

# ORGANIZATIONAL INFORMATION SYSTEMS

CASE

Presented by



Investissement  
Québec

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## Jeux du commerce: Investissement Québec's Case on the Assessment of Subsidiaries

### Case background— Investissement Québec (IQ)

Investissement Québec (the Corporation) is facing a double challenge: 1) To ensure its organic growth by the integration of new subsidiaries and 2) To begin its digital conversion. The Corporation wants to hire a Service Provider to set the foundations for business information management in order to address this double challenge. This document describes the needs to be met by the data management solution as well as the organizational limitations and some features that the solution is expected to cover. <sup>1</sup>

### Organizational Background

Investissement Québec (IQ) is a Québec government corporation established in 1998 under an Act adopted by the National Assembly of Québec to foster investment in the province of Québec and in international companies. The Corporation's mission is to contribute to the economic development of Québec, as per the government's economic policy. It aims to boost investment growth and support employment in every region of the province.

To fulfill its mission, the Corporation supports entrepreneurship and growth of businesses of all sizes by providing appropriate financial solutions and investments, and by seeking to round off its partners' offerings. In line with the government's current mandate, it ensures the successful prospecting of foreign investment and carries out strategic interventions. As part of its mission, it provides financial services. Figure 1 depicts Investissement Québec's activities.

### IQ's Evolution Background

In June 2019, the Government of Québec brought in a bill that further clarifies the Corporation's new orientation:

1. To focus on economic development mission rather than financial performance;
2. To double foreign direct investment in Québec within FIVE (5) years in order to reach \$7 billion annually;

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<sup>1</sup> Business information management encompasses data management (e.g. data governance, data exchange solution or data hub, master data management or MDM, etc.) as well as business intelligence (e.g. data warehouses, datalake, BI platform, etc.).



3. To help increase exports to reach the equivalent of 50% of Québec’s gross domestic product;
4. To contribute to the diversification of Québec’s export markets in order to counter protectionism.



*Figure 1 IQ Overview*

The National Assembly passed the bill in December 2019. The target structure will have to bear the overall strategic objectives but also be able to support the Corporation’s vision of creating a “one-stop window” for Québec entrepreneurs and foreign investors. It will be a virtual showcase displaying all the Corporation’s products and services in both informational and transactional self-service mode.

In addition, the Company wishes to offer entrepreneurs and foreign investors a 360° view of their projects and opportunities to improve their productivity by connecting them with entrepreneurs in the same industry, complementary partners and potential clients. The same view would be accessible to the entrepreneur as well as to the Corporation’s account manager.<sup>2</sup> The end goal is to provide unparalleled customer experience to entrepreneurs.

<sup>2</sup> Account manager: person in charge of a customer account. This person assists the business in the different procedures, provides advice and even suggests other solutions available.



To carry out this new and broadened mission, the Corporation intends to implement a state-of-the-art and scalable technological foundation to address its current and future business needs. Moreover, the number of employees rose considerably with the merger of the Corporation, the Centre de recherche industrielle du Québec (CRIQ) and some Ministère de l'Économie et de l'innovation (MEI) groups. As a result, IQ grew from +/- 500 to nearly 1,000 employees. In order to guide all of IQ's technology initiatives, a digital strategy has been developed.

## Digital Strategy—Guiding Principles

IQ's digital strategy relies on the following guiding principles:

1. **Data:** Position data as a strategic pillar of the Corporation in terms of business efficiency, internal productivity and customer/employee experience;
2. **Process:** Redirect all processes around the customer by positioning the Corporation ahead of the business needs and by improving IT governance;
3. **Applications:** Ensure market intelligence so that innovative technological solutions responding to business needs can be implemented. All this while following the “better, faster and cheaper” philosophy;
4. **Infrastructure:** Rethink the technological infrastructure to advocate an innovative approach relying on cloud computing while maintaining a high security standard.

## Contextualization—ISDB

### Current situation at the International Subsidiaries Development Branch (ISDB)

IQ's International Subsidiary Development Branch (ISDB) key business goals:

1. Help subsidiaries to find growth opportunities
2. Help subsidiaries to progress in the preparation of their projects
3. Assist subsidiaries during the implementation of an investment project
4. Provide technical support to subsidiaries

ISBD relies on data and information gathered during meetings with subsidiary representatives in order to assess the vulnerability of International Subsidiaries (foreign-owned subsidiaries) located in Québec. The information is analyzed to target the subsidiaries showing:



- a) High risk of ceasing their activities or relocating them to other countries;  
OR
- b) High growth potential.

To help ISBD project managers assess a business's situation, ISBD has created an indicator (known as the Vulnerability Index) comprising 15 criteria.<sup>3</sup> The index is calculated in an Excel file and then entered into SYGIC.

The criteria constituting the index were chosen for their relevance and their ability to provide an accurate picture of the business under study. But to get the overall picture, we must hold an initial meeting with the company to gather the missing data first and then calculate the index. Thus, this index cannot serve as a proactive tool to target subsidiaries and invest efforts on those that are most vulnerable.

Moreover, this index requires substantial efforts in order to calculate it regularly and keep it up to date. The lack of historical data prevented the identification of a trend in order to get early signs so that the business manager could be informed of the results and the score of their business in order to prepare the next appropriate steps of their action plan.

Knowing that each project manager has, on average, a portfolio of 200 subsidiaries to analyze in order to target and visit approximately 50 of them annually, an informational solution must be found to automate the analysis of the available data to create alerts and support the decision-making process.

### International Subsidiaries Development Branch—Business Needs

IQ's ISDB employs a variety of data and information to analyze the situation of international businesses based in Québec. These analyses are meant to provide an overall picture of all foreign subsidiaries located in Québec in order to facilitate the prioritizing of the subsidiaries to be contacted, as well as to be able to offer solutions adapted to the subsidiary's situation. Keeping in touch with these subsidiaries is essential for IQ to provide them with support and to introduce them to the financial or tax services offered.

The subsidiaries are prioritized and segmented by analyzing news, financial statements, data on jobs, investments, information on the parent company, the industry's economic situation, and so

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<sup>3</sup> Detailed criteria are provided in the appendix of this document.



on. In short, a variety of information sources are used to better target the needs of subsidiaries and anticipate their actions.

A formula had been developed by ISDB to create an index that would measure a subsidiary's vulnerability so as to facilitate the process of prioritizing the subsidiaries to be contacted. This index is based on data collected directly from businesses through visits, interviews, or direct requests for information, for instance. Consequently, the updating frequency is quite low (once a year on average) which makes the index hardly relevant.

### Problematic

The main challenges concern the following aspects:

1. The data is externally sourced and we have no control over its quality and reliability. There are several sources of information and there is a fee to access them.
2. There is a high level of complexity in tracing the relationship between the subsidiary and the parent company. This relationship is not always direct and this brings confusion regarding the influence of decisions in a group of businesses.

### Needs Description

The goal of the information management project is to identify, develop and implement an information solution to support and facilitate the prioritization and segmentation of foreign subsidiaries. No information management technology solution has been found yet, nor has a development and implementation plan been drawn up.

The information management solution that IQ will implement must be capable of gathering, extracting, transforming, loading (ETL), exploring, analyzing and visualizing the available information and data, in three key areas:

- “News” area: all news concerning the subsidiary that has an impact on its current or future activities;
- “Employment” area: all information related to the business's jobs (layoffs, job offers, etc.);
- “Investments” area: all information regarding investments undertaken (or not) in the subsidiaries (expansion, digitization project, etc.).



For each area, the sources of the data must be identified and their reliability tested, the cost to access this information must be estimated for paid external data, and the information production process and frequency must be determined. The way in which users will be able to access the information must also be defined.

Furthermore, tracing, exploring and analyzing the information and data available on the subsidiaries' parent companies is important because their decisions have a major impact on the viability of their subsidiaries in Québec.

The “News” area has been set as a priority for the first development phase. Meetings and exchanges with ISDB have brought out the need for a solution that will make it easier to detect **relevant news** about subsidiaries and parent companies.

### Project Scope

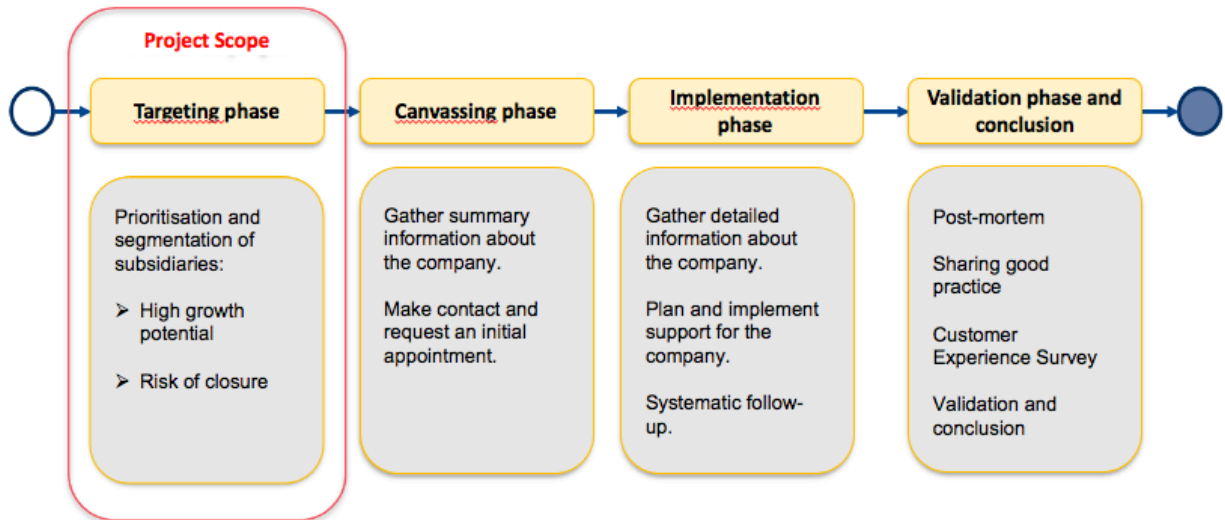
The needs analysis by ISDB project managers indicated that the scope of the information management project would initially be limited to the “News” area in order to explore and analyze available the information and data.

The “News” area centres on the tracking of relevant news about the subsidiaries and the parent company. More news may be added in a next iteration (e.g., information on the subsidiary and parent company's economic sector).

The diagram below shows the project scope as it relates to the business process visually.



## Process Phases



### “News” Area

By relevant news, we mean all information that can help identify any events likely to impact the subsidiary’s activities (threat or opportunity). The main targets are relocations, plant closures, layoffs, etc., but also expansions, investment decisions, etc.<sup>4</sup>

Here, decisions taken by the parent companies are extremely important sources of information. It is necessary to identify the parent companies of subsidiaries and target relevant news.

### Targeted Project Outcomes

1. Track relevant news to quickly notify project managers
2. Support the analysis carried out by the project managers for the targeting phase (target the subsidiaries to contact and visit). Find out anything that can help diagnose the “health condition” of a subsidiary.

<sup>4</sup> News that are relevant to IQ, i.e. that help fulfill IQ’s mission. E.g. : L’Oréal launches a new line of shampoo = a priori irrelevant. Yet, L’Oréal launches a new line of shampoo that could or will be produced in its Québec plant = very relevant!





3. Assist project managers in finding relevant information prior to the meeting with the subsidiary's management.

### Project Success Indicators

Users, i.e., ISDB managers, consider that the solution selected should support decision-making and the targeting of subsidiaries, according to the following indicators:

1. Eighty percent of the suggested items are judged as relevant by the users.
2. Ninety percent of the suggested items are correctly identified as "Positive", "Negative" or "Neutral".
3. The solution meets 100% of the users' needs for tracking news on a subsidiary, considering the available sources.
4. Users have significantly reduced (50%) the time spent searching for news about subsidiaries.

### Problems to be solved:

How to provide project managers with the information they need to follow up on subsidiaries that require special attention?

1. How to make sure you have the right criteria to find **relevant news**?
2. How to determine the right **data sources** for subsidiaries (and parent companies)? How to leverage the multiple sources of open data?
3. Which indicators can be used to illustrate and highlight the news and the vulnerability of subsidiaries?

Student groups may choose to address one or more of the questions asked above.



## Appendices

### Appendix 1—definitions and acronyms

For the purposes of this document, here is the following acronyms meaning:

1. APEX = Oracle Application Express
2. CRM = Customer Relationship Management
3. ISDB = International Subsidiaries Development Branch
4. ETL = Extract Transform Load
5. IQ = Investissement Québec
6. MDM = Master Data Management
7. FAR = Financial Analysis Report
8. SaaS = Software as a Service
9. RHCS Human Resources, Pay and Talent Cloud Solution
10. ICMS Integrated Customer Management System
- 11.

#### Key Concept Definitions

##### 1. **Timetable**

- A schedule consisting of the delivery dates agreed to by the Contractor and the Corporation for the full services to be provided, which must comply with the delivery and deployment dates set out in the Preliminary Timetable in Section D of this tender.

##### 2. **Business or Support Function**

- Organizational unit within the Corporation focused on an area of activity (e.g., Senior Vice President of Finance, Vice President of Human Resources, Vice President of Information Technology).

##### 3. **FAR = Financial Analysis Report**

- This application notably allows us to collect and archive data from our customers' financial statements as well as to construct ProForma financial statements in a standardized format for analysis purposes.



### *Appendix 2— criteria measurement scales*

The vulnerability index is based on the fifteen criteria presented in the table below. The possible numerical values for the criteria are 0, 3, 5, as well as 90 for the “subsidiary’s profitability” and “exceptional factor” criteria. A value of 5 indicates that the factor is contributing to a higher risk of non-reinvestment, or even disinvestment, by the parent company, and therefore greater vulnerability. If two or more of the three following criteria have a value of “5”, the subsidiary qualifies as a “high-risk” business (vulnerability index of at least 90%): change in production or sales over two years; last major projects carried out at the subsidiary and subsidiary profitability. Criterion 12 “Addition of an exceptional factor, if applicable” is optional, and is used when the other 14 criteria are insufficient to assess the full risk of vulnerability.



**1. Internal competition within the international group**

1.a Locations: number of sister subsidiaries in North America

Measurement Scale: Sole subsidiary in North America  
 0  
 1 or 2 subsidiaries  
 3  
 3 subsidiaries or more  
 5

1.b Productivity of the Québec subsidiary versus sister subsidiaries

Measurement Scale: Optimal (default if no sister subsidiaries)  
 0  
 Competitive  
 3  
 Non-optimal  
 5

 **2. Change in production or sales over 2 years (at the subsidiary level)**

Measurement Scale: Growth  
 0  
 Stability  
 3  
 Decline  
 5

 **3. Level of production capacity utilization**

Measurement Scale: 0 Optimal or full capacity  
 3 Overcapacity (excessive volume)  
 5 Undercapacity (insufficient volume)

 **4. Large project portfolio over the next 2 to 3 years**

Measurement Scale: Yes  
 0  
 No  
 5

 **5. Recent major projects carried out at the subsidiary since:**

Measurement Scale:

	Manufacturing industry		Technology Industries
0	0 to 3 years	0	0 to 2 years
3	3 to 5 years	3	2 to 4 years
5	5 years or more	5	4 years or more

 **6. Presence of development activities (R&D or innovation) at the subsidiary**

Measurement Scale: Yes  
 0  
 No  
 5

 **7. Workforce availability to fill the positions within the Québec subsidiary**

Measurement Scale: No major issue  
 0  
 Short-term difficulty in recruiting  
 3  
 Major issue: serious difficulties to recruit and/or retain workers (over a long period of time)  
 5

 **8. Work relations quality within the Québec subsidiary**

Measurement Scale: Good (no major issue)  
 0  
 Fairly good  
 3  
 Bad (major issues)  
 5

 **9. Subsidiary autonomy from headquarters**

9.a The subsidiary's ability to autonomously start up projects

Measurement Scale: 0 Often  
 3 Sometimes  
 5 Never

9.b Branch Manager's position regarding the President or Senior Decision Maker of the parent company

Measurement Scale: Direct connection  
 0  
 An intermediate between the subsidiary and the parent company  
 3  
 Several intermediates  
 5

 **10. Profitability of the subsidiary (based on the industry)**

Measurement Scale: Not applicable (e.g., cost centre)  
 0  
 High profitability  
 0  
 Low profitability  
 3  
 Losses in the last year  
 5  
 Losses in the last 2 years  
 \*5  
 Losses for more than 2 years  
 90

 **11. Parent company's financial position**

11.a Parent company profitability

Measurement Scale: High profitability  
 0  
 Low profitability  
 3  
 Making losses  
 5

11.b Parent company financial developments

Measurement Scale: 0 Potential investment projects (expansion mode)  
 3 Budget cuts (invests in projects with short term profitability: less than 18 months)  
 Investment freeze  
 5

 **12. Addition of an exceptional factor, if applicable**

Measurement Scale: High risk of vulnerability increase  
 \*5  
 Very high risk of vulnerability increase  
 90