The potential that big data and data technologies open up is beyond the current understanding of information. While large technology companies are already using them (Google, Microsoft, Amazon, Facebook, and a whole series of large companies), small companies, and even medium-sized ones (by size), have little idea of what it is. Ignoring the flow of data that is generated daily on the network is a dead-end for modern businesses.

| Q10_Does your current employer incorporate machine learning methods into their business? / Q7_In what industry is your current employer/contract (or your most recent employer if retired)? - Selected Choice | I do not know | No (we do not use ML methods) | We are exploring ML methods (and may one day put a model into production) | We have well established ML methods (i.e., models in production for more than 2 years) | We recently started using ML methods (i.e., models in production for less than 2 years) | We use ML methods for generating insights (but do not put working models into production) |
|---|---|---|---|---|---|---|
| Academics/Education | 216 | 522 | 573 | 206 | 262 | 275 |
| Accounting/Finance | 50 | 235 | 287 | 170 | 265 | 116 |
| Broadcasting/Communications | 14 | 62 | 69 | 44 | 82 | 25 |
| Computers/Technology | 291 | 896 | 1131 | 728 | 1020 | 423 |
| Energy/Mining | 14 | 81 | 95 | 32 | 89 | 41 |
| Government/Public Service | 23 | 161 | 137 | 31 | 60 | 52 |
| Hospitality/Entertainment/Sports | 2 | 41 | 17 | 8 | 19 | 17 |
| I am a student | 1578 | 588 | 663 | 150 | 331 | 231 |
| Insurance/Risk Assessment | 13 | 74 | 98 | 54 | 114 | 40 |
| Manufacturing/Fabrication | 19 | 131 | 117 | 30 | 75 | 53 |
| Marketing/CRM | 21 | 96 | 58 | 57 | 78 | 54 |
| Medical/Pharmaceutical | 17 | 115 | 115 | 60 | 106 | 51 |
| Military/Security/Defense | 4 | 24 | 22 | 22 | 20 | 7 |
| Non-profit/Service | 6 | 57 | 29 | 6 | 13 | 11 |
| Online Business/Internet-based Sales | 6 | 51 | 71 | 44 | 75 | 38 |
| Online Service/Internet-based Services | 18 | 132 | 134 | 138 | 190 | 55 |
| Other | 47 | 199 | 169 | 102 | 115 | 70 |
| Retail/Sales | 17 | 98 | 65 | 42 | 72 | 40 |
| Shipping/Transportation | 7 | 55 | 40 | 21 | 64 | 16 |

**Figure 1.**The use of machine learning in different industries (Calculations based on the data of 2018 Kaggle ML & DS Survey**)**

**Problem 1.** Small and medium entrepreneurs do not understand the benefits of data science approach in their business. Of course, small businesses can hardly afford to develop their deep competence in the area of data science. However, still, data science methods can be beneficial for them since many business problems can be solved with machine learning tools. For instance, optimizing the technological process by increasing the equipment productivity through efficient use of raw materials per unit of output.

The second broad class of problems is associated with predicting the probability of equipment failure. Their goal is to take preventative measures, provide the necessary spare parts in the warehouse, and minimize costs due to equipment breakdowns and downtime.

One can also evaluate how external risks, such as currency risks, will affect the company's operations, or use machine learning to manage supply chains: forecasting demand, optimizing procurement, delivery, storage, and maintaining optimal inventory.

**Problem 2.** There is a cultural gap between company managers and data scientists. Managers do not understand how to convert business and managerial problems into big data problem. Data scientists do not understand the mechanisms of a company's operation and market functioning and cannot translate a research project back into a practical solution to business problems.

Data scientists may be far from the context from which the data they are processing is taken. The beauty of the model replaces the contextual connection. Still, the apparent relationship understanding between the theoretical object and the reality that this object represents is vital for making the right model conclusions and adequate business decisions. This situation may arise when the model, for example, at the stage of data analysis, is very accurate. Still, in real conditions, when there is a feedback from the process, depending on the actions of the installation operator, the model begins to behave "incorrectly." Therefore, in the development process, the data science team has regularly to communicate with technologists, operators, users, and engage them in work as far as their knowledge and experience must be taken into account in the model. And data scientists must understand the context of the business they work for.

**Problem 3.** The newcomers to Data Science often do not have the appropriate work experience and competence in narrow management fields, so they have difficulties when completing tasks from the business. Often data scientists tend to be introverts. Companies, as a rule, employ people with different educational background. Data scientists need to have excellent communication skills to convey their point of view to colleagues.

**Startup goal:** bringing together the best expertise in Data Science, management, marketing, logistics to help companies (for which working with data is not a core business, i.e., small and medium-sized production companies, energy companies, banks, insurance companies, agricultural producers, etc.) and data scientists produce more accurate results.

**Audience to whom it may concern:** business people, managers of small and medium-sized companies, data science professionals, newbies to data science, students

**Startup realization:** website-aggregator of online courses with case examples of statistics, applied data science algorithms, courses in management, marketing, production management, controlling, economic forecasting and strategic planning

**Technology of realization:** React, Python, Machine Learning Algorithms. An extensive catalog of various online courses from various providers is presented.

Our aggregator provides an ability to compare different on-line courses and make an individual training plan. It makes it easy to find online courses by specialty, language of instruction, instructor, and other parameters across multiple online platforms at once.

**Results of idea implementation:** Any business person or data scientist can easily find teaching materials connecting with a certain problem.

Small and medium-sized businesses will have an opportunity to choose any training video courses from the best speakers for their employees. A high-tech platform will enable companies to train employees across the country, conduct webinars and testing simultaneously.

As for those who want to improve their skills in practical application of data science to solving business tasks, our site will provide an excess to case studies of data

science implementation in industry, agriculture, banking, insurance, private medicine, education, energy generation etc. People interested in Data Science will be able to consult with professionals in their field.

We expect a rapid increase in the number of projects in industrial companies who have accumulated large volumes of production data, but do not know how to use it with significant benefit. Of course, often this data needs to be checked, "cleaned up". Their sources are MES, industrial control systems and other systems deployed in production. Using data science approaches, real benefits can be derived from them.