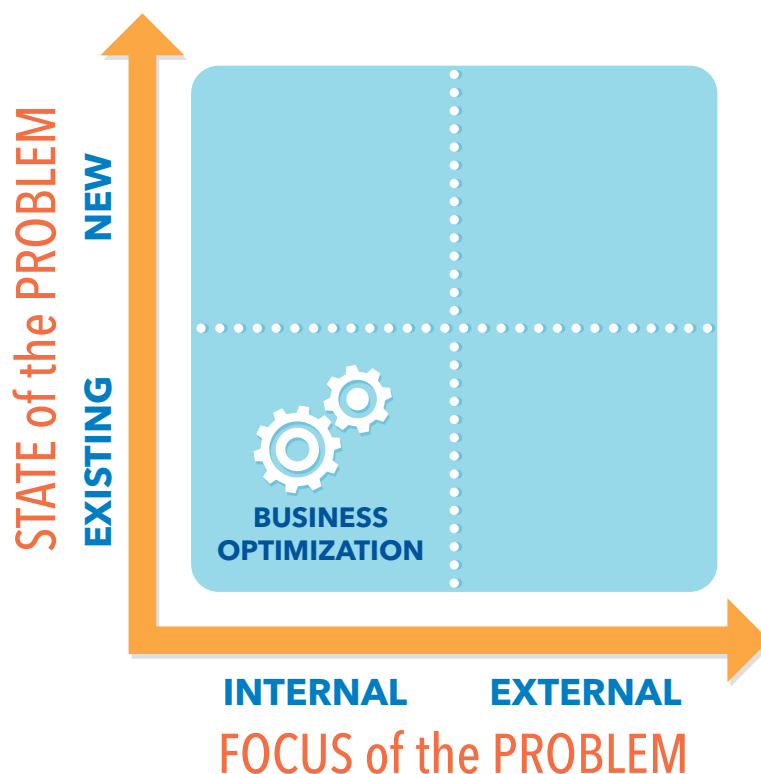


FIGURE 4
business
optimization

Generating value for business optimization represents a shift in the business using data as a business process output (reporting) to using data as a business process input (analytics). Data is no longer used to just provide answers to business questions, but rather the data is now used to define and refine the questions. This means that the traditional approaches to data collection, packaging and delivery for business processes fundamentally change.



COLLECTION

Data sharing and integration across entire enterprise.



PACKAGING

Effective data management, governance and BI standards.



DELIVERY

Easy accessibility, effective communication and seamless integration.

When considering data collection for business optimization, data silos will have to become a thing of the past, as data collection not only refers to the acquisition of data but also to the integration of data across the enterprise. How data is ingested and stored is definitely important, but data integration across the enterprise is the essential and fundamental requirement for data monetization through business optimization. Data integration does not require that all data be centrally located. Departmental data can remain autonomous in source systems and be integrated as needed through virtualization and cloud capabilities. Technology really isn't the barrier to data collection in business optimization as much the people and the processes are. Make sure the people of your organization know the value in sharing data cross-functionally. Once data can be effectively shared throughout the company, the possibilities to generate business value multiply exponentially.

problem state:
EXISTING
problem focus:
INTERNAL

FURTHER READING:

[Click here for 5 Data Management for Analytics Best Practices.](#)

The packaging of data for business optimization is all about making information solutions consistent and easily digestible. For internal optimization efforts, this will require governance to ensure consistency. Remember, data monetization is about solving a problem. If the packaging of information is not consistent, your solution may provide the answer to one problem but create many others - certainly not the definition of success. Data quality, data management, data governance and BI standards of excellence are all key areas of focus for effective "packaging" in business optimization.

The delivery of data products and services for business optimization is based on effective communication and seamless integration into business processes. In order to ensure data-based tools and solutions are used appropriately, they must be placed as close to the expected action or decision point as possible. Meaning, if a customer service representative (CSR) is expected to provide the next best offer to a customer to increase revenue, then the offer should be an obvious (and easy) part of the transaction the CSR is completing. If an executive is expected to use a specific dashboard for making critical business decisions, the same dashboard should be available through multiple delivery options (mobile, internal web, email driven, etc.) so that the executive is ensured access to the same information regardless of time, location or device. Methods of passive and active communication of information delivery provide different advantages for end consumers. Make sure you match the appropriate delivery method to the right need.

Solving existing internal problems by exploiting data capabilities generates value through business optimization. Data sharing and integration across the enterprise with effective governance and easy accessibility are the keys to successful data monetization through business optimization.

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NEW PRODUCTS, SERVICES AND CHANNELS

When the focus of the problem is external and the state is existing, then the defined monetization opportunity is developing new products, services or channels for customers (figure 5). This means that you are using your customer intelligence data and applying it to your customer's problems. And while the ultimate business goal is to increase customer loyalty and grow revenue, the data is being used to solve the needs of the customer, not the needs of the business. When using data to solve customer problems, the customer defines the value of the product or solution by variables within the scope of their intended use. This value assessment can be a moving target for businesses to identify and can make the related monetization efforts difficult.

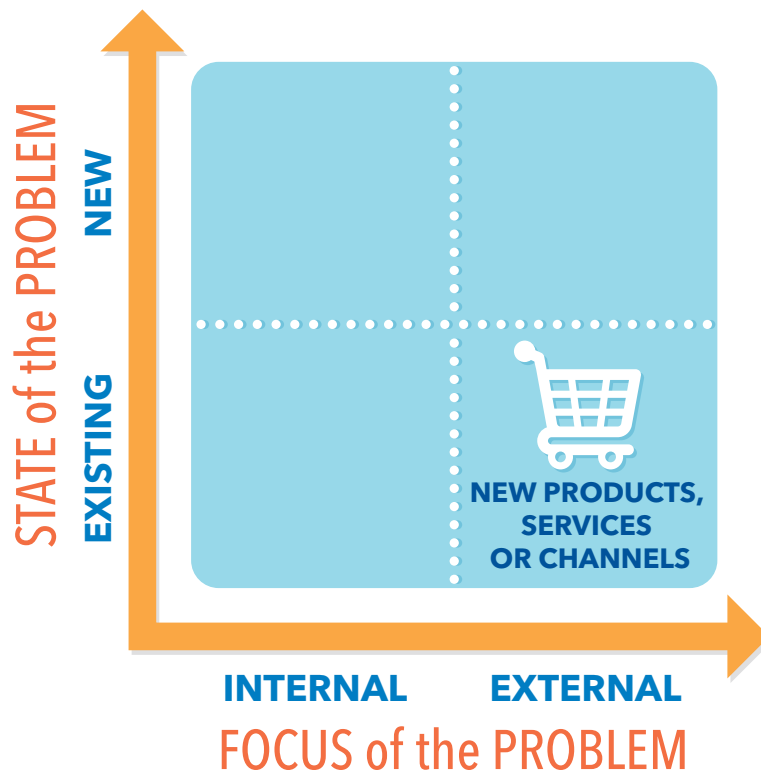


FIGURE 5
new products,
services, or
channels

Using data to drive solutions that meet customer needs creates a conundrum for businesses because the value of the solution is defined by the customer; however, the monetization value is still recognized by the business. This means the business still expects to drive revenue or increase customer loyalty, but it cannot do so without the customer finding value

in the solution. This requires the business to have a keen understanding of the customer needs and the variables that could cause a shift in value at any point.



COLLECTION

Data privacy and ethics rule. Be transparent about data collection and use.



PACKAGING

High utility value and ease-of-use required. Value defined by customer.



DELIVERY

Communicate value of solution and compel action.

problem state:
EXISTING
problem focus:
EXTERNAL

When collecting data for these opportunities, data privacy and ethical use reign supreme. The methods of data collection must be appropriate and generally accepted by the target customer audience. Customers expect to be told that their data is being collected and used, and they expect that the collection of their data is at least for a mutual benefit. Advancements in technology make the collection of customer behavior data easy, inexpensive and often unobtrusive. But without transparency, customer data collection can quickly be considered “creepy.” Customers are more likely to share their data when they understand the value the business will provide using their data. Businesses that are clear about how and why they collect customer data are more likely to be successful in monetizing it.

Packaging data in products and services for customers is about creating utility value and ease of use. In some cases, the packaging may not be as obvious as in other opportunities. In fact, the customer may never see the actual data but rather see the improvements in a product based on the analysis of data. For example, an online streaming music provider may create new music recommendations for a listener based on behaviors of other listeners with similar listening profiles. The customer utility value is high, as they are introduced to new music within their range of preferences (without having to sift through a bunch of duds). And in turn, their listening rates increase, which is the measure of success for the streaming provider. Other possibilities include adding insights derived from data to increase the value of the product for the customer.

The professional, social network, LinkedIn®, has many great, publicly available examples of this, as they package insights about profile visits, network and community activity and related industry data, and share it with their customers (both individuals and businesses).¹ The packaged insights make it much easier for members to get a quick overview of what is going on in their industry and individual networks and quickly act on items of importance. The information is of great value for members, as it is not information they would be able to access or assimilate quickly on their own. In addition, these easily consumable packages of information may increase the likelihood that members will upgrade to premier products, which is, of course a positive for LinkedIn.

The delivery of data products and services that answer external customers' existing needs requires businesses to not only deliver an effective solution for solving the customer's problem, but to also communicate the value in a way that drives action. Just sharing insights or creating new products without effectively communicating the value, or how to action on it, is like the old adage of "You can lead a horse to water, but you can't make it drink." The key to monetizing data through new products, services and channels is in "making them drink." The value in the delivery of these products and services must be so obvious and compelling that customers can't afford not to act.

Solving existing customer problems using data helps to inform new products, services or channels for businesses to offer. To remain successful in this approach, businesses must be keenly aware of customers' needs and evolving preferences. They must also be clear and transparent when collecting and using customer data and should always offer the consumer value for sharing their data. When packaging and delivering these data-based products and services, businesses should ensure high value, ease of use, and that they not only effectively communicate the value but also compel action.

To remain successful in this approach, businesses must be keenly aware of customers' needs and evolving preferences.

¹ "Analytics Tab for Company Pages," LinkedIn.com. https://help.linkedin.com/app/answers/detail/a_id/26032/~analytics-tab-for-company-pages

INCREASED MARKET SHARE

When the focus of the problem is internal and the state is new, then the defined monetization opportunity is increasing market share or entering new markets (figure 6). Businesses that use data to reach new customers or enter new markets question the non-consumption of their products rather than trying to increase consumption with their existing customers. This naturally means that the questions these businesses ask are new and will generally require new data and methods to answer. Monetizing data to increase market share is not easy, as it usually means “business as usual” will no longer be sufficient, taking the company well out of its comfort zone.

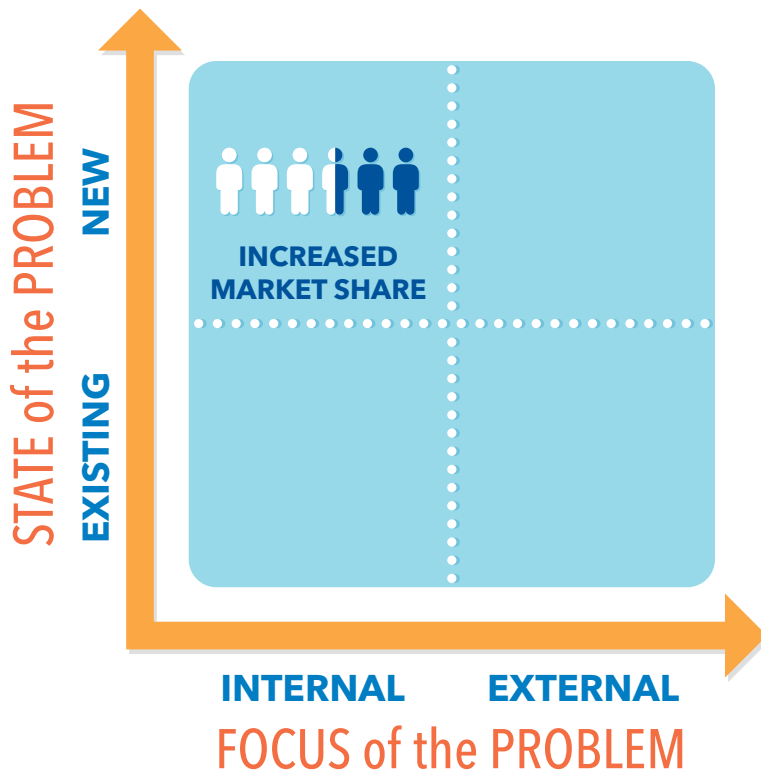


FIGURE 6
increased market share

The importance of this opportunity is that it involves the business solving the internal question of how to reach more customers with its current products and services. It is not about developing new products to solve the problems of new customers. The focus is on what the business can do differently to have further reach in the market.

**COLLECTION**

Advanced data integration capabilities with extensible architectures.

**PACKAGING**

Governance and security. Right data in the right hands at the right time.

**DELIVERY**

Data visualization. Delivering data to decision makers without requiring technical intermediaries.

problem state:
NEW
problem focus:
INTERNAL

Like data collection for business optimization, collection for increasing market share is primarily about improving data integration techniques and capabilities across the enterprise. A wider business view of data will shed light on where key information may be missing to gain other customers. This may include customer intelligence, general market intelligence or additional data sources that provide further insight into why customers do not use the business' products or services. In order to add new data sources quickly, businesses must have extensible architectures that do not require extensive modeling or transformation to onboard data. Big data technologies such as Hadoop are valuable considerations even if the business is not ready to include big data itself. The nature of big data technologies allows for integration of data of all types and models without the heavy lifting of traditional ETL.

Packaging data for those charged with changing business processes to increase market share, such as analysts, data science teams or executives, means making sure the right data is in the right hands at the right time. Not all data will be made available to all users, for a variety of reasons. Data governance programs with enterprise scope provide the definition of access rights, security classifications and guiding principles for data use including decision rights. Data governance initiatives that originate within departments and maintain focused scope will not have the breadth of authority to make this successful. When provisioning data, associated reports and analytics capabilities, it is necessary to provide accurate, consistent environments to ensure that all those involved are deciding and acting on the same information. Nothing is worse than when an executive realizes they are making decisions off inaccurate data or inconsistent reporting. (Trust me on this one if you haven't already experienced this.)

The delivery of data to inform new business processes and new decisions should be intuitive and easy to use, and foster further exploration. Visualization tools are excellent resources for this. With the ability to incorporate established security requirements and governed business rules, data visualization tools ensure that business professionals are looking at the same data across the enterprise, yet have the flexibility to change how they view it and to drill down as necessary. Good design will provide aggregate data closest to “answer form” - providing the key, common nuggets of information business leaders need at the ready along with easy methods for getting to deeper data with immediate response.

Increasing market share, reaching new customers and entering new markets requires new business processes, new decisions and often new data. In order to use data to inform how the business should change, the data architecture must be extensible so that new data can be added as needed without extensive coding - and the enterprise data environment must be governed to ensure data consistency and security. Data should be packaged and delivered to decision makers in ways they can consume without requiring technical intermediaries. Data can provide many valuable insights for increasing market share. The key to monetizing these insights is having the organizational fortitude to act on the changes required to make it happen.

NEW BUSINESS MODELS

When the focus of the problem is external and the state is new, then the defined monetization opportunity is in creating new business models using data (figure 7). Businesses that recognize they can create new products and services that reach existing and/or new customers based on data they own or acquire quickly realize that the information business requires a separate and distinct business model. The environment for information businesses to succeed must be agile and able to adapt quickly as change requirements emerge.

The delivery of data to inform new business processes and new decisions should be **intuitive and easy to use, and foster further exploration.**

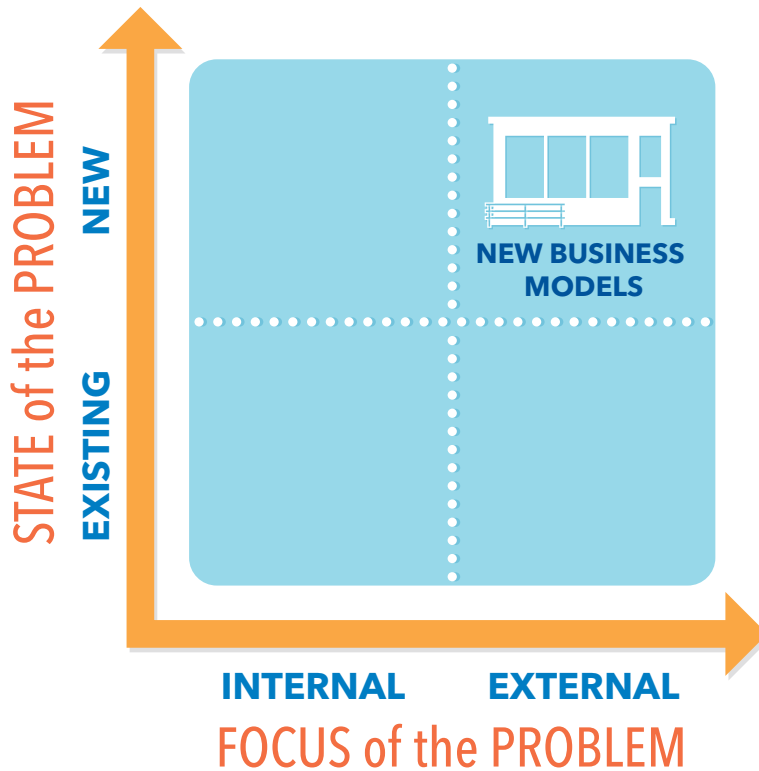


FIGURE 7
new business
models

The difference between using data to increase market share and data monetization that requires new business models is the shift in focus of the problem. A new business model is required because most established business processes in traditional businesses answer the needs of the business, not of the customer. When the focus of the problem is on the customer’s needs and the business works to use data to solve new customer challenges (sometimes before the customers are even aware of the problem), there is a fundamental paradigm shift that the traditional business model cannot address. In some companies, this approach to data monetization requires the creation of a new business unit. In other cases, spin-offs are created to avoid any long-standing political obstacles.



Innovative; real-time methods for understanding individual and community preferences and behaviors.



Data science teams provide information or derive insights within the scope of the customer’s needs.



Power-packed with solution and compelling justification to take action.

problem state:
NEW
problem focus:
EXTERNAL

Innovation is the key to collecting data to solve new customer challenges. Behavior data and customer preference data are both valuable to informing businesses what is important to their consumers. The typical approach is to use data to expand customer profiles with identification capabilities as granular as "segments of one." However, emerging research suggests individual actions may not be the greatest predictors of consumer action; digitized community characteristics/behaviors may be greater predictors. The challenge is that consumers come and go through digital communities frequently. Understanding individual behaviors and preferences relative to these communities requires innovative, real-time methods of data collection.

Once collected, the data packaging requires a team of specialists, as reporting and analytics are not just technical or mathematical processes. Yes, it is a science, but not just for a single data scientist. Packaging data in these agile business models requires a data science team composed of technical engineers, data gurus and business professionals with a deep understanding of the customers' needs. The key factor to remember with packaging information for this approach is that the information or derived insights must be valuable to the customer within the scope of their specific need, pain or problem.

The delivery methods of data and insights to customers for these monetization opportunities will vary greatly and will depend upon the specific context of customers' intended use. Remember, because these opportunities involve new problems, not all customers will be prepared to act. The delivery of these products and services should be so compelling that the customer should immediately recognize and understand the value and take action without needing additional justification or consideration.

New business models are built to manage the fundamental shift in focus from business needs to answering the evolving needs and challenges of customers. Rather than asking "How can we use data to grow revenues?" the question becomes "How can we use our data to create products and services that solve our customer's challenges and make their lives easier?" This requires innovative data collection techniques and an extremely knowledgeable, cross-functional data science team to deliver data and insights that are valuable within the scope of the customer's needs. The delivery of these monetized products and services must be power-packed with not only the solution to the problem but also the compelling justification to take action immediately.

... the question becomes "How can we use our data to create products and services that solve our customer's challenges and make their lives easier?"

CONCLUSION

Data monetization is the collection and packaging of data (or data insights) for delivering value-added services or creating revenue-generating products. There are a variety of approaches to monetizing data that require different business processes, unique skills and capabilities, and may drive the development of new operating models.

All data monetization efforts require that data is ultimately used to drive actions or decisions that solve a problem for an end consumer. This fundamental requirement is where most businesses fail when attempting to monetize data, because the typical approach is “What’s in it for me?” In order to monetize data, businesses must consistently ensure that their solutions provide value within the context of the end consumer’s use. The questions should be “What problem can our data solve?” and “How valuable would it be to the end consumer if these problems were solved?”

The state (internal or external) and focus (existing or new) determine the monetization opportunity at hand and are critical for understanding the collection, packaging and delivery requirements of data-based solutions in each of the four approaches to data monetization presented in this framework.

Monetization is about solving problems, driving action or decisions, and creating solutions that provide unique capabilities with high utility value that the end consumer would not otherwise be able to generate on their own. Monetization is not about turning data into dollars, but rather turning data into irrefutable value and exchanging that value for legal tender or perceived equivalent value.²

FURTHER READING:

[Click here to read the white paper “Foundations for Data Monetization.”](#)

² Buff, A., B.H. Wixom, and P.P. Tallon, “Foundations for Data Monetization,” SAS White Paper, SAS Institute and MIT CISR, A 2015. Also published as Buff, A., B.H. Wixom, and P.P. Tallon, “Foundations for Data Monetization,” Center for IS Research Working Paper #402, Sloan School of Management, Massachusetts Institute of Technology (August 2015)



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sas best practices

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