B- LAND

Promote and Strengthen Business Development Skills in Rural Communities

Module 7
Data analysis and research skills

Developed by the University of Forestry, Sofia, Bulgaria

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Learning Outcomes

Level according to the Competence Framework (IO1): High

Upon completion of this learning module, you will be able to:

- ✓ understand the role of data analysis and research in entrepreneurial activities;
- ✓ comprehend the main terms regarding big data and smart data analysis;
- ✓ understand how to use the existing internal and external data;
- ✓ gain a better understanding on the ways data analysis can help build a company brand;
- ✓ gain knowledge and skills on the ways of regulating data;
- ✓ acquire knowledge and skills on the difference between privacy and data protection;
- ✓ comprehend the need to implement data protection measures in their own business;
- ✓ recognize the main benefits and challenges data analysis can have on their own business.

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Unit 1. Introduction to Data Analysis and Research in Entrepreneurship

The existing notion that data analytics and research is an area of expertise explored exclusively by highly-trained specialists is being widely challenged. Data collection, its visualization and analysis are extensively used by larger companies to improve individual and/or organisational performance in almost all economic sectors.

Data analysis and research is yet to find its way to become a source of decision-making among entrepreneurs of small and medium enterprises (SMEs), which are rarely well-equipped with the necessary knowledge and skills to collect, interpret and analyse the data collected about their suppliers and customers. The development of these important skills can be very demanding unless it is accompanied with relevant and effective training.

The ever-growing need in data analysis and research skills among entrepreneurs has been dictated mostly by two interrelated factors, i.e. the **growing mass of data generated on the Internet** and the **fast-pacing rise of online companies generating these data**.

Well-known companies like Facebook, Google, Amazon, Baidu, TenCent, etc., have made entrepreneurs care more about data analysis and how it can be used to improve their business results. Although large business corporations are making the most out of the possibilities provided by data analytics and research tools and techniques in order to manage business information flows, micro- and SMEs, comprising 99% of all companies in Europe, experience significant difficulties in applying them.

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Unit 1. Introduction to Data Analysis and Research in Entrepreneurship

Similar to their larger competitors, the SMEs with adequately trained data professionals can benefit from processed data and data-driven decision-making in various ways, e.g. updating their business strategy, improving their offerings, and enhancing their competitive advantages among others in local and global markets through product or service innovation and improved production processes in the respective business segment.

In addition, data analysis and research provide a wide range of opportunities for SMEs, related to a better understanding of the processes within the company, the needs of their partners and clients, and the overall business environment.

Data analysis can also facilitate the recruitment of better qualified personnel, outsourcing and task hiring, connection with knowledge partners and networks, development of new business models and innovative green business practices, etc.

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Unit 1. Introduction to Data Analysis and Research in Entrepreneurship

What is Data, Including Big Data?

"Data" is defined as *"factual information (such as measurements or statistics) used as basis for reasoning, discussion, or calculation"* or *"the quantities, characters, or symbols on which operations are performed by a computer, which may be stored and transmitted in the form of electrical signals and recorded on magnetic, optical, or mechanical recording media"*.

"Big Data" *refers to "an accumulation of data that is too large and complex for processing by traditional database management tools"* and *"very large sets of data that are produced by people using the Internet, and that can only be stored, understood, and used with the help of special tools and methods"*.

Characteristics of Big Data include high volume, high velocity and high variety. Sources of data are becoming more complex than those of traditional data because they are being driven by artificial intelligence (AI), mobile devices, social media and the Internet of Things (IoT).

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What is Data, Including Big Data?

The basic idea behind the application of Big Data in entrepreneurship is that everything people do is increasingly leaving **a digital trace**, which can be analyzed and used to boost company performance. For example, the different types of data originate from sensors, devices, video/audio, networks, log files, transactional applications, web and social media — much of it generated in real time and at a very large scale.

Big Data completely transforms the way people do business and impacts most aspects of our lives. Proper management and analysis of Big Data can help companies make better decisions based on statistics and user interests, thus helping their growth.

Many companies have developed and released new products and/or services, based on the feedback obtained from the Big Data analysis.

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Unit 1. Introduction to Data Analysis and Research in Entrepreneurship

Classification of Data

Proper classification is essential for studying any subject. Generally, data can be classified into the following three main categories:

Structured Data

Unstructured Data

Semi-structured Data

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What is Structured Data?

Structured Data (quantitative data) refers to the data that is already organized and stored in databases, in an ordered manner, typically in a tabular format. It represents about 20% of the total existing data.

There are two main sources of structured data – machines and people.

All data obtained from web logs, sensors, financial systems, etc., is classified as **machine-generated data**. Examples: GPS data, usage statistics captured by servers and applications, customer data, transaction history, phone records, etc. **Human-generated** structured data refers to all the data a human input into a computer, e.g. dates, names, addresses, credit card numbers, etc.

Pros of structured data: easily used by business users; more tools available for accessing, analyzing and interpreting structured data.

Cons of structured data: limited usage and flexibility; limited storage options.

Use cases of structured data: 1) Customer relationship management (CRM): CRM software runs structured data through analytical tools to create datasets that reveal customer behavior patterns and trends; 2) online booking: hotel and ticket reservation data (dates, prices, destinations, etc.; 3) accounting: accounting firms or departments use structured data to process and record financial transactions.

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What is Unstructured Data?

Unstructured Data (qualitative data) does not have a predefined data model and cannot be processed and analyzed via conventional data tools and methods.

The importance of unstructured data is rapidly increasing. Recent projections indicate that unstructured data is over 80% of all enterprise data, while 95% of businesses prioritize unstructured data management.

Based on its source, unstructured data is also classified into machine-generated or human-generated. **Machine-generated data** accounts for all satellite images, scientific data from experiments, etc. **Human-generated** unstructured data includes social media posts, website content, and mobile activity.

Pros of unstructured data: native format (remains undefined until needed); fast accumulation rates (can be collected easily and quickly); allows for massive storage and pay-as-you-use pricing, which cuts costs.

Cons of unstructured data: requires significant data science expertise and specialised tools to manipulate.

Use cases of unstructured data: 1) data mining: enables businesses to identify consumer behavior, product preferences, and purchasing patterns to better accommodate their customer base; 2) predictive data analytics; 3) chatbots: perform text analysis to route customer questions to the appropriate answer sources.

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What are the Key Differences Between Structured and Unstructured Data?

Structured data gives a “birds-eye view” of customers, while unstructured data provides a deeper understanding of customer behavior and intent.

	Structured (quantitative) data	Unstructured (qualitative) data
Sources	GPS sensors, online forms, network logs, web server logs, etc.	email messages, word-processing documents, PDF files, etc.
Forms	numbers and values	sensors, text files, audio and video files, etc.
Models	predefined data model	stored in its native format and not processed until it is used
Storage	tabular formats (e.g., excel sheets or SQL databases)	media files or NoSQL databases

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What is Semi-structured Data?

Semi-structured data is the “bridge” between structured and unstructured data.

It does not have a predefined data model and is more complex than structured data, yet easier to store than unstructured data.

Semi-structured data uses “metadata” (e.g., tags and semantic markers) to identify specific data characteristics and scale data into records and preset fields.

Metadata ultimately enables semi-structured data to be better catalogued, searched and analyzed than unstructured data.

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Data Sources

Social Media Data – provides remarkable insights to companies on consumer behaviour, preferences and attitude that can be integrated with CRM data for analysis.

Machine Data – information generated from industrial equipment, real-time data from sensors tracking parts or monitoring machinery (Internet of Things); web logs that track user behaviour online.

Transactional Data – reference data describing the time, place, price, payment methods, discount values, and quantities, related to a particular transaction. Examples: purchases, returns, invoices, payments, credits, donations, contracts, interest, payroll, reservations, subscriptions, etc.

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The Importance of Data

Smart and efficient data analysis is enhancing business intelligence and advancing entrepreneurial innovation, helping business users with the following:

- Understand current market conditions and customer needs at a deeper level to better address them;
- Make quick business decisions based on data analysis results;
- Create more focused and targeted marketing campaigns;
- Track current metrics and create new ones;
- Create better product opportunities and offerings;
- Reduce operational costs.

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Unit 1. Introduction to Data Analysis and Research in Entrepreneurship

The 5 Vs of Data

The **5 Vs of data, i.e. volume, velocity, variety, veracity and value**, represent the main innate specific characteristics that can help entrepreneurs understand the challenges and advantages of data analysis.

- **VOLUME** – the magnitude of data being generated. 90% of the data in the world today has been created in the last 2 years only. Volume is like the base of big data, as it is the initial size and amount of data that is collected.
- **VELOCITY** – the speed at which data is being generated and collected. Example: there are more than 3.5 billion searches per day on Google.
- **VARIETY** – refers to the different types of data (structured, semi-structured and unstructured data), coming from heterogeneous sources.
- **VERACITY** – refers to the reliability, authenticity, and accuracy of data.
- **VALUE** – the economic value of data obtained. Data analysis and research can deliver value in almost any area of business or entrepreneurial activity, allowing companies to better understand and serve customers, and optimize their processes.

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Unit 1. Introduction to Data Analysis and Research in Entrepreneurship

Turning Data into Smart Data

Data is at the core of business today. Entrepreneurs should be able to make critical decisions, structure extensive information and create a unified view of customers or prospects. Targeting the right customers or companies that represent the greatest potential to growing your business profitably requires leveraging data across the various points of customer interaction.

However, not all data is valuable. When you have transformed your data into Smart Data, it can add value to your business.

Smart Data is data that is relevant, concrete and actionable. Smart Data is clean and updated. Smart Data is the right data at the right time.

Turning data into Smart Data entails combining, updating, refining and analyzing information from different sources in order to uncover new facts and gain valuable insights that support smart decisions and drive better business.

By integrating Smart Data into your business processes, you get a coherent view of your customer information. It helps being realistic, pragmatic and even skeptical about what can be achieved.

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Unit 1. Introduction to Data Analysis and Research in Entrepreneurship

Turning Data into Smart Data - Getting Started

1. Define your goals. Do you want to clean your customer database, find new customers or identify who your best customers are?

2. Once your objectives are clear, it is easier to understand what data is most important. Identify the data you have, and reveal where the gaps are.

3. Improve the quality of your data by cleaning and updating it, and filling in the missing information.

4. Identify the methods and models for compiling the right data at the right time in the framework of your business processes and infrastructure.

5. Analyze your data and formulate the insights you gain to support your decisions and drive your processes to reach the desired goals.

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Unit 2. How to Improve Your Business by Using your Internal Company Data

Internal Data Sources

Internal (own) data is the information created by the operation of a company, including sales, purchase orders, and transactions. It is the information that the business already has on hand, has control of, and currently owns, including details contained within the company's own computers and cloud systems.

Before looking for external data, entrepreneurs should ensure that all internal data is collected and analyzed. Internal data sources are usually easier to obtain and can be more relevant for the company's own purposes and insights.

Sources of internal data:

- **transactional data and POS information:** companies can analyze current and past data related to their own business purchases, as well as information about the shopping trends and preferences of the their customers;

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Internal Data Sources

- **Customer Relationship Management (CRM) system:** information like clients' affiliations, locations and other regional or geographical details can provide a detailed picture about customers' location. Combined with their transactional information, these CRM details become even more powerful.

- **internal documents:** within the age of cloud computing, a company's own internal documents are becoming more valuable than ever. Digital copies of internal documents can provide a robust source of information, particularly when it comes to business processes, policies and activities. Examples include emails, Word documents, PDFs, XML, etc.

- **company archives:** the current information is not the only useful data. When performing data analysis it is recommended to look into the company's archived documents and data streams as well.

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Unit 2. How to Improve Your Business by Using your Internal Company Data

The Benefits of Analyzing and Using Internal Data in Marketing

In contrast to the external data, which is available for the wide audience, internal data is exclusive to the respective company. This is one of the main reasons for using this data for promoting your own brand.

Content based on original company data attracts more attention and has several additional benefits:

- **Originality:** sharing your company data allows you to present something unique to the potential customers and/or business partners. Example: Spotify, the well-known music and podcast streaming app, collects information about users' musical preferences, location and demographics. This allows it to create original and unique content which is not available anywhere else. Users can browse through the collections of friends, artists, and celebrities, or create their own radio station.

"Listening together" campaign – an interactive map of the globe, showing examples of users around the world listening to the same song at the same time.

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The Benefits of Analyzing and Using Internal Data in Marketing

- **Consumer value:** by using internal data, you can create valuable content that presents new ideas or gives users/customers useful information.

- **Customer trust:** when you share internal data with your customers and partners, it demonstrates that your company values openness, which helps build trust and long-lasting customer-brand relations.

- **Operational transparency:** opening up your organization and sharing internal information is a way to give customers an inside look into your brand. Kinds of data can include marketing strategy information, production reports, business decisions, sales data, or other internal data sources.

- **Brand recognition:** internal data is also useful for promoting your brand and showing its value. Sharing original internal data allows you to introduce your brand to the wide audience and be recognized and remembered among competitors.

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Unit 3. How to Improve your Business by Collecting and Using External Data

External Data Categories

External Data refers to any type of data obtained from a source outside of your company. It complements internal data and helps to perform advanced analysis, optimize business, reduce internal data maintenance efforts, and create new products and/or services.

Four main external data types: open data, paid data, shared data, and social media data.

Open Data

Freely available data, which can be used as well as republished by everyone without restrictions from copyright or patents.

Paid Data

Commercially available data, acquired from specialized data providers, and offered at a certain cost.

Shared Data

Data which is shared between companies within business ecosystems.

Social Media Data

Data shared by users of social media platforms (e.g. Facebook, LinkedIn, Twitter), including metadata (e.g. location, time, language).

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Unit 3. How to Improve your Business by Collecting and Using External Data

External Data Categories

While all four types have a common feature of stemming from external data sources, they differ in provenance, access, costs, and structure.

	Open Data	Paid Data	Shared Data	Social Media Data
Provenance	Governments, NGO's, companies	Professional data providers	Companies' internal data, authoritative sources	User-generated content
Access	Open data platforms, direct links	Dedicated portals or software	Bilateral exchange	Social media platforms
Price	Freely available	Provided at a cost	Fees can be charged by any intermediary	Freely available, subject to copyrights
Structure	Semi-structured, unstructured	Structured	Structured, semi-structured, unstructured	Unstructured

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Unit 3. How to Improve your Business by Collecting and Using External Data

Characteristics of Data Quality

Data quality is crucial – it assesses whether information can serve its purpose in a particular context. There are 5 data quality characteristics of which you should be aware: **accuracy, completeness, reliability, relevance, and timeliness**.

Characteristic	How it is measured
Accuracy	Is the information correct in every detail?
Completeness	How comprehensive is the information?
Reliability	Does the information contradict other trusted resources?
Relevance	Do you really need this information?
Timeliness	How up-to-date is information? Can it be used for real-time reporting?

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Unit 3. How to Improve your Business by Collecting and Using External Data

Characteristics of Data Quality

Accuracy: this data quality characteristic means that information is correct. It is a crucial data quality characteristic because inaccurate information can cause significant problems with severe consequences.

Completeness: refers to how comprehensive the information is. When looking at data completeness, think about whether all of the data you need is available; you might need a customer's first and last name, but the middle initial may be optional.

Reliability: means that a piece of information does not contradict another piece of information in a different source or system. When pieces of information contradict themselves, you cannot trust the data. You could make a mistake that could cost your company money and reputational damage.

Relevance: you must consider whether you really need this information. If you are gathering irrelevant information, you are wasting time as well as money, and your business analyses will not be valuable.

Timeliness: refers to how up to date information is. Outdated information could cost your company time and money.

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Unit 3. How to Improve your Business by Collecting and Using External Data

Benefits of Using External Data in Business

External data can be useful in the following situations:

- **Providing data-driven insights:** data analytics can be enhanced with external data in operational areas, like customer relationship management, HR, supply chain and warehousing. Example: a farmer who wants to improve the demand forecast with the help of external data can rely on the weather data, data from suppliers, and economic data;

- **Improving business processes:** many companies already use geolocation, weather and traffic data to plan and manage their deliveries; additional information about exceptional events, such as disasters, can help them avoid disruptions in the supply chain;

- **Enhancing data management capabilities:** sourcing external data reduces data maintenance efforts. It may be also used to enrich internal data and improve data quality;

- **Enabling new services:** external data is also used to innovate and introduce new products and services matching consumers' needs.

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Unit 4. Legislative Aspects of Data Analysis

Main Principles of Data Ethics

Data ethics encompasses the moral obligations of gathering, protecting, and using personally identifiable information and how it affects individuals. Anyone who handles data must be familiar with its basic principles.

5 Principles of Data Ethics for Entrepreneurs:

- **Ownership:** it is unlawful and unethical to collect someone's personal data without their consent. Some common ways you can obtain consent are through signed written agreements, digital privacy policies that ask users to agree to a company's terms and conditions, and pop-ups with checkboxes that permit websites to track users' online behavior with cookies. Never assume a customer is OK with you collecting their data; always ask for permission to avoid ethical and legal conflicts.

- **Transparency:** in addition to owning their personal information, data subjects have a right to know how you plan to collect, store, and use it. It is a users' right to have access to this information so they can decide to accept or not your privacy policy. Withholding or lying about your company's methods or intentions is deception and both unlawful and unfair to your data subjects.

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Unit 4. Legislative Aspects of Data Analysis

Main Principles of Data Ethics

- **Privacy:** data privacy, also known as information privacy, is a subcategory of data protection that encompasses the ethical and legal obligation to protect access to personally identifiable information, i.e. any information linked to an individual's identity. Ensure you are storing data in a secure database so it does not end up in the wrong hands. Data security methods that help protect privacy include dual-authentication password protection and file encryption.

- **Intention: b**efore collecting data, ask yourself why you need it, what you will gain from it, and what changes you will be able to make after analysis. Strive to collect the minimum viable amount of data, so you are taking as little as possible from your subjects while making a difference.

- **Outcomes:** even when intentions are good, the outcomes of data analysis can cause inadvertent harm to individuals or groups of people. Unfortunately, you cannot know for certain the impact your data analysis will have until it's complete. By considering this question beforehand, you can catch any potential occurrences of disparate impact.

The ethical use of data is an everyday effort, and knowing that your data subjects' safety and rights are intact is worth the work. When handled ethically, data can enable you to make decisions and drive meaningful change at your company.

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Unit 4. Legislative Aspects of Data Analysis

Data Privacy and Protection

Data is a powerful resource and it is beneficial to know how to use it to drive impactful decisions in your organization. But what rights do customers have when it comes to their privacy? How can you navigate those rights and uphold their trust and safety? Data privacy is an imperative field to understand.

Remember: Data Privacy + Data Security = Data Protection!

Data security is focused on systems in place that prevent malicious external attempts to access, steal, or destroy data, whereas **data privacy** is related to the ethical and legal use and access to sensitive data and personal information.

Data security measures: two-factor authentication, data file encryption, and virtual private network (VPN) access.

Data privacy is a legal responsibility with strict guidelines and repercussions. The laws that apply to your company depend on location and the type of data you handle. Familiarize yourself with the laws that pertain to the locations of your business and customers.

Understanding the ethical, legal, and logistical foundation of data privacy enables you to maintain customers' trust and use data to make a positive impact on your business.

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Unit 4. Legislative Aspects of Data Analysis

General Data Protection Regulation (GDPR) Basics

The GDPR is a data protection act adopted by the European Union in May 2018. This law applies to any person or company that handles the data of European citizens. The **seven pillars** of the GDPR are:

- **Lawfulness, fairness, and transparency**: there should be no deception in the data collection process.
- **Purpose limitation:** data subjects must be told why you are collecting their data.
- **Data minimization:** you must only collect the smallest amount of data necessary for your specified purpose.
- **Accuracy:** you must keep data accurate and up to date.
- **Storage limitation:** the data must not be stored for longer than the intended purpose.
- **Integrity and confidentiality:** appropriate security measures must be in place to ensure confidentiality, and the data integrity must be maintained across format and time.
- **Accountability:** data handlers are responsible for complying with the GDPR.

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Unit 4. Legislative Aspects of Data Analysis

General Data Protection Regulation (GDPR) – Individual Rights

A key part of the regulation requires consent to be given by the individual whose data is gathered. Companies should be able to demonstrate how and when consent was obtained.

The GDPR provides the following **8 rights for individuals**:

- **the right to be informed:** individuals have the right to be informed about the collection and use of their personal data. This information must be concise, transparent, intelligible, easily accessible, and it must use clear and plain language.

- **the right of access:** individuals have the right to access and receive a copy of their personal data, and other supplementary information.

- **the right to rectification:** the GDPR includes a right for individuals to have inaccurate personal data rectified, or completed if it is incomplete.

- **the right to erasure:** the GDPR introduces a right for individuals to have personal data erased, also know as ‘the right to be forgotten’.

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Unit 4. Legislative Aspects of Data Analysis

General Data Protection Regulation (GDPR) – Individual Rights

- **the right to restrict processing:** individuals have the right to request the restriction or suppression of their personal data. When processing is restricted, you are permitted to store the personal data, but not further process it.

- **the right to data portability:** it allows individuals to obtain and reuse their personal data for their own purposes across different services. It allows them to move, copy or transfer personal data easily from one IT environment to another in a safe and secure way, without affecting its usability.

- **the right to object:** the right to object to the processing of individuals' personal data in certain circumstances. People have an absolute right to stop their data being used for direct marketing.

- **rights in relation to automated decision making and profiling:** the GDPR has provisions on automated individual decision-making (making a decision solely by automated means without any human involvement); and profiling (automated processing of personal data to evaluate certain things about an individual). Profiling can be part of an automated decision-making process.

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References

https://dictionary.cambridge.org/dictionary/english/big-data
https://e-skillsbusinesstoolbox.webnode.nl/big-data/voorbij-de-hype/
https://eur-lex.europa.eu/legal-content/BG/TXT/HTML/?uri=CELEX:32016R0679
https://ico.org.uk/media/for-organisations/guide-to-the-general-data-protection-regulation-gdpr-1-0.pdf
https://musebycl.io/music/spotifys-new-global-map-tags-people-who-are-playing-same-song-same-time
https://online.hbs.edu/blog/post/data-ethics
https://online.hbs.edu/blog/post/data-privacy
https://wordlift.io/blog/en/entity/structured-data/
https://www.bbva.com/en/five-vs-big-data/
https://www.bisnode.dk/globalassets/danmark/whitepaper/fra-big-data-til-smart-data.pdf
https://www.cc-cdq.ch/sourcing-and-managing-external-data
https://www.geeksforgeeks.org/5-vs-of-big-data/
https://www.ibm.com/cloud/blog/structured-vs-unstructured-data
https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/harnessing-the-power-of-external-data
https://www.merriam-webster.com/dictionary/data
https://www.precisely.com/blog/data-quality/5-characteristics-of-data-quality

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What is next?

- ✓ 6 Case Studies
- ✓ Evaluation in the B-LAND Multilingual APP

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