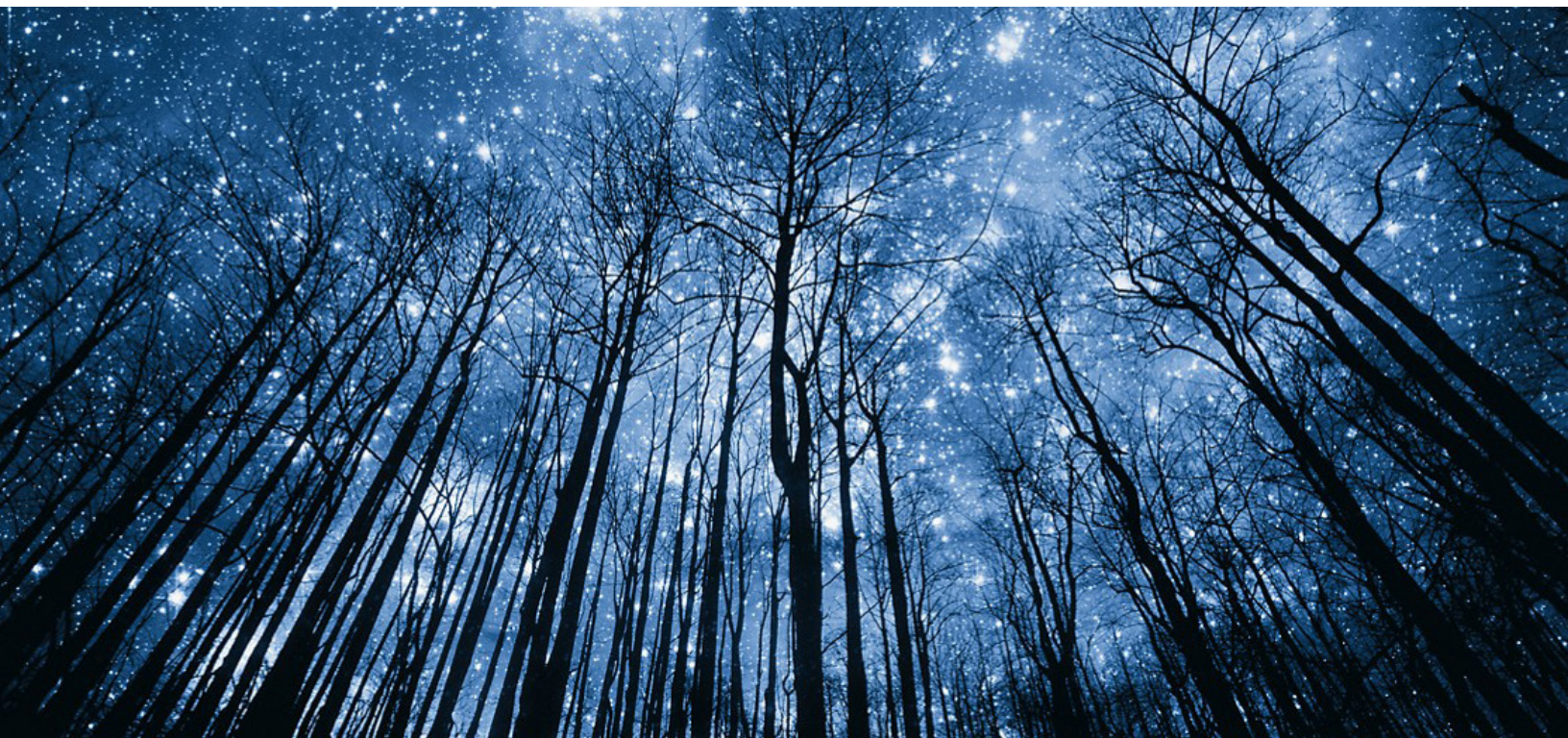


# DATAFICATION – A NEW BUSINESS MODEL



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## Abstract

In our age, everything revolves around data. Data can be defined as facts and statistics that are gathered for analysis. A technological development called "**datafication**" is converting many parts of our lives into data. Simply put, datafication refers to the conversion of all the objects in our lives into software or data-driven gadgets. So, to summarize, datafication is the conversion of manual labor-intensive operations into technology that is driven by data. Data is expected to remain for longer than we can ever imagine, from our smartphones to AI-powered gadgets and everything in between! This leads to a big concern that has become a **sought-after expertise** in our economy: the correct and secure storage of our data.

Datafication seeks to convert social behavior into quantified data. Datafication requires the help of both Artificial Intelligence (AI) and Machine Learning (ML) but it all begins with sourcing data.

All major business organizations have started driving innovation with data. This article focuses on various kinds of data and its associated technologies that are mentioned below:

- Data in the cloud
- Data Protection

Datafication is also creating more job opportunities for IT professionals, engineers, data scientists, and more. The skill set is more important than qualifications for datafication, so anyone can get a job in this field if they acquire knowledge. Some of the career options include:

- Big data engineers
- Robotic Engineers
- Data Scientists
- IT Architect
- Business Intelligence Analyst

Data-driven decision-making and the ability to make meaningful interpretations of data presented at the click of a button are more important than ever. This has been possible with the growth of technologies like big data analytics, AI, and ML that currently dominate the world.

This article will address how datafication can change the world in the future and explore various trends that use real-time data to improve businesses.

## Introduction

Terms like “data” or “quantitative analysis” may sound intimidating to a person who hates math, but in a broader aspect data need not be complicated. Data, to put it simply, is pertinent information you gather to aid organizational decision-making and planning. The right data at the right time is critical for any organization.

A 2013 assessment of "big data" operations in business and the social sciences coined the terminology "datafication," which refers to the process of quantifying a phenomenon to enable tabulation and analysis. This term was first introduced by Kenneth Cukier and Viktor Mayer-Schönberger.

Utilizing real-time data, datafication enables organizations to enhance their goods and services.

The concept of data

Any quantifiable activity made by someone utilizing almost anything tech-related can generate a piece of information. It is important to understand why data is so crucial in our day-to-day lives. Below are some of the reasons why data is flourishing for years:

- Improves the quality of life of a person
- Make informed decisions
- Find new solutions to problems
- Provide definitive proof to back up a decision
- Helps formulate new and effective strategies

Today, data is a key tool for businesses, revolutionizing fields like accounting and human resources.



Image Source: <https://tinyurl.com/2p9a8u3d>

The two main observations of data are:

- Data is a highly abstract concept that does not even exist in nature. By gathering and analyzing data from numerous acts as they take place, we construct it.
- The options for data processing are only constrained by our ingenuity and the capability of the tools used for the job. In actuality, some devices produce significantly more data than anticipated, leading to complicated big data clusters in addition to a negligible amount of "conventional" sorted datasets.

The management of such enormous volumes of data is expected to be aided by data science, which integrates math, programming, domain knowledge, scientific methods, algorithms, procedures, and systems.

### Datafication – A deep dive

Instead of merely transforming analog information into digital one, like in digitization, datafication aims to quantify social behavior by employing sophisticated statistical analysis. Datafication involves more than just gathering and analyzing data; it also entails improving the quality, effectiveness, intelligence, and efficiency of our daily lives.

This article's main goal is to demonstrate how datafication is a crucial component of digital strategy for businesses that want to stay competitive.

To enable real-time tracking and predictive analysis, keep in mind that data gathering is a continuous process that requires translating as many parts of our life as possible into computerized data.

### What function does datafication serve in a business organization?



Image Source: <https://tinyurl.com/2ubxkka3>

Utilizing real-time data, datafication enables organizations to enhance their goods and services. Additionally, it is a crucial part of acquiring client feedback regarding the standard of the goods and services provided by any organization.

Consider data-driven marketing techniques, this technique is one of the most crucial components of digital marketing and entails gathering client insight via a variety of channels like social media, email, and other digital platforms. This data can be utilized to personalize campaigns for every customer and target the appropriate audience profile.

We are now able to understand the world in a level that has never been done before thanks to datafication. To acquire, store, process, and display that data, new technologies are now easily accessible. They are being used by businesses to their advantage.

It is important to look at what benefits does datafication bring on the table.

You may probably already guess that datafication benefits all sizes of businesses, both large and small, across all industries. Here are a few of the main arguments in favor of implementing it in any company:

- Obtain an Understanding of the Processes:

Analyzing raw data is tough in and of itself. However, datafication turns unstructured, ambiguous information into useful insights, giving the knowledge of foundational processes and procedures.

- Facilitate Digital Transformation:

Only useable data will allow anyone to benefit from the most advanced technologies. The key to streamlining the processes both technologically and otherwise is datafication.

- Improve Efficiency:

A business will have a better grasp of what is happening thanks to datafication. It will set you up to utilize your resources more effectively, including personnel, and boost production and efficiency all around the business. The business operations will be streamlined because of these qualities. This yields an increase in profits.

- Applying it to various industries

Social media sites like Facebook and Instagram, for instance, gather and track data about our friendships to promote products and offerings to us and provide surveillance services to organizations, which in turn alters our behavior. The everyday promotions that we see on social media are likewise the outcome of the monitored data. By using datafication to inform content rather than recommendation algorithms, this paradigm uses data to reinvent how content is created.

Other industries where this can be used are:

- Data used in insurance to update business models and risk profiles.
- Banking: Information used to determine a person's creditworthiness and the chance of repaying a loan.
- Data from human resources are utilized, for instance, to determine employee risk-taking profiles.
- Recruitment and hiring: Data is used in place of personality tests.
- Social science research: Datafication reorganizes the way social science research is carried out and replaces sampling methodologies.

## Data in the Cloud

The transition to cloud computing is a crucial issue that needs to be handled in relation to digital transformations, particularly at this stage of datafication.

A rising number of businesses have started moving their infrastructure into the cloud during the past several years. According to the International Data Corporation, the market for cloud services increased from USD \$90.5 billion in 2016 to USD \$408.5 billion in 2021. (IDC).

What does this imply, then? It essentially means that individuals can use a platform as a service (PaaS) or software as a service (SaaS) model. Additionally, since the supplier provides the servers, they no longer need to purchase them. They merely pay for the resources' availability. This is a smart shift for businesses as the wastage of resources is reduced and it also helps in a sustainable environment.

In addition, infrastructure-as-a-service (IaaS) allows you to rent hardware but not operating systems. To execute your own programs, you receive a virtual machine with an operating system on top of it.



Image Source: <https://tinyurl.com/25vp3hr3>



Over the past ten years, the number of cloud computing services has increased tremendously. However, as businesses have embraced a variety of cloud infrastructure and services, managing this multicloud architecture has grown exceedingly challenging. An option is offered by hybrid cloud technology, which offers ways to combine various clouds on a single management plane with a common set of tools.

*Dell in the Cloud Environment:* Dell Technologies offers a platform with complete hardware and software solutions for businesses wishing to properly install and manage hybrid cloud systems. For example, APEX Cloud Services offers compute and storage resources that allow for reliable infrastructure and operations.

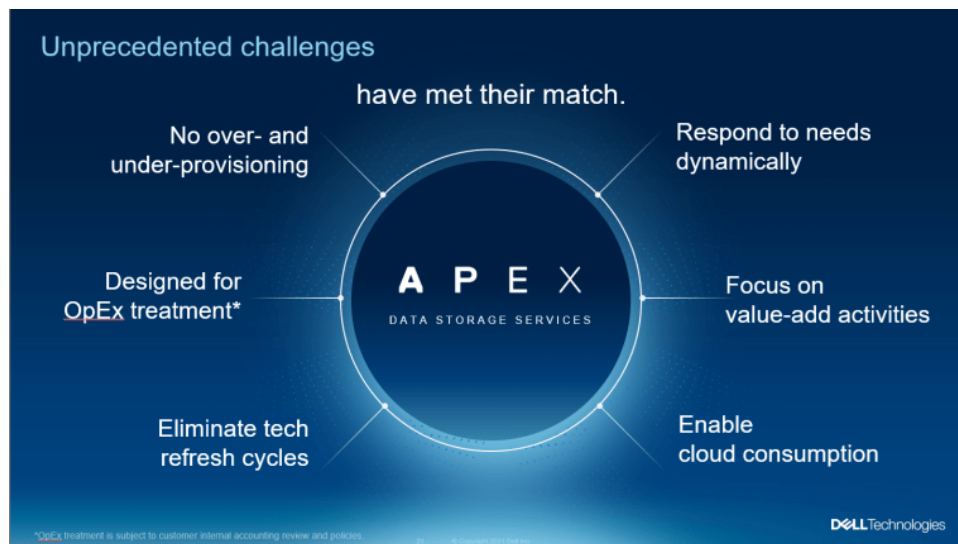


Image Source: <https://tinyurl.com/285n28jc>

## Protection of Data in this generation

Any action taken by a company to maintain the safety and security of personal data is known as data protection. One important question is why organizations still buy infrastructure and manage their own data. The answer is quite simple: some organizations do not want to give up the management of their data as they fear that sensitive information might be leaked.

Therefore, data protection will require attention as datafication moves into the realm of digital transformation.

## Future of Datafication

Making decisions based on data is more crucial than ever, as is the skill to interpret the data that is readily available to us. It is now a reality due to the development of technologies like artificial intelligence, machine learning, big data analytics, and others. In this aspect, datafication is profoundly democratic and may be seen in a variety of fields, including human resources, accounting, marketing, and finance. AI has the potential to assist humans in making wiser judgments as long as there is data. Everything around us is becoming data, from sports to economics to entertainment to healthcare. For instance, every time we use the phone or send an SMS, we create data. datafication is far broader than digitization. This astronomical amount of data has information about our identity and our behavior.

Monitoring weather and seismic activity, enhancing healthcare, identifying fraud schemes, and tracking student achievement are a few of the ways that datafication is benefiting society in today's world. In addition, by datafying new procedures and services, these emerging technologies have the potential to transform the way we conduct business.

- Blockchain

A distributed ledger called the blockchain records transactions between two parties without the aid of a third party. This implies that nobody is dependent on anyone else. Because every user has identical access to the same information, the system is secure. This technology is over a decade old now and has been growing tremendously in every field.

- AIOps

AI-as-a-service: The employment of AI tools in organizations is referred to as AI-as-a-service (AIOps). AIOps are frequently cloud-based, which means that a web application or mobile app can access them. Additionally, they offer in-the-moment perspectives on procedures and operations. AIOps can therefore be applied to process optimization, preventative analysis, and other operational enhancements.

Machine learning is the type of AI that is used the most. Data that has been classified as good or negative by humans is used to train a machine learning system. The algorithm then makes predictions about the latest data using this knowledge.

- FinOps

Managing financial activities across an organization is known as financial operations management (FinOps). From forecasting to risk management to budgeting, FinOps covers it all.

FinOps involves more than just financial reporting. Datafication is crucial in this situation because it enables the gathering and analysis of data that was previously isolated in various systems. By combining finance and technology, a new technological trend referred to as fintech was discovered.

- Cognitive Computing

A general term for the study of artificial intelligence, machine learning, and human-computer interaction is cognitive computing. Here, data mining is performed to glean insights from voluminous data. To tackle issues that we are unable to handle on our own, it is intended to make computers think like people.

- Edge Computing

Edge computing is the application of cloud-based services and technology to a network's edge. A new technology called edge computing has gained popularity because of its promise to speed up data processing and use less energy. The fundamental benefit of edge computing is that data processing can be done locally without needing to send everything back to the cloud. This lowers latency and enhances user experience by using less bandwidth.

- Warehouse Management Technology

This emerging market helps warehouse management more effectively, and terminologies like autonomous robots and analysis forecasts are used to describe it. The goal is to enable a robot to carry out activities automatically. To do this, it can employ sensors to identify objects or other entities in its surroundings. The robot then makes decisions based on these inputs about what to do next. Up till the assignment is finished, this process is repeated.

- These days, data drives hiring

Most recruitment process techniques are now determined by data. Through datafication, personality tests may be replaced with previously gathered reliable data, and background checks may be more effectively included in hiring strategies.

All of this aids the risk analysis of candidate profiles. Data can also be used to forecast future performance based on previous performance. Employee engagement is the same. We can better understand what makes employees feel valued at work thanks to data. And this is something that is impossible to quantify using conventional techniques. And social media sites like LinkedIn make it possible to gather a lot of this data. But it is crucial to remember that data is dynamic. Therefore, you must be able to gather, analyze, and act on data if you intend to stay one step ahead of your competitors.

### The debate surrounding datafication:

Everything in this world has some cons that must be tackled in a good manner. Datafication also has some challenges in a practical scenario. The use of datafication by corporations or regions to discriminate against people, particularly those from lower-income or minority groups, has been the subject of heated disputes.

A few other issues that have been observed are:

- Anyone has access to data: We can uncover more precise information about a person as we gather more data. To conduct a background check on a specific person, the law, journalists, and certain businesses already use this. If this data goes into the wrong hands, it can be easily misused.
- Data is utilized to keep track of all activities within its scope: Tech giants' multi-store server rooms are home to enormous datasets, and they force datafication on their customers. The amount of interference is often governed by law and utilized for paid ad personalization within the company's apps and platforms after the data is collected.
- Data has become a commodity: A new variety of multi-sided datafication marketplace are platforms. Data serves as the payment. Tech giants assemble platform users who generate data and data buyers are prepared to swap it for actual money to manufacture it.



Image Source: <https://ahaslides.com/wp-content/uploads/2021/05/Feature-1-1.png>

## Conclusion

If implemented correctly, datafication is a process that can turn data into useful information. Various firms are already reaping the benefits of this. Because of this, businesses must now more than ever rely on data-driven tactics to develop a trained staff and use the right technology at the right time to flourish.

Datafication has various advantages, such as enhancing decision-making, increasing productivity, and developing new goods and services. Datafication does come with some dangers, though, including privacy issues and the potential for abuse.

The process of making anything that was previously unquantifiable into statistical data is known as datafication. It may be as straightforward as keeping track of how frequently you comb your hair, or it might be as complicated as forecasting future economic patterns. Understanding the idea of datafication is crucial now more than ever because the world is becoming more and more data driven.

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