



MANAGING MARKET EROSION RISK

POSTAL SERVICES

Client Case Study





Case Overview

Changing market factors often force entire industries to redefine their business strategy or face extinction. The postal industry today faces such a challenge, as postal organizations worldwide must evolve their strategies to survive the rising popularity of digital communications, the decline in traditional, physical mail volumes, and growing competition from private companies.

Market disruption quickly moved postal organizations from attractive economic and industrial models to an unbalanced financial corporate position with a major risk of obsolescence. To survive a market disruption of this magnitude, executive leaders of La Poste used X-Act OBC Platform to identify and implement the right strategies to compensate for major shifts in customer demands—while managing costs without negatively impacting the quality of services.

Case Highlights

Implementation Characteristics:	<ul style="list-style-type: none">• 4th largest national postal services organization in the world• Handling over 15 billion pieces of mail and parcels per year• Operating 17,000 postal services outlets
Business Goals:	<ul style="list-style-type: none">• Achieve short-term cost reductions without reducing quality of service (QoS) or mail volumes• Proactively manage, plan and anticipate potential problems across the end-to-end postal service supply chain• Keep cost of operations in alignment with predicted mail volumes and anticipated revenues• Offer new products or services to maintain revenue as traditional mail volumes decline• Identify the most effective pricing based on competitive scenarios
Challenges:	<ul style="list-style-type: none">• High cost of operations, infrastructure and provisioning while facing a continuous decline in mail volume• Deregulation and privatization of postal services• Growing criticality of accelerating delivery time• Finding the right skills to enable greater automation and winning corporate commitment• Political appropriation
Business Constraints:	<ul style="list-style-type: none">• Maintain quality of service (QoS) under any expected operational conditions• Preserve ability to handle projected mail volumes• Reduce downtime or impact of any service disruptions
Strategic Options:	<ul style="list-style-type: none">• Optimize: Reduce number of sorting centers, build more exchange hubs and optimize treatment of daily unprocessed mail volumes• Transform: Train workforce and add new offers, such as hybrid mail and ecommerce, coupled to existing distribution channels• Disrupt: Move to a postal cloud and offer new goods and services to rural areas

Making a Risk Informed Decision | URM 4-Stage Process

Stage 1: Build Emulator

The model of the postal services processes and underlying mail distribution network were built using X-Act OBC Platform following the steps outlined in Step 1 and Step 2 below.

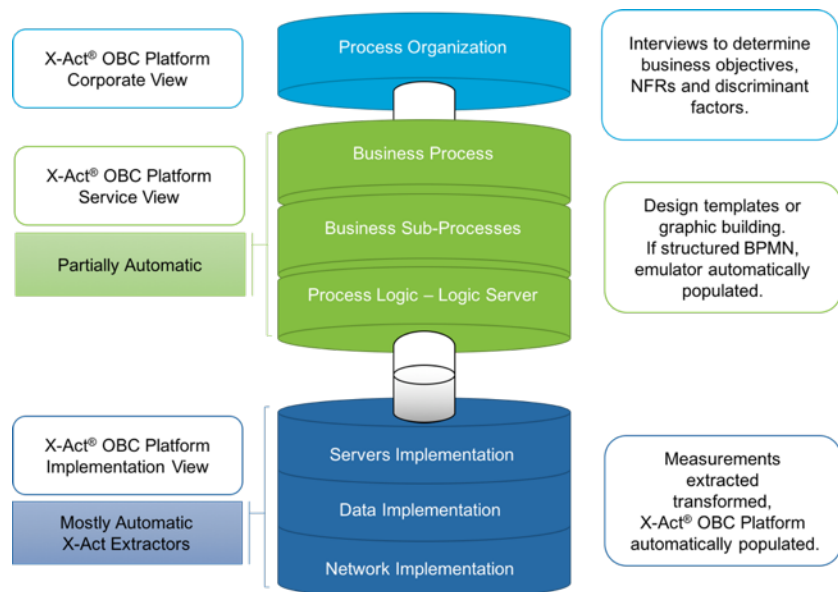
1) Capture the Necessary Information

As this case included a supply chain management problem, it was necessary to capture all information that defined the end-to-end process—including steps, sorting centers, sorting machines, machine technologies and characteristics, human service centers, hubs, storage areas, trucks (capacities, speeds, traffic characteristics), distribution characteristics and constraints, incidents and problem solving options, business implementation classes, service geography, decision and workforce parameters.

2) Build the Emulator

Using X-Act® OBC Platform, an emulator was built to represent the full postal environment: organization, processes, implementation, transportation, and physical and human dimensions.

Over a period of 15 weeks, more than 8 million objects were modeled, covering the end-to-end service: time to deliver, quantities of different classes and costs.



Our emulation definitions and corresponding outcomes included the following three views to holistically represent the full environment:

Corporate View

The corporate view (Figure 1) was built from information gathered during Step 1 and included the following:

- Business and operational definitions
- Volumes and constraints
- Service processes

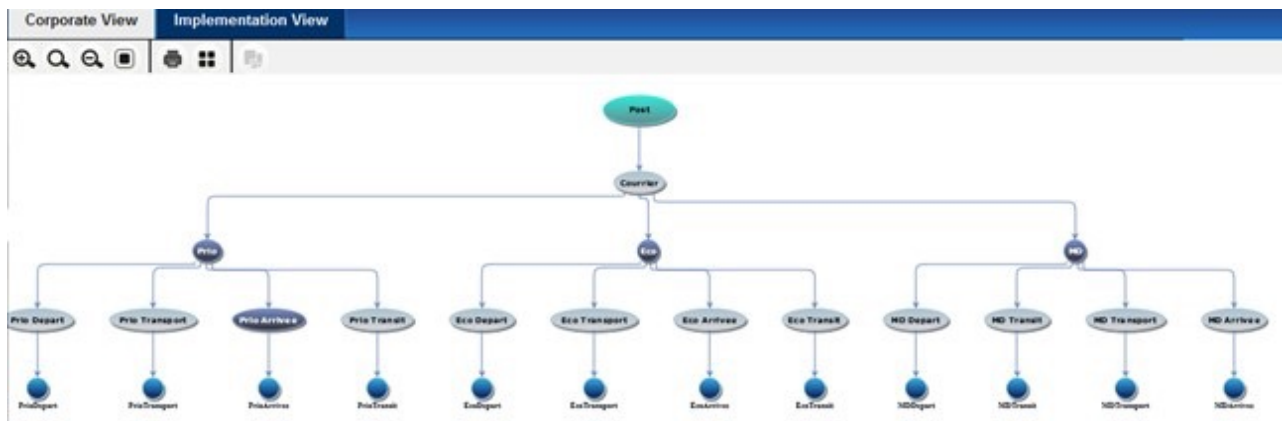


Figure 1. X-Act OBC Platform Corporate View

Service View

The service view (Figure 2) was built using best-in-class components from X-Act libraries and included the following:

- Division into sub-processes (activities and tasks)
- Interdependencies on common services
- Hierarchy to service logic
- Constraints

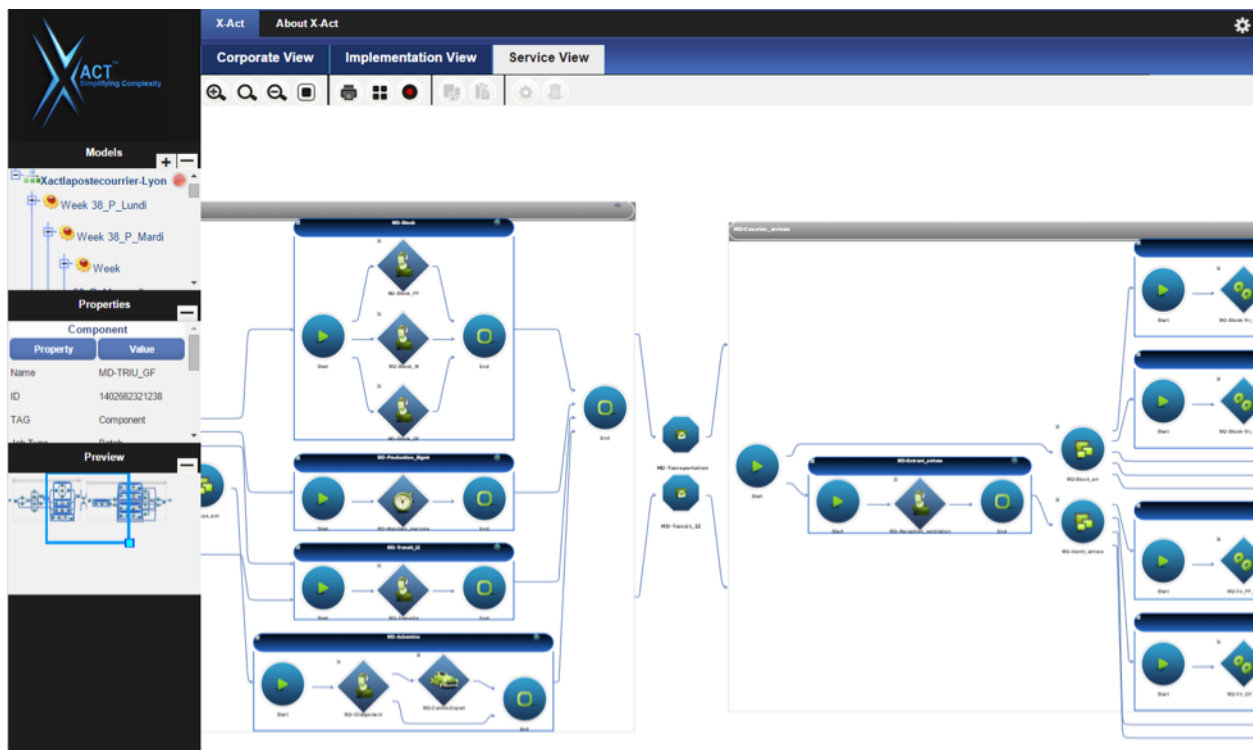


Figure 2. X-Act OBC Platform Service View

Implementation View

The implementation view (Figure 3 and 4) was built using newly constructed and existing assets from X-Act libraries and included the following:

- Geography
- Physical resources
- Physical components and structures
- Infrastructure
- Constraints

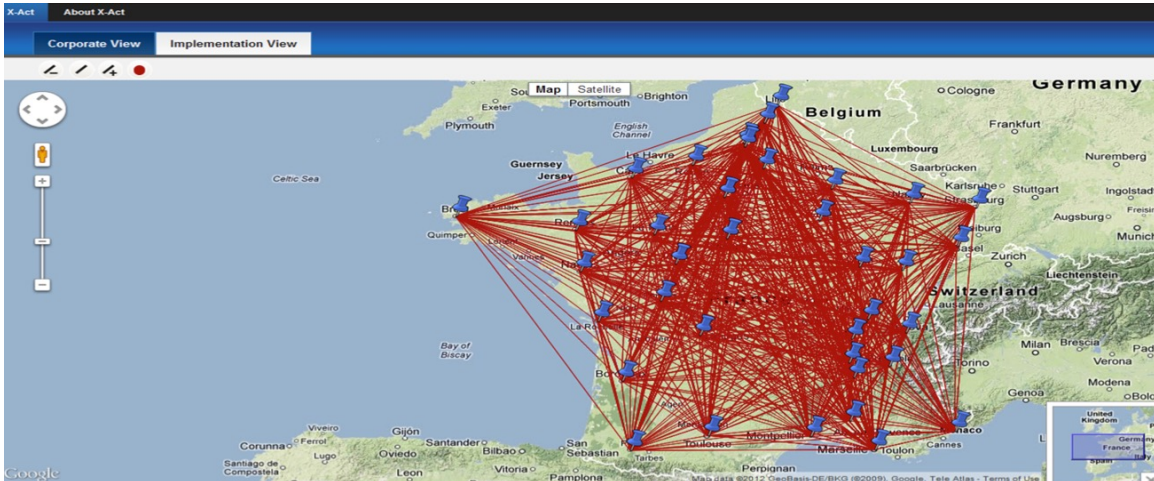


Figure 3. X-Act OBC Platform Implementation View of mail sorting centers

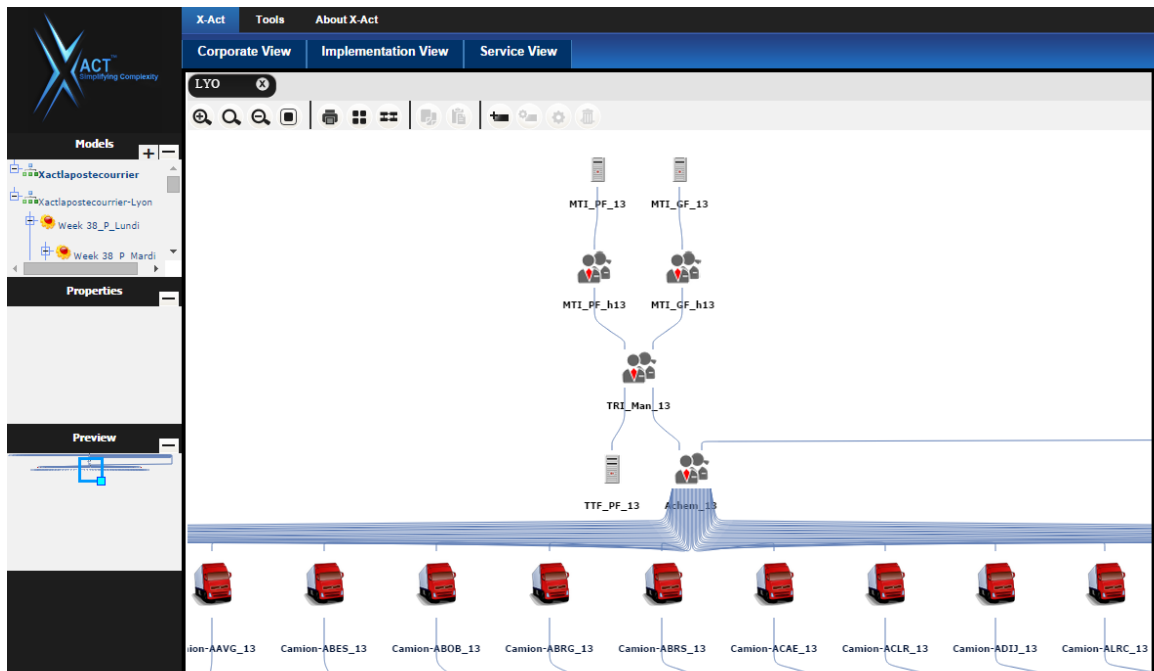


Figure 4. X-Act OBC Platform Implementation View of mail transportation objects over the network of roads all are explicitly represented (size, capacity, dynamic conditions and environmental parameters)

The mathematical emulation of the end-to-end postal services allowed us to proactively identify potential risks that could affect delivery time, temporal changes in volume and the cost of service for processes, technology, humans, logistics and organizations.

X-Act OBC Platform metrics at the global level showed that the risk was high for marketing and economy classes of mail (see Figure 5).

Risk	Dycom Score	Risk Index	Business Trajectory
	100.0	43.4	Md
	99.6	40.7	Eco
	6.3	27.9	Prio

Figure 5. X-Act OBC Platform global view of risk metrics

At the detailed level, service management per process metrics, resources management and financial management were evaluated to determine the root causes of risks (see Figure 6).

Process Name	Process Time	Service Time	Preparation Time Included	Dynamic Complexity Loss Factor
Prio	01d 22h 31mn 00.2532s	01d 20h 30mn 49.7282s	02h 00mn 00.0000s	6.9571

Type	Component Name	Ideal Service Time With CHR = 100%	Throughput Maximum	Response Time	Throughput Actual	Loss/Opportunity In Throughput	A1 = Conflicts Contentions	A2 = Availability Delays	A3 = Database Impact On Service	A4 = Incidental
Component	PF_triPrio_3	01h 32mn 20.6862s	10	01h 32mn 20.6862s	10	0%	0%	0	0	0
Component	PF_triPrio_4	55mn 56.2218s	10	55mn 56.2218s	10	0%	0%	0	0	0
SERVER	LYO_ITF_FF_13	05mn 31.3499s	3	05mn 31.3499s	3	7%	0%	0%	0%	0%
Component	PF_triPrio_1	05mn 31.3499s	3	05mn 31.3499s	3	0%	0%	0	0	0
Transportation		07h 12mn 45.6457s	50000	07h 12mn 45.6457s	0	100%	0%	0%	0%	0%

Figure 6. X-Act OBC Platform service management view of risk causes

Through our analysis (see Figure 7), it became clear that priority mail carried the least risk, while marketing and economy classes of mail had a Dycom above 30 (meaning that the cost to deliver the same volume will begin to escalate) and Risk Index score near or above 30 (meaning that the risk on business is medium but may escalate and should be carefully monitored).

Risk	Dycom Score	Risk Index	Business Trajectory
	100.0	43.3	MDArrivee
	100.0	40.7	EcoArrivee
	99.7	40.7	EcoDepart
	98.1	43.3	MDDepart
	41.6	29.1	PrioArrivee
	7.1	27.4	PrioDepart
	0.6	27.4	PrioTransit
	0.6	27.4	MDTransit

MD = Marketing class mail | Eco = Economic stamped mail | Prio = First class mail

Figure 7. X-Act OBC Platform Dycom and Risk Index Dashboard

Stage 3: Identify Prescriptive Actions

Using the *what-if* capabilities of X-Act OBC Platform, we identified the optimal balance between projected mail traffic volumes versus the cost of operations and quality of service. Decisions to reduce the number of sorting centers or increase dependency on automation technologies were proven before changes or investments were made.

Stage 4: Make Informed Risk Decision

The outputs of the X-Act OBC Platform analysis were used to create an executive presentation of the immediate and future risks as well as proposed prescriptive solutions for consideration by management. All risks and remedial options were evaluated based on their ability to meet stated business goals, which included reducing operational costs while meeting QoS and volume demands. Management considered the presented options in terms of the following criteria:

- Risk on the delivery of mail constraint
- Right time maintenance to avoid multiple-phase management of assets
- Cover dynamics that correspond to a day, week, seasons and geographic activities
- Cost of operations (end-to-end)
- Rerouting in case of incidents

Overview of Strategic Options

Optimization	<p>The following optimization options were defined and the limitations of each scenario were exposed using X-Act OBC Platform prescriptive emulation capabilities. Key findings were as follows:</p> <ul style="list-style-type: none">• Reducing the number of sorting centers to reduce overall cost and increasing transportation costs didn't affect service quality• Building more exchange hubs would improve performance• Optimized treatment of daily volumes of unprocessed mail and parcels left over from the previous day is critical• Synchronization of sorting output and transportation is important to monitor• Handling of incidents should be defined through X-Act OBC Platform real-time monitoring
Transformation	<p>All feasible transformation scenarios were explored and the following key findings were revealed through our predictive and prescriptive emulation of scenarios:</p> <ul style="list-style-type: none">• Training the workforce to deliver service faster would change dynamics• Adding new offers, such as hybrid mail and ecommerce coupled to existing distribution channels, could compensate for the decline in mail volumes• Real time monitoring could be used to expose risks and inform actions in time to avoid negative outcomes
Disruption	<p>We used predictive emulation to explore disruption scenarios, such as new business models and innovative approaches that would allow the business to become more agile and better prepared to meet the evolving needs of the citizens it served. The following disruptive scenarios were proposed:</p> <ul style="list-style-type: none">• Move to a postal cloud• Offer IT services for rural areas• Deliver goods and services to rural areas

Key Decisions

Based on our analysis, management decided to reduce number of sorting centers and use only one transportation option. Additionally, they launched advance training programs and chose to support business diversification options. To monitor the evolution of risk, they chose to implement the predictive risk monitoring capabilities supported by X-Act OBC Platform.

Conclusion

La Poste's decisions to reduce the number of sorting centers or increase dependency on automation technologies were proven before changes or investments were made. Additionally, the mathematical emulation of the end-to-end postal services presented by X-Act OBC Platform, allowed La Poste to proactively identify potential risks that could affect delivery time, temporal changes in volume and the cost of service for processes, technology, humans, logistics and organizations—and from this knowledge create the necessary fixes prior to problems appearing. Today La Poste continues to use X-Act OBC Platform to explore the operational impact of strategic business decisions and maintain the optimal performance of operations.



About URM GROUP

URM GROUP is committed to helping organizations mature their risk management practices to more effectively and agilely respond to risks that are growing in frequency and severity due to the dynamic complexity of our modern world. Through our research and applied use of proven prescriptive analytic technologies, we teach people how to proactively discover and control risks at the right time to avoid future surprises and unwanted outcomes. Our universal risk management methods arm business and governmental leaders with the foresights they need to confidently respond to changing dynamics and clearly understand which (and when) preventive and opportunistic actions should be taken to ensure the continuous efficiency and cost effectiveness of operations.