

White paper

The information ripple effect

This white paper discusses how the initial acquisition of imperfect information creates an immediate and dramatic enterprise-wide disruption. It will also address how a digital platform can eliminate or minimize the negative business outcomes resulting from the information ripple effect.

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Executive summary

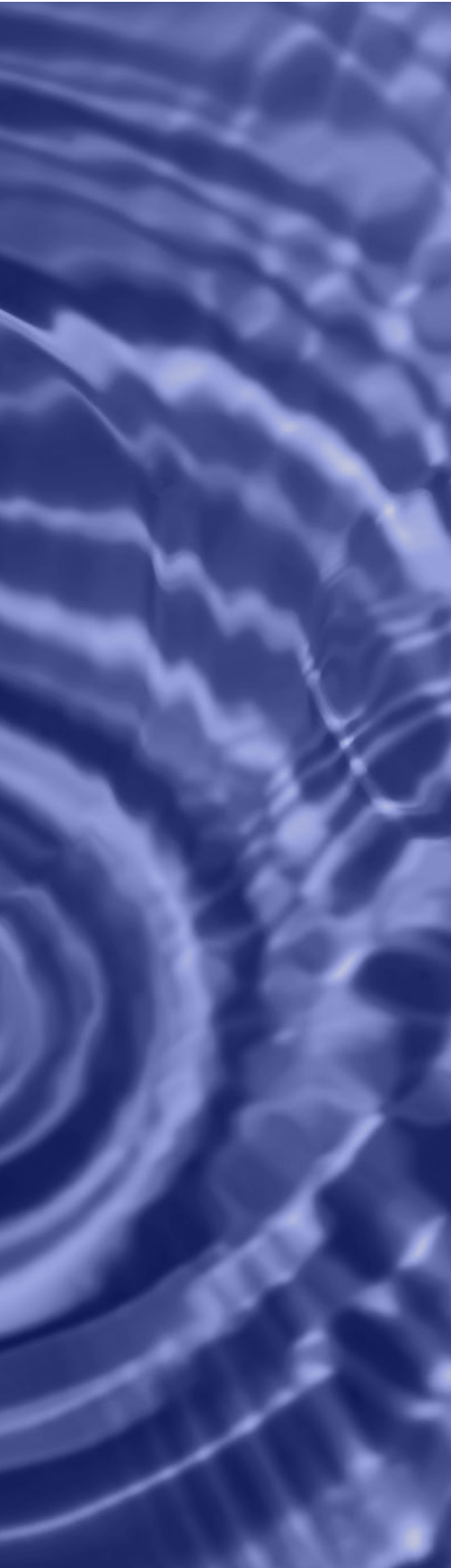
Every business process requires information. Recent innovations focus primarily on the processing of information and not the quality of the information processed. Too often, the perception is that information only involves a relatively small focus group. The reality is that, in a connected business enterprise, imperfect information creates a significant, wide-reaching ripple effect.

The origin of the ripple begins with the initial acquisition of information. It is widely assumed that information acquisition is electronic, but information acquisition remains predominately non-electronic. This non-electronic channel is primarily paper or images attached to emails. Any non-electronic information acquisition requires a human touch point to enter into the corporate system of record. For this paper, it is assumed that the system of record is SAP®.

"I don't know" is a statement that can cause panic in the enterprise. Due to the speed of the economy and the geographic dispersion of employees, business success requires immediate access to information that is accurate, timely, relevant and secure. The vast amount of information generated throughout a business process has elevated the task of "knowing" to new levels of difficulty. This lack of knowledge often results in employees providing imperfect information into the business process flow. Detection, evaluation and resolution of the imperfect information disrupts an otherwise stable process, resulting in ripples throughout the enterprise.

The SAP intelligent enterprise framework operates at an optimal positive outcome when the information flow is not disrupted. Without disruption, the information flow is calm and, when always in motion, the enterprise runs smoothly. When the steady stream of information is not perfect, the information disruption begins and the information ripple effect becomes pronounced and, in some cases, extremely disruptive.

This white paper will discuss how the initial acquisition of imperfect information immediately and dramatically drives enterprise-wide disruption. It will also address how a digital platform can eliminate or minimize the negative business outcomes resulting from the information ripple effect.



Daily disruptions

Most employees begin each day collecting the information needed to complete their work. This information acquisition continues throughout the day as they research, evaluate, make decisions and take action. SAP does not include pre-populated business information, therefore the information acquired must be either entered into the SAP business process or stored to support the business transaction. Think about the start of a work day. How much time is spent organizing and researching non-electronic sources for information needed for the day? How often are you interrupted to correct problems resulting from imperfect information entered on prior days? Who entered the information, you or someone else that created the problem?

Software solutions, such as networks or EDI, have been successful in the digitalization of business processes, but the fact remains that as much as 80 percent of information is entered into SAP by manual, error-prone data entry. In addition, the storage of supporting documentation for the information entered into SAP is still stored in paper format. Make no mistake, the off-site storage of non-electronic information is still a big business. To compound the problems related to the management of non-electronic information, the "need" to make copies is still rampant and often these copies are also used and stored in various formats across the enterprise.

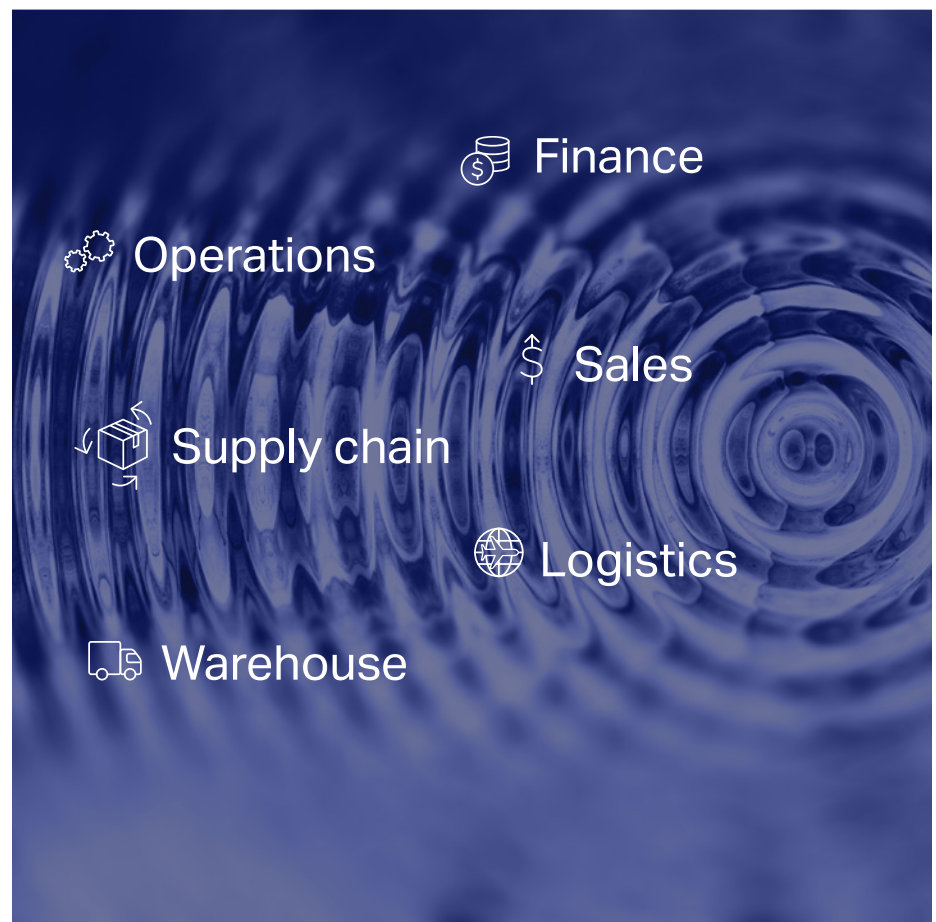
Imperfect information can be defined as, but is not limited to:

- Error in entry, such as transposition or spelling.
- Error in the source document, such as an incorrect address.
- Incomplete information, such as an omission of order date.
- Information irrelevant to the business process.
- Out of date information.
- Lack of information enhancement.
- Non-compliant information.

Understanding the ripples

In a modern business environment, it is critical that all units of the enterprise be connected and consistent in the use of information. At all levels throughout the enterprise, it is imperative that each process participant understand that the use and dissemination of information affects others throughout the connected enterprise. Information quality and its utilization will determine if the information ripple effect results in a positive or negative outcome.

The digital capture of information frees individuals from manual entry, thereby increasing profitability. Possibly even more impactful is the elimination of imperfect information. If imperfect information is detected and corrected as part of the input to SAP, the ripple is kept to a minimum. The further into the process the error goes undetected, the ripples grow more destructive to a favorable outcome. In addition, the time and effort to correct imperfections detracts from proactive, value adding tasks.



Potential destructive outcomes of imperfect information in selected business processes include:

Manufacturing and Chemical

Order to Cash

If the information from a purchase order is imperfect, negative revenue outcome might include:

- Loss of a sale and/or future business with a customer.
- Last minute changes in operations, which drive inefficiency.
- Degradation of trust between internal departments, resulting in “work arounds” and inefficiency.
- High cost of materials due to the limited time to source and the expense of expedited logistics.

Procure to Pay

Imperfect information related to an invoice, delivery note or quality checks may harm profitability, resulting in:

- Duplicate payments.
- Excessive inventory.
- Lost sales due to inability to provide materials on time.
- Fraud.
- A negative relationship with trading partners, as late payments will affect cash flow.

Operations

This industry is especially sensitive to imperfect information. Production, maintenance and logistics schedules are driven by information from across the enterprise. Since many companies rely on contract personnel, imperfect HR information is also a potential for disruptive ripples.



Finance

The impact here can be both direct and indirect. Most information entered and subsequently generated will have an impact on finance. Since financial postings are typically an end of process step, imperfect information will require financial corrections. If these corrections are late or sizeable, the outcome will be a less than desired view by auditors and investors. Sometimes these problems even become news, lowering the value of a publicly traded company. In a worst case scenario, imperfect information may generate significant fines and penalties due to lack of compliance. It will typically affect the cost of goods sold, inventories and tax determination.

Example scenario:

- A vendor sends an invoice for manufacturing equipment to the customer as a PDF attached to an email.
- The equipment in question was ordered with a PO and requires a goods receipt.
- The customer's maintenance crew has a scheduled shutdown that requires the equipment to be installed over the weekend.
- The customer has a make to order production run scheduled for the machinery on Monday to fulfil a large make to order shipment to the customer.

Problem description:

- The invoice is received the same day as the vendor ships the part for expedited delivery.
- When the maintenance crew looks for the equipment to install during the shutdown, it is discovered the vendor has not delivered the equipment.

The enterprise disruption resulting from the information ripple will rapidly grow as the ripples flow out, making one person's problem someone else's. Eventually, the intelligent enterprise does not look as intelligent as once assumed.

Further examination of the ripple exposes gaps in the connected enterprise. This ripple began when the part was delivered late on Friday afternoon, but the goods receipt was not entered in SAP and the part was pushed back into the corner of the warehouse for entry on Monday. The ripple begins.

The imperfect information here is the goods receipt into SAP for the required equipment part. In this case, the information is incomplete. The part has been delivered, but only the warehouse person has that information. Others in the enterprise need this intelligence to complete their assignment but they do not have the information.

Without the necessary information about the equipment, the maintenance crew is working overtime to complete the shutdown but is unable to repair the machinery. The vendor is contacted over the weekend to discuss why the part has not been delivered. After explaining that it has been delivered, it is agreed that the vendor will expedite the shipment of another part over the weekend so they can complete the shutdown. The shutdown is finally complete, but it is now behind schedule. Operations cannot complete the scheduled production on Monday since the machinery cannot be started on time.

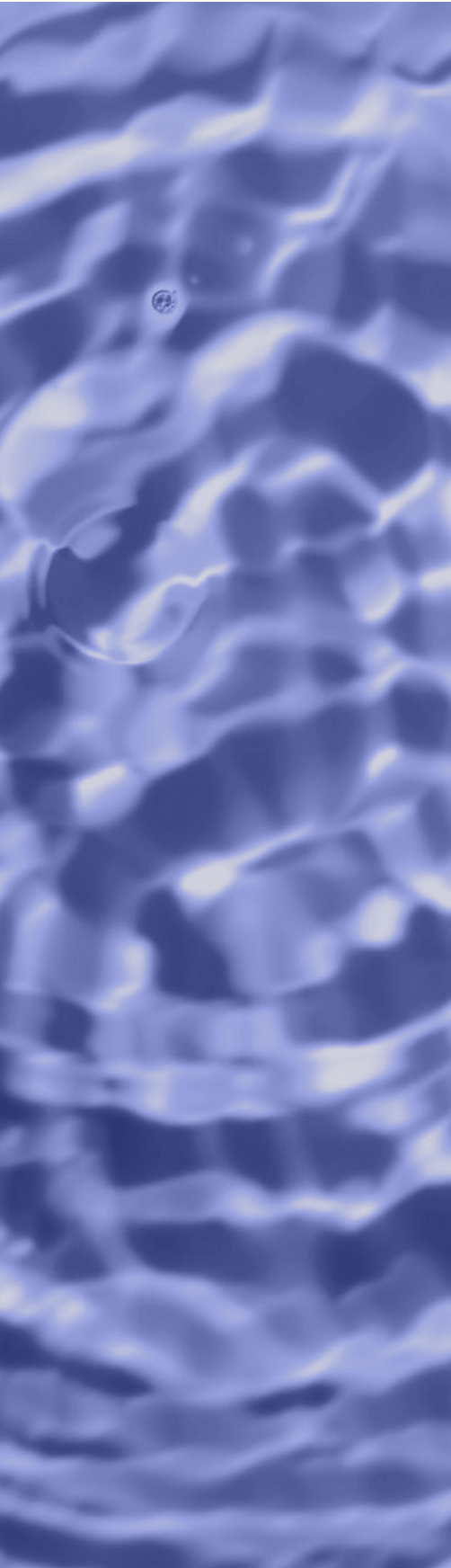
While this ripple is not as predictable, in some situations, maintenance may not have time to review all required environment, health and safety guidelines and may inadvertently skip required steps in the shutdown. This non-compliance can result in future ripples related to safety or lower profitability due to fines.

Negative business outcomes continue to evolve with every ripple. The first ripple of incomplete information affects profitability due to excessive maintenance labor. The outcome of the next ripple is that the relationship with the vendor is adversely affected. Profitability is further decreased since the customer now has two pieces of the same equipment. This will result in additional expense if it is sent back or the organization incurs inventory costs. As the ripple continues to flow across the enterprise, the outcome of the next ripple is internal trust. Maintenance does not know if it can trust the warehouse group to provide quality information when working on maintenance scheduling. The ripple now has reached operations as they are unable to fulfill the production run requested by sales. While this lost sale becomes a significant outcome of the information ripple, it is compounded by the fact that the customer may lose confidence in the organization's ability to fulfill make to order requirements and could potentially take their business to a competitor.

Enterprises can calm the information ripple effect with a digital capture solution. A digital capture solution transforms and enhances the Intelligent and Connected Enterprise. Information is available immediately, is complete, accurate and visible to all appropriate individuals across the entire enterprise.

As mentioned, imperfect information often starts the ripple disruption with a human touch point to acquire the information. Elimination of the unnecessary human touch point by digitizing non-electronic information ensures a favorable business outcome, including increased profitability, user trust and improved relationships with all trading partners.

In the example related to the manual ingestion of invoice information, a solution should be used to digitally capture non-electronic information. OpenText™ Information Extraction Service for SAP® Solutions will ensure accuracy and completeness of information from the invoice and delivery note, and information will automatically be recorded in the proper SAP business transaction. OpenText™ Vendor Invoice Management for SAP® Solutions will also assure timely and accurate payment to the vendor. For capture of information outside of procure to pay processing, OpenText™ Business Center for SAP® Solutions provides the latest digital capture technology. The use of OpenText™ Extended ECM for SAP® Solutions ensures the delivery of the right information, to the right people, at the right time. The maintenance crew would have immediate access to required shutdown steps, all communication with the vendor, crew scheduling and more. Through Extended ECM for SAP Solutions, sales would have total visibility into progress and, if required, can proactively communicate with the customer related to the sales order. Those in the warehouse would also have the complete documented history of inventory issues to ensure the proper parts are available.



It should be noted that the information ripple effect can be a positive. With OpenText, the impact of perfect information can drive favorable outcomes, including an increase in profits, strong compliance and better relationships with trading partners. In addition, the carbon footprint improvement, derived from the reduction of paper use, copying and storing will position any corporation as a leader in social awareness.

Retail and CPG

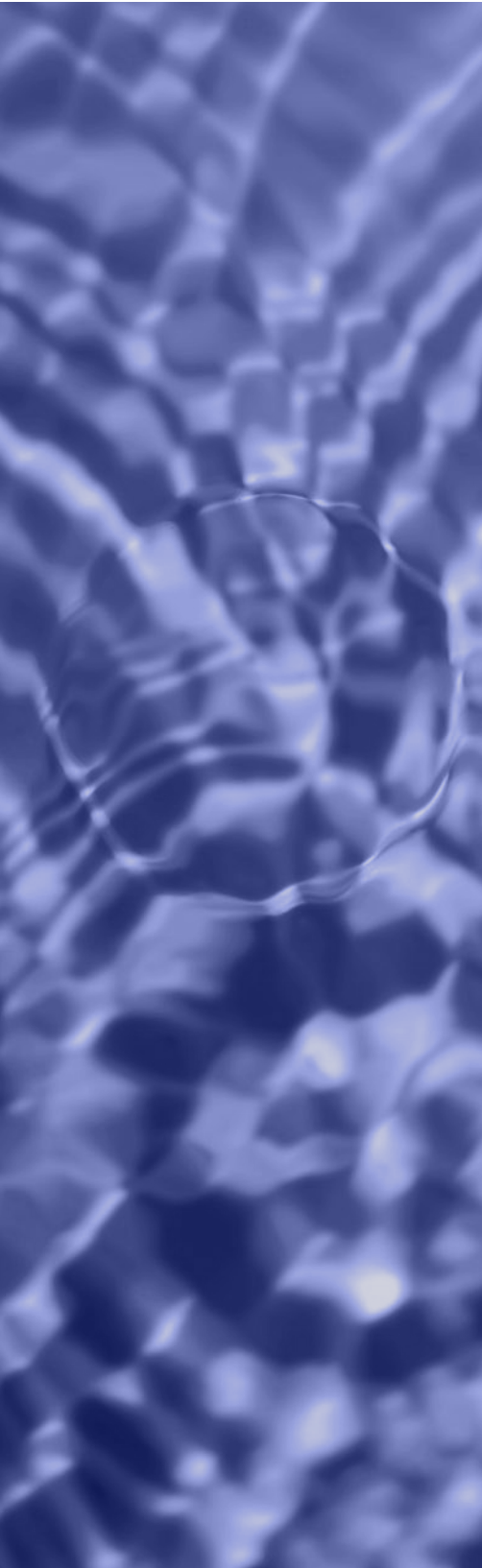
Since these vertical organizations are typically customer facing, imperfect information will not only disrupt the current profitability, but most likely future revenue as well. For example, imperfect information related to providing goods for sale may result in not being able to deliver goods related to an annual marketing campaign.

Pharmaceuticals

In this business vertical, imperfect information can quickly result in fines, as well as the loss of public confidence. Given the ultimate consequence of imperfect information may be the loss of human life, it is imperative that all ripples are eliminated.

Services

In this industry, the ripple effect is more sensitive due the injection of service information rather than goods. Information related to goods is typically static, where service information is more dynamic. The entering of imperfect service information may result in ripples that are more difficult to calm as several trading partners could be involved.



Summary

There will always be information ripples, even in the most Intelligent and Connected Enterprises. The challenge is to reduce them to a minimum. When ripples do occur, tools must be in place to detect them early in the process flow to minimize impact and ensure a smooth business process flow. Whether the imperfect information is master data, information from trading partners or internal information, the impact will be process disruption resulting in lower profit.

OpenText and SAP have invested more than 20 years co-developing solutions that eliminate the imperfect ingestion of information while optimizing the digital process flow that uses it. When ripples do occur, the OpenText solutions provide early detection, full visibility of the process flow and all supporting documentation in a digital format. Access to information by the right people at the right time ensures immediate resolution to prevent outgoing ripples. Exchange of information with trading partners is up to date and relevant. Potential negative business outcomes are turned into positive business outcomes with OpenText solutions.

Resources

- [OpenText Information Extraction Service for SAP Solutions](#)
- [Effective Capture is the First Step in Digital Transformation](#)
- [Information Extraction Service—An innovative approach to capture](#)
- [5 key learnings from the Gartner Data and Analytics Summit 2019](#)

About OpenText

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