

ERP Risk Escalation and Operational Failure in Target Canada: A Design-Reality Gap Perspective

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Abstract: *In the context of cross-border retail expansion, ERP implementation is shaped not only by technical factors but also by business processes, employee capabilities, supplier coordination, and management objectives. Target Canada provides a particularly relevant case because its rapid entry into the Canadian market coincided with the implementation of a new ERP, and supply chain problems contributed to its eventual market withdrawal. Drawing on the design-reality gap perspective, this study examines the major gaps within Target Canada's information systems project and the interactions among them. The findings show that the project's failure resulted from multiple mismatches involving technology, data, business processes, employee capabilities, external collaboration, and management objectives. Further analysis indicates that technical and social-organizational factors reinforced one another, allowing information systems problems to spread progressively to supply chain operations and front-end retail activities. Based on the case analysis, the study further develops a process framework for understanding the formation and propagation of ERP project risks.*

Keywords: *Enterprise Resource Planning; Information Systems Project Risk; Cross-Border Retail; Target Canada*

1. Introduction

In the modern retail industry, enterprise competition not only depends on the stores and brand influence, but also on accurate data, stable inventory, timely replenishment, and efficient supply chain coordination [1]. ERP is not a simple software installation, but a comprehensive project involving technology, business processes, employees, suppliers, and management decision-making [2]. Large retailers need ERP and supply chain information systems to process product, inventory, supplier, distribution, and sales data. Once system operation becomes unstable, back-end data errors may quickly become front-end operational problems [3]. Therefore, ERP project management is important for retail enterprises.

Based on the above background, this study uses Target Canada as a case study and focuses on the risk management problems in its ERP and supply chain information system projects [4]. The research question is how design-reality gaps increase IS project risks and affect Target Canada's retail expansion.

2. Literature Review

2.1. IS Project Risk Management

Studies have shown that information system project risk involves projects, people, processes, and organizational conditions. Ward and Griffiths (1996) summarize the main sources of risk, including project size, complexity, people issues, project control, novelty, and requirements stability, from a macro level, so that information system risks are no longer limited to the technology itself [5]. Cadle and Yeates' (2008) project checklist further specifies risks, such as ambitious project plans, insufficient user commitment, unclear requirements, complex technical requirements, insufficient staffing, and limited supplier experience, which may increase the risk of project failure [6].

However, such frameworks mainly classify risks, while their guidance for practical improvement is limited. In contrast, the ITPOSMO design-reality gap model provides a more diagnostic perspective [7]. It compares design assumptions with actual conditions in information, technology, processes, objectives, staffing and skills, management systems and structures, and other sources, thereby helping to identify risks and providing practical guidance for subsequent improvement.

However, identifying gaps alone cannot explain how risks expand within a project. The risk emergence perspective points out that IS project risks are not always a static list, but may gradually form and escalate through technical and social interactions [8]. Therefore, IS risk management should also examine how risks evolve and affect project outcomes during implementation.

2.2. Project Monitoring and Control

Information system project risk management requires continuous monitoring and control during implementation. Monitoring tracks actual progress and judges whether it deviates from the plan. Control adjusts project arrangements, resource allocation, or implementation methods after deviations are identified [9]. Laudon and Laudon (2006) summarize time, cost, and quality as core IS project constraints for evaluating project performance [10]. These dimensions can be used as indicators to evaluate project performance and to judge whether the project is progressing as expected.

Relevant literature also emphasizes that monitoring and control help prevent risk escalation. Keil and Mähring's (2010) black hole project research shows that some projects continue to consume resources but fail to generate business value [11]. Their problems often go through stages of drifting, treating symptoms, rationalizing continuation, and continued investment. Therefore, monitoring should not only record progress but also identify gaps between project performance and expected goals. Field and Keller further suggest that project monitoring should include milestones, exception reporting, progress review meetings, and analysis of the reasons behind the gap.

Although time, cost, and quality can show whether performance is unbalanced, they cannot fully explain how this imbalance is formed. If monitoring only focuses on schedule, cost control, or superficial quality checks, its guidance for improvement remains limited. Therefore, monitoring should examine both results and processes, using these indicators to judge deviations while applying the design-reality gap framework to identify misalignment between system assumptions and actual conditions.

2.3. ERP Project Risk Management

ERP is an information system that integrates the core business processes, including procurement, inventory, logistics, sales, and finance, so that enterprises can manage data and operations within a unified system [12]. It is not only a technical project, but also an organizational project involving data, processes, people, suppliers, and management support. Therefore, ERP risks involve data accuracy, process stability, employee skills, and external collaboration.

Existing ERP research mostly analyzes risks through key success or failure factors. Reviews also point out that ERP risks may involve multiple levels, including technology, operations, organization, and business factors [13]. However, simply listing factors is not enough to explain why the ERP becomes out of control. Since risks may accumulate and expand through the interactions during the implementation, ERP risk management should also examine the chain relationships between risks.

At the same time, ERP projects have limited resources and management capacity, with constraints between time, cost, and quality [14]. Risk management does not eliminate every risk, but prioritizes trade-offs. If enterprises blindly shorten the implementation time, they may sacrifice testing, process adaptation, and quality control, creating new cost and quality.

3. Case Background of Target Canada

3.1. Target Canada's Market Entry and Exit

Target Corporation is a large retail enterprise in the United States. Its core business has long focused on discount retail, daily necessities, clothing, home furnishings, and groceries [15]. In 2011, Target decided to enter the Canadian market. At that time, Target paid about 1.8 billion dollars to acquire Zellers' store leases and planned to complete store renovations and open stores within a relatively short period. The company not only needed to transform the stores, but also needed to build a local supply chain, distribution centers, and ERP information systems in Canada at the same time [16].

Target Canada began to open stores in 2013 and expanded rapidly in the Canadian market. Before its withdrawal in 2015, Target Canada had 133 stores and about 17600 employees [17]. However, after opening, Target Canada soon encountered problems such as inaccurate inventory, difficult replenishment, unstable supply chain coordination, and empty shelves. Relevant reports and case analyses pointed out

that supply chain and inventory system problems not only affected store operations, but also weakened customers' initial expectation of the brand [4].

In January 2015, Target Corporation announced the termination of its Canada business, which was expected to generate \$ 500 million to \$ 600 million in cash costs [17].

3.2. Information System Problems

The central focus of this study is Target Canada's problems in ERP, inventory management, and supply chain information systems. Target Canada adopted a new system and supply chain system, but its implementation was synchronized with rapid store openings, placing great pressure on the project [18]. In retail, information systems connect data, inventory, replenishment, and distribution decisions. These decisions further affect warehouse allocation, store replenishment, and front-end operations. Therefore, once the data is inaccurate, errors may spread along the business chain.

The relevant case analysis points out that the initial data setup of Target Canada's system was too hasty, making the system rely on unreliable information from the beginning. Panorama Consulting also pointed out that Target Canada experienced empty store shelves and warehouse inventory backlogs. One reason was that the system relied on incorrect data [19]. Salsify's analysis further mentioned that inaccurate product data can affect replenishment timing and distribution decisions, making it difficult for enterprises to determine when goods should be distributed, where they should be distributed from, and which stores they should be sent to [20].

This problem also overlapped with supplier coordination and project pace. Castaldo (2016) reported that some supply chain problems at Target Canada were not identified until 2014, including misunderstandings concerning shopping dates [4]. More importantly, management had already heard concerns about serious supply chain problems, but the planned store-opening schedule continued to move forward [21]. Therefore, Target Canada's problem was not the failure of a single system function, but the result of the interaction between data, processes, supplier communication, and a rapid expansion pace. Management's insistence on time targets reduced the time and space available for data cleansing, process testing, and risk correction, and finally expanded the information system problem into store-level operational problems.

4. Design-Reality Gaps in Target Canada's ERP Project

4.1. Identifying Key Design-Reality Gaps

This study uses the ITPOSMO design-reality gap model to analyze the failure of Target Canada's ERP project [7]. The model is applicable to this case because the root of the problem lies in the misalignment between system design assumptions and the reality of Canadian business operations

Management hoped to replicate the American experience by opening stores quickly, but in reality, ERP system quality, data preparation, supplier collaboration, and employee training were not yet mature. The Canadian business required new systems and supply chain arrangements, and systems such as SAP were complex and needed to adapt to the new data, distribution, and language environments. Therefore, under conditions of insufficient preparation, expansion was pushed forward, resulting in a clear gap between strategic goals and organizational reality. Based on the ITPOSMO dimensions, Table 1 identifies design-reality gaps in Target Canada's ERP project risks.

Table 1. Design-Reality Gaps in Target Canada's ERP Project

ITPOSMO Dimension	Design Assumption	Reality Limitation	Resulting Risk
Information	Product, inventory, and supplier data would be accurate and complete.	The initial data was unstable, with errors and omissions.	Inventory judgments were distorted, leading to replenishment errors.
Technology	The new ERP and supply chain systems could be built quickly and support the Canadian business.	The system was complex and had to adapt to new markets, new data, supply chain arrangements, and user training needs.	System implementation became difficult, and the risks of user errors and system instability increased.

Processes	Warehousing, distribution, and store replenishment processes could be built in a short time and gradually adjusted during operation.	Canada's supply chain processes were still under development and had not yet stabilized.	The system could not support store operations in a stable way.
Staffing and Skills	Employees would be able to use the system correctly	Many employees were new and lacked sufficient training and experience.	Incorrect data input and difficulties in exception handling have increased.
Objectives and Management	Rapid store openings could replicate Target's American experience and generate profits faster.	The system, data, supply chain, employees, and supplier collaboration were not mature enough, and early profits were not achieved.	Time targets overrode quality control, and system problems were amplified into broader operational failure.
Other resources: External actors	Suppliers would follow unified data standards and distribution rules.	Communication with suppliers was insufficient, and Target and suppliers had different understandings of terms and requirements.	Delivery delays and data problems were aggravated

4.2. Technical Gaps and Operational Problems

Target Canada's decision to build new ERP and supply chain systems was not unreasonable. Because the Canadian business operated in a new market environment, the original US system could not be directly copied to Canada, and it also needed to cope with differences in currency, language, and local operating requirements [22]. Therefore, it was reasonable to choose a mature retail system such as SAP to support Canadian businesses.

The problem was that the goal of building this system conflicted with rapid expansion and early expectations. Rapid store openings compressed the time available for system testing, data preparation, and process stabilization, while early profit expectations required the system to support large-scale operations as soon as possible. For ERP projects, system quality depends not only on whether the software has gone live, but also on whether the data is reliable, whether the processes are steady, and whether the system can be effectively used in actual business operations. Target Canada pushed the complex system into operation before these conditions were mature, so that time and cost targets overrode quality control.

This gap is first reflected in the information dimension. The ERP system relies on accurate and consistent business data to judge inventory, replenishment, and distribution arrangements. Once there are errors in the basic data, even if the system can run, it will generate unreliable judgments based on incorrect data. These judgments then feed into the supply chain process, leading to confusion in warehousing, distribution, and store replenishment, and increasing additional coordination costs. Therefore, data problems do not remain with the system, but are transformed into front-end operational problems along the business process. In the Target Canada case, inaccurate data affected inventory, and the immature supply chain process made errors more difficult to identify and correct. What customers finally saw was not data quality problems, but empty shelves, stockouts, and a declining shopping experience.

4.3. Social Gaps and Technical Risk Expansion

Target Canada's ERP project problems were not limited to the technical level, but also came from the lack of coordination among employees, suppliers, and processes. Although ERP exists in the form of software, its operation depends on continuous cooperation between employees, distribution centers, and

suppliers. The rapid expansion of Target Canada brought a large number of new employees, who needed to master the new system and replenishment processes in a short time. Inadequate training not only affected individual use of the system, but also affected the information quality within the system. If employees could not accurately understand system requirements, problems such as incorrect input or misinterpretation of system information could occur.

Insufficient supplier coordination further amplified this risk. ERP and supply chain systems require companies and suppliers to use relatively consistent data standards, business terms, and distribution rules. If the two parties did not communicate sufficiently, or if employees did not fully understand system terms and processes, the exchanged information could become inaccurate or inconsistent. This kind of deviation would not remain at the communication level, but would enter the ERP system and turn into errors in process judgments. Therefore, communication problems at the social level re-entered the technical system and became new information problems

When system outputs were unreliable, store employees needed to deal with more exceptions, and suppliers also faced more unplanned adjustments and repeated communication. Customer shopping experience declined, while collaboration efficiency and trust at the supplier level could also have weakened. At the same time, revising the back-end system and related processes created additional costs and time pressure. As a result, Target Canada's ERP risk was not a single technical risk, but the result of the interaction between social conditions and technical systems.

5. Discussion

5.1. Mechanism of ERP Project Risk Escalation

The research question explored in the study is how design-reality gaps increase IS project risks and affect Target Canada's retail expansion. To summarize the previous analysis, Figure 1 shows the interaction between Target Canada's technical and social gaps, management goals, and explains how these gaps gradually escalated into broader operational failure.

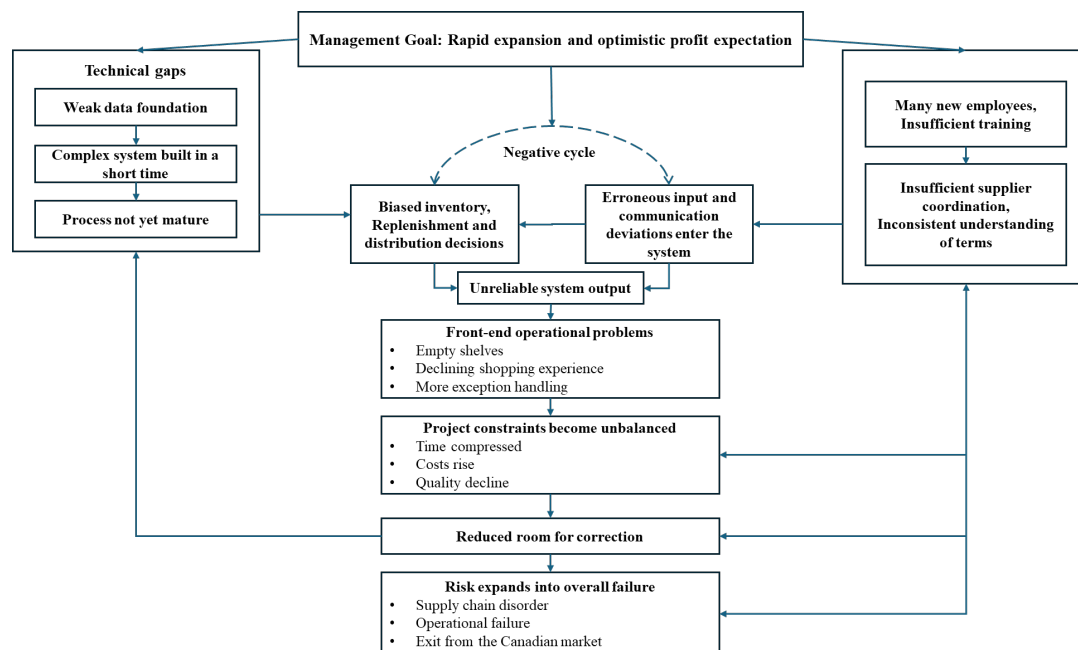


Figure 1. The Escalation Process of ERP Project Risk in Target Canada

As shown in Figure 1, the failure of Target Canada was not caused by a single technical failure, but was the result of the combined effects of multiple design-reality gaps. Management hoped to replicate the US experience and achieve profitability as soon as possible [23]. However, in reality, the factors under the ITPOSMO framework were not fully mature. The gap between technology and social conditions widened, resulting in unreliable system output and further turning into front-end problems, such as a declining customer experience.

At a deeper level, the fundamental problem of Target Canada was that management relied too heavily

on outcome-oriented goals to drive the project. Although time and cost are important dimensions for evaluating project performance, they cannot replace the specific management of the implementation process. As mentioned above, the success of an ERP project depends on a series of process-related conditions. Target Canada's confidence in its brand influence and US experience may have strengthened its optimistic expectation for the Canadian market, causing management to underestimate the difficulty of system construction and supply chain adaptation [23].

5.2. Implication for Retail and Cross-Border Enterprises

The case shows that an ERP project cannot be regarded as a simple software launch. At the technical level, enterprises must ensure the basic maturity of data and system quality, and business processes before expansion. At the social and organizational levels, ERP projects also need to be aligned with employee abilities, supplier cooperation, and management pace. More importantly, cross-border expansion cannot simply rely on previous brand reputation and experience. System construction, employee training, and external collaboration in a new market require time.

Therefore, large-scale ERP projects should adopt mechanisms such as phased pilots, continuous monitoring, and risk registers, first identifying and correcting problems on a smaller scale, and then gradually expanding the scope.

In a broader sense, the case also reminds cross-border enterprises that information systems must be combined with actual conditions, and cannot take only rapid go-live or short-term profitability as the standard for project success [7][24].

6. Conclusion

This study takes Target Canada's ERP and supply chain information systems project as a case and examines the formation and escalation of information systems project risks during cross-border retail expansion from a design-reality gap perspective. The findings show that Target Canada's failure was not caused by a single technical problem, but resulted from multiple gaps involving technology, data, business processes, employee capabilities, supplier coordination, and management objectives. Building on this analysis, the study further develops a process framework of ERP project risk escalation. The framework illustrates how different design-reality gaps can reinforce one another through interactions between technical and social-organizational factors, allowing risks to spread progressively from the information systems level to supply chain operations and front-end activities.

The above analysis suggests that cross-border ERP project management should focus not only on whether the system is implemented on schedule, but also on the alignment between the technical system, the local business environment, and organizational conditions. Continuous monitoring and timely corrective action are also important for containing the escalation and diffusion of project risks. As this study is based preliminarily on the single case of Target Canada, the generalizability of its findings remains limited and requires further examination. Future research could investigate a broader range of cross-border ERP projects to compare how risk escalation unfolds under different organizational contexts.

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