Big data: perspectives for corporate finance

Data is everywhere around us and big data is a new challenge for modern business. In fact, the amount of digital data is growing rapidly – more than 2.7 zettabytes of data exist in today’s digital universe. Furthermore, there is predicted 180 zettabytes of data in 2025[1]. All this data – from photos on your smart phone to the financial reports – has only recently started to be analyzed in order to help organizations to improve their business.

Data Science is a research area that combines tools of data processing in conditions of high volumes, statistical methods, methods of the intellectual analysis of data with the help of artificial intelligence, and methods of designing and developing database.

According to Tech Pro Research, the definition of Big Data states that it is high-volume and high-velocity information assets that need economically effective and simultaneously innovative forms of information processing that allow in-depth understanding, decision-making, and automation of the process [1].

Big Data puts organizations of all sizes on a day-to-day basis. In other words, Big Data refers to humongous volumes of data which cannot be effectively treated with traditional programs. The processing of Big Data begins with the raw data which isn’t aggregated or organized – and is often impossible to be stored in one computer [2].

However, the new benefits, that big data analytics brings to the main analytical tables, are speed and efficiency. While a few years ago, the business would have
gathered information, run analytics and distinguished information which could be used for future decisions, today that business can identify insights for even immediate decisions. The ability to work faster and remain flexible gives organizations competitive advantages they did not have before. Big data analytics helps organizations use their data to discover new opportunities, leads to smarter business steps, more efficient operations, higher profits and happier customers.

Modern corporation receives value from using Big Data in the following ways:

• Cost reduction. Big data technologies bring significant benefits of storing large amounts of data plus they can identify more efficient ways of doing business.

• Faster, better decision making. With the help of speed and in-memory analytics, in conjunction with the ability to analyze new data sources, enterprises are able to analyze information and make decisions immediately.

• New products and services. Thanks to the ability to assess customer needs and satisfaction through analytics, comes the power to give customers what they want [3].

Companies which successfully implement big data analytics can get rich rewards from cost savings and profitable innovations. It can help businesses to achieve a digital conversion, allowing them to maintain competitiveness in the face of any destructive startups that arise in their markets. It is important to identify the Data Science Priority Areas which are used for companies (Figure 1).

![Figure 1. Priority areas of Data Science for Business](source: created by author based on data [4])
The introduction of Data science in Ukraine has slowed down due to:

- insufficient amount of accumulated information;
- need for constant funding to maintain the database;
- high cost of implementing Big Data technologies;
- the need for data protection and their confidentiality;
- the lack of skilled personnel;
- the complexity of integration with existing systems.

But there are undoubted advantages of using Data Science in business:

- automated Risk Management;
- real-time financial analytics;
- the ability to make decisions more effectively;
- predicting consumers behavior;
- new products launch.

Obviously, such modern technologies as Big Data, Blockchain, Machine learning and Artificial Intelligence are changing the business right now and corporations should use them to be more competitive.

**References:**


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Інноваційні підходи до корпоративного бюджетування

На сьогодні всі великі компанії, холдинги, корпорації намагаються удосконалити процес планування та бюджетування, адже від цього залежить вартість компанії та можливість генерувати своєчасні та достатні грошові потоки. Традиційне бюджетування в Україні має ряд недоліків:

- великий обсяг роботи з паперовими та електронними носіями в процесі складання бюджетів та їх аналізу, що займає більшу частину робочого часу та створює невдоволення працівників;
- традиційно бюджети складаються на рік і не можуть своєчасно та чітко враховувати всі можливі зміни на ринку протягом бюджетного періоду;
- існує ряд причин виникнення відхилень бюджетних та фактичних показників виконання: невірність проведення розрахунків, прогнози виявляються недостовірними тощо;
- витратність процесу формування системи бюджетування на підприємстві;