CIBP
SPRINT

CO-CREATING VALUABLE
CONTENT AND INSIGHTS
FOR OUR MEMBERS

THRIVING IN THE DIGITAL ERA
How to Create Value from Data

Index

Executive Summary

Data became the most valuable resource in the world, recently called “the new oil” by The Economist. This report aims to help cooperative banks leaders understand the most fast-growing asset, and to inspire them to act strategically so they leverage their business.

We start by bringing awareness to the exponential growth of information available, especially in the last half decade, highlighting the opportunities that arise from the fact since now we have the chance to create solutions that weren’t available 5 years ago. Then we bring some reflection on how to extract value from data as well as 5 core essentials that would support a better data quality management.

Finally, to illustrate how to extract value from data, we invited CIBP members to share some of their best initiatives. You will find practical examples from different countries to get inspired on how your organization can rethink, redesign processes and/or empower talent in order to increase the customer experience and, foremost, results and impact.

The report serves the purpose to reflect on how financial coop institutions can better enhance the data they have access to, not only to support decision making, but also to help understand which processes to automate, and how to optimize the resources and people in each organization. The main objective being how financial coop institutions can deliver better value. We hope you feel stimulated to reach out to CIBP for more insights and connections, making our community stronger and actioning Strategic Innovation.

SPRINT: Providing meaningful and collaborative food for thought on innovation within CIBP community

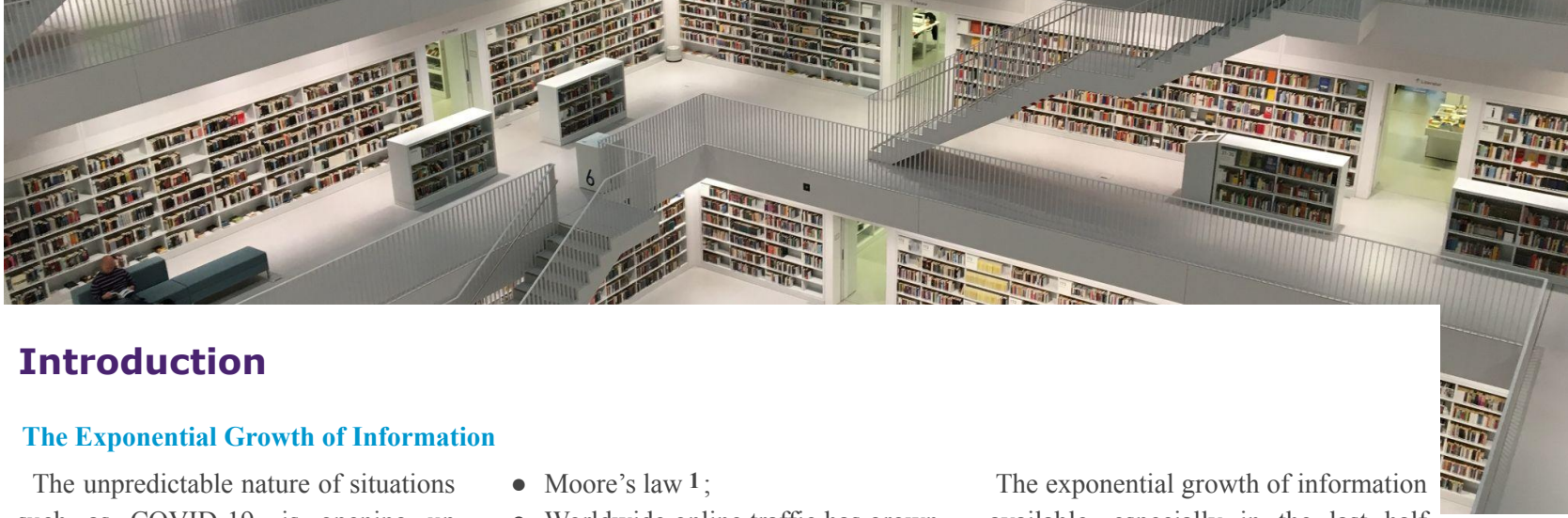
Taking on this challenge, CIBP team designed a solution: the SPRINT

The SPRINT is an opportunity to connect and engage specialists and seniors in an international approach to innovation and technology. This is a collaboration from inside and outside CIBP members to generate knowledge, tools, and experiences to be used by all members. Based on a methodology of innovation sprints, our focus is to produce relevant material from within the community to serve real challenges.

How does this work?

After selecting a theme of innovation and technology that has multiple implications in banking and financial services, in coop models or product trends, the SPRINT team will deep dive into the matter with data and cases, share some report drafts to encourage CIBP members to share their own experience and finally producing an insightful and practical report.

The success of a SPRINT lies in the engagement of our community. Reach out to the CIBP team for co-creating the next one.



Introduction

The Exponential Growth of Information

The unpredictable nature of situations such as COVID-19, is opening up systemic and behavioural failures that were already present in our world and global society. There is a call to our contemporary organizations for awareness and readiness.

Furthermore, we must take in consideration the evolving amount of information, perfectly represented by the following:

- Moore's law [1];
- Worldwide online traffic has grown from 100 GB per day (1992) to 26.600 GB per second (2016);
- According to forecasts, the volume of data generated globally will grow from 16 zettabyte (2016) to 163 (2025): 1 zettabyte = 1,000,000,000,000,000,000,000 byte;
- **https://www.internetlivestats.com/one-second (click here)**

The exponential growth of information available, especially in the last half decade, is offering us the opportunity to create solutions that didn't exist 5 years ago. Google built the first technology to be able to transform speech-to-text. It required about 15.000 computers. Currently, a single GPU (Graphics Processing Unit) Machine can replace 15.000 computers.

[1] *the observation that the number of transistors in a dense integrated circuit (IC) doubles about every two years.*

Even though most organizations collect data from their daily transactions and usually store them in a database, according to Rosslyn Analytics only 22% of businesses closely align overall strategy with available data. Forrester Research says that 90% of the data sitting in most organizations is not used primarily because it is so difficult for people to access, they fall at the first hurdle.

If organizations don't have the capability to extract value from the data, they might lose relevance. Taxis are a good example of it - their business model was based on transactional data (name, contact details, etc.) so they could provide their service. By not using the data strategically nor leveraging it, they gave space for a new business model - Uber.

It is quite common to become too excited about the possibility of creating a new business or a new revenue stream in what seems to be the lucrative arena of big data, and AI. For a lot of organizations, their endeavours turned out to be costly and inefficient, due to a lack of a robust strategic plan, which left them with open scars.

Conversely, organisations that took a more informed and business-linked understanding of the real value of their data, in terms of its use to current and potential customers, were able to enhance their current business, which is the true value of data.

Why Data is the Most Valuable Asset in the World

Kleber Gallardo, Alivia's Technology CEO, with degrees from MIT, Harvard, Columbia, and NYU Polytechnic in Neural Networks and Artificial Intelligence, says data is something more than a strategic enabler; it is rather as the oxygen for analytics, machine learning, and AI, so they can have the fuel and fulfill their promise of enhancing decision-making processes with additional intelligence, as well as produce more effective outcomes.

A combination of other factors are also contributing such as the availability of appropriately powerful scalable hardware, the rapidly increasing amount of data from various sources which also can be combined, the fact that AI methods provide best results when trained on large datasets, and the ever-growing data science/data analytics community.

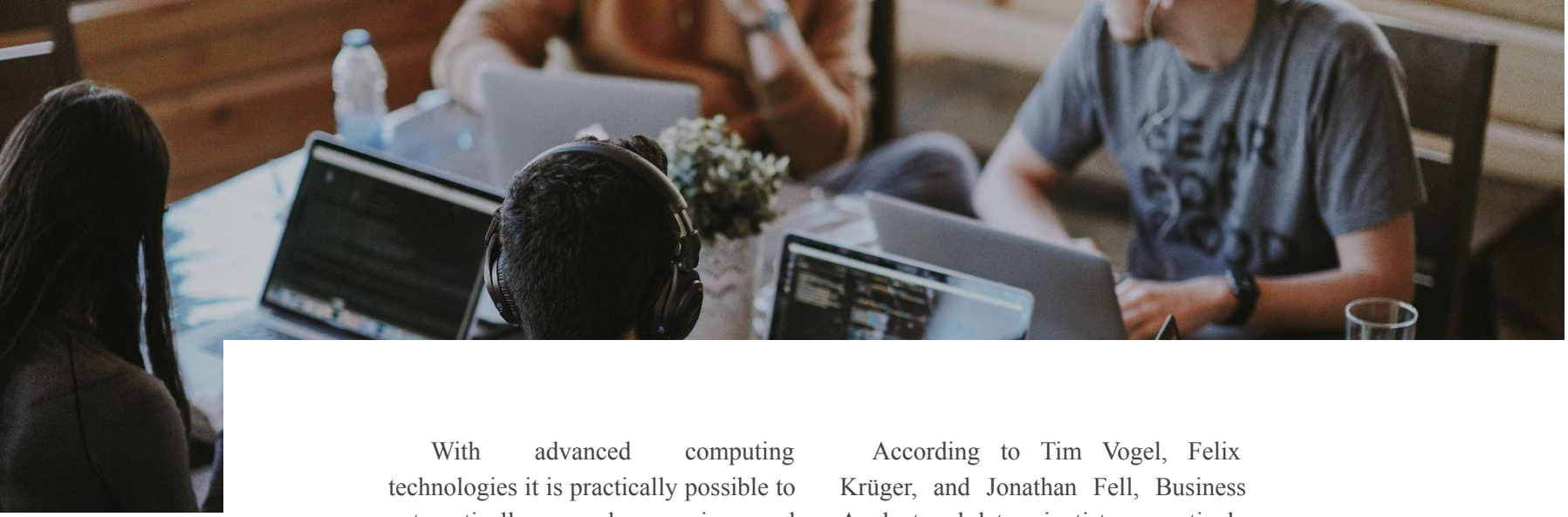
It is expected that by the end of 2024, 75% of organizations will shift from piloting to operationalizing artificial intelligence (AI) techniques such as machine learning, optimization and natural language processing (NLP), driving a 5 times increase in streaming data and analytics infrastructures. As a result, there will be a shift to dynamic data stories that leverage augmented analytics or natural language processing, meaning that the most relevant insights will stream to each user based on their context and will replace visual, point-and-click and predefined dashboards.

Secondly, several companies collect huge amounts of data about their users, and thereafter analyze the data, generate insights, and use the insights as a resource from which they can make money, most typically by selling advertisements (they sell you as an audience to advertisers who wish to target certain audiences). As it has been said in the Netflix movie The Social Dilemma: *"If you're not paying for the product, then you are the product"*. Billions of users are paying with their data for such *"free"* apps with permissions to collect their data, thereby giving access to often unknown third parties who created these apps.

Finally, data can also show you the way on how to speed up your business processes, to avoid mistakes, and/or mitigate risks. Therefore, extracting value from your data is applicable to any industry.

Recent research highlights the relevance of data to an organization's bottom line and Big Data Executive Survey by New Vantage Partners shows that 85% of businesses want to be data-driven, however only 37% have been successful.

"Data quality management is a never-ending process."
Mathieu Derome,
Chief Data Officer and Vice-President,
Member and Client Analytics division
Desjardins Group



With advanced computing technologies it is practically possible to automatically record, organize, and store all the data that citizens knowingly (or unknowingly) give to companies and governments. However, it's not enough to have access to huge amounts of data, we need to understand it and extract value out of it. In the following section, we will go through the most relevant points on how to extract value from data.

According to Tim Vogel, Felix Krüger, and Jonathan Fell, Business Analyst and data scientists respectively from DZ BANK AG (Germany), *"although the potential of data-driven value creation is hardly measurable, major consultancies estimate the potential value to be as large as 1 trillion USD in total for the banking industry."*

How to Extract Value from Data

In the past, it required people to do most of the tasks, but now with machine learning we get an automation capability - 70 to 80% of processes can be automated. For Alivia Analytics, a healthcare payment integrity platform, AI and machine learning aren't just buzzwords or trends. A good example is a custom automated system they applied into improperly paid healthcare claims. The automated system analyzed the data, automatically sent an email to people their client needed to recover, and they were able to recover more than $USD 1 million in 5 days from more than 100 people.

As Kleber mentioned: *"the business and knowledge was always there, the only difference is that with an automated system, we were able to work in parallel with different variables considered and in many directions at the same time, instead with a sequentially work approach which is limited, as people are used to".*

Data isn't limited to support decision making, but also to make us understand which processes automate, and how to optimize the resources and people each organization has to deliver a better value. A group of 5 core essentials would look like the following:

1. Focus on value first. As a first step, you should start by identifying where your organisation might create more value and only then understand what data assets you need to make that happen.

2. Collect all the data into one single place. Most organizations already have this process in place, however it is always good to analyze if they are gathering data from the six major sources: customer, employee, product/service, financial, spending, supply chain.

3. Harmonize the data. Different entries may refer to the same input, so it is important to clean the data. Most data is hidden, polluted, and unprocessable - the cleaner the data, the cleaner the result. Only after the data is cleaned, it should be used for analytics. For example, data such as "account ID", "account", "member", might refer only to a single person.

4. Analytics. Advanced machine learning techniques to analyze data and mine for insights to drive critical decisions.

5. Integrate external data. Only after cleaning the internal data, it is recommended to integrate with external data (e.g. social analytics).

Examples of Value Creation from Data

There are plenty of well known examples such as Amazon with the so-called “anticipatory shipping” that plans its logistics ahead of orders being placed based on its knowledge of its clients’ behavior, or Vodafone that offers traffic jam data to TomTom for its navigation systems.

In this report we will highlight some references from CIBP network:

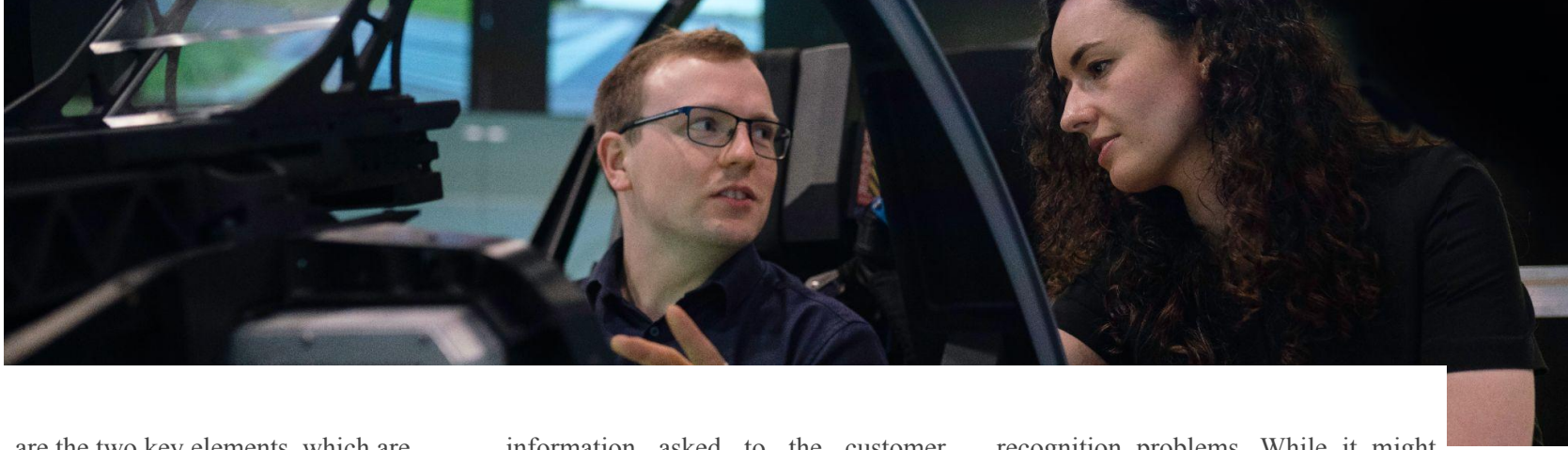
DZ BANK AG (Germany)

Alternative Matching in fixed income trading

Suppose the customer requests an investment in a 5-year, non-callable BMW bond while at that particular moment no reasonably priced offer is available. Furthermore, suppose that DZ BANK AG actually has a 5-year, non-callable Mercedes bond in its portfolio which is virtually the same in regards to trading KPIs (e.g. yield, volatility, sensitivities, risk class etc.).

Advanced Analytics could assess this situation and recommend the sales department to offer the Mercedes bond to the customer via an automatic notification or in-person customer contact.

The Advanced Analytic element in this approach is a similarity score. That score is computed continuously for all products in the bank’s product portfolio. Precise feature engineering and a feedback loop evaluating the customer’s response to all suggestions



are the two key elements, which are paramount to the success of this service.

COOPEUCH (Chile)
Credit Simulator

Perfect example on how a simple solution can generate awesome results. Data processing alone increased by 10% the sales of new credits, and lead generation went from 20% to 80-90%. Besides that, due to fine tuning on the information asked to the customer and/or potential customers, now have a more qualified customer with a more precise risk scoring which eases the process of credit assessment and outbound marketing.

DESJARDINS GROUP (Canada)
Using natural language processing to extract meaning from text and voice data

There is a lot of buzz in AI about deep learning and its performance on image recognition problems. While it might be useful for Desjardins Group in specific use cases (example: document digitization, satellite imagery to infer building characteristics or damage evaluation for claims estimation), they have found more value and more use cases in the natural language process (NLP) of unstructured text.

For example, they use NLP on social media comments to automatically

detect the sentiment and categorize the content of the comments. This allows their social media teams to prioritize the most important comments and route them to the appropriate expert in a very effective manner. It also gives them another useful source of measure on the performance of our marketing campaigns. The same principle is also applied to customer experience or employee engagement surveys, automatic categorization of verbatims is less time consuming and more consistent than human labelling.

Personalized advices related to life-events

There is a lot of buzz in AI about deep learning and its performance on image recognition problems. One key element of the advanced analytics strategy at Desjardins Group is to help their members and clients be prepared for life events (first job, start living together, first house, first car, having kids, retiring, etc.) by providing them with personalized financial advice through digital and in-person solutions to accompany them.

Desjardins Group team look at the different data sources to identify traces which indicate that members and clients might have faced a life event (anonymized data). Using this data and the traces, they then train predictive models (regression models or machine learning) which aim to predict these life events. Finally, they apply these models individually to each member and client in their portfolio. This gives them strong indicators to target the most relevant personalized advice to each member and client (emails, digital

marketing, outbound call, customer-segments for their advisors).

GROUPE BPCE (France)

Data Observatory

The FNBP, in collaboration with Natixis Payments and OpenData BPCE, has built a "data observatory at the service of the territory" based on data from proximity payments by bank card in France. This initiative aimed to create a data observatory at the service of the territory using bank card payment from the Banque Populaire Network to create proximity with the regional economic and social ecosystem, provide economic decision-makers in the region with elements of analysis for better territorial performance, and contribute to the development of the open data and its potential, by concretizing a first use case on payment data.

The provision of this data through this observatory, as part of an ethical and responsible opendata approach, reflects the concept that the Banque Populaire banks have of their profession, in a spirit of cooperation and sharing, by giving the possibility for everyone to reuse this data, to promote the emergence of projects and new initiatives.

Conclusion and outlook

Conclusion and outlook

Scientists have been getting insight from data for centuries using the scientific method. In short, the steps are: formulate a question or problem statement, generate a hypothesis that is testable, gather/generate data through experimentation or observation, analyze data/draw conclusions (e.g. test hypothesis), and refine/iterate hypotheses for further testing.

In recent years, the more we use advanced and digital technologies to transfer information, the more information we have access to. Emerging technologies powered by, and contributing to, exponential data growth, are offering *"boundless opportunities for organizations willing to quickly learn and adapt, embrace new technologies and harness the power of data"*, said Doug Merritt, President and CEO of Splunk.

Data, if used wisely and efficiently, gives to our organizations plenty of advantages such as business decisions tied up in analytics insights, clear feedback for market research and continuous improvement, or development of human-centered products and services. Becoming a data-driven organization has its challenges, but the benefits totally outweigh the efforts needed.

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CIBP Members

Coopeuch

Volksbank Wien AG

SICOOB

ÖGV - Österreichischer Genossenschaftsverband

BPCE - Banque Populaire and Caisse d'Epargne

FNBP - Fédération Nationale des Banques Populaires

Banco Credicoop Cooperativo Limitado

BCP - Banque Centrale Populaire du Maroc

BVR - Bundesverband der Deutschen Volksbanken und Raiffeisenbanken

DZ BANK AG

Banque CPH

Desjardins Group

SPRINT Team

08 Conscious Innovation


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