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Digital Technology Use Cases in Finance



Overview

Finance leaders have ambitious digital goals but an outdated view of what's possible with digital technology. This research underlines six critical digital capabilities and their sample use cases to help finance leaders reset their understanding of digital potential early in their digital journeys.

Key Findings

- Finance functions chiefly focus on applying digital technology to reduce manual work. The 2020 Gartner Future of Finance Survey found 60% of finance functions are implementing or have implemented RPA-driven process automation and routine business decision automation.
- The survey also revealed only 36% of finance functions are implementing or have implemented any digital capabilities to enhance judgment-based work.
- To meet its goals, finance must develop six digital capabilities: robotic process automation (RPA)-driven finance process automation, routine business decision automation, intelligent (hyper)finance process automation, business decision augmentation, artificial intelligence (AI)-enabled analysis and decision support, and AI-enabled nudges.
- All six digital capabilities have potential applications within finance. Even digital capabilities utilizing forms of AI (such as machine learning [ML] and natural language processing [NLP]) are less prohibitive for finance functions than they first appear.

Recommendations

To start expanding their use of digital technology in accordance with their functional strategy, finance leaders should:

- **Educate all finance subfunctions' leaders on the entire range of potential digital technology capabilities within finance**, i.e., those reducing manual work as well as those enhancing judgment.
- **Discuss all six digital capabilities when setting finance's multiyear digital technology roadmap**, rather than centering planning just on digital capabilities most familiar to finance.
- **Use existing use cases as a guide to define the characteristics of a good-fit finance use case** for each of the six digital capabilities.

Introduction

Eighty percent of senior finance leaders agree that finance must significantly accelerate its application of advanced digital technologies (RPA and AI) to effectively serve the business in 2025.¹ However, the rapid pace of digital technology evolution can make investing in digital daunting. According to the 2020 Gartner Future of Finance Survey, only 37% of finance functions have a clearly defined digital technology investment strategy for the next two to three years.²



Robotic process automation (RPA)

refers to a set of software that uses “if/then” statements to automate repetitive, rule-based, human tasks to improve speed, efficiency and accuracy.



Artificial intelligence (AI)

is an umbrella term for a series of technologies that apply advanced analytics and logic-based techniques to interpret events, support and automate decisions, and take actions.

Finance leaders can’t accelerate investment in digital technology without first understanding their investment options; they need to have an up-to-date understanding of what’s possible. The following research details six critical digital capabilities, as well as their finance-specific use cases, to help finance leaders develop a more specific understanding of their digital investment options.

Analysis

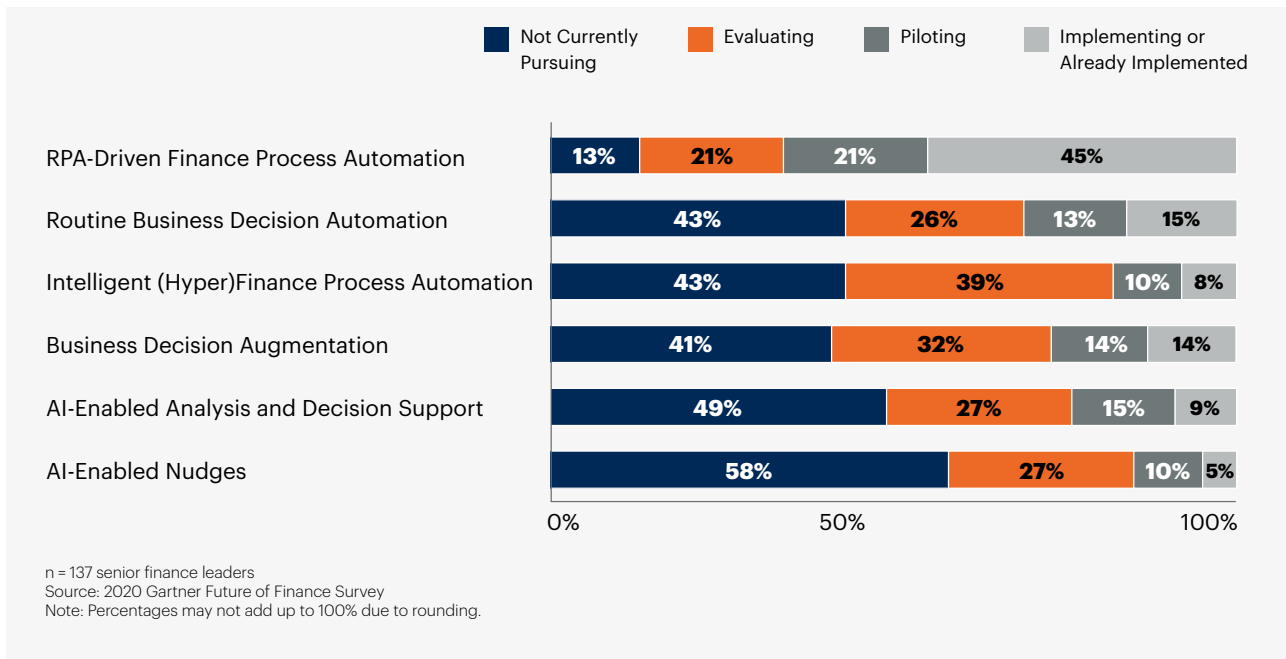
Develop Six Digital Capabilities to Achieve Your Digital Ambitions

We have identified six digital capabilities finance functions must develop to achieve their ambitious digital goals:

- 01** RPA-driven finance process automation
- 02** Routine business decision automation
- 03** Intelligent (hyper)-finance process automation
- 04** Business decision augmentation
- 05** AI-enabled analysis and decision support
- 06** AI-enabled nudges

While all these digital capabilities have been adopted by the most digitally advanced finance functions, finance functions' overall implementation progress to date is limited. So far, RPA-driven finance process automation and routine business decision automation—two capabilities that help reduce employees' manual work — have been the focus of finance's digital investment. Deployments of more advanced capabilities intended to enhance finance and business judgment, such as business decision augmentation and AI-enabled analysis and decision support, are still few and far between (see Figure 1).

Figure 1. Current Levels of Digital Implementation Within Finance



01

RPA-Driven Finance Process Automation



What it is

RPA is used to automate routine, highly manual tasks across both transactional and judgment-based finance processes.



Implementation progress

Forty-five percent of finance functions are implementing or have already implemented RPA-driven process automation, while 21% are piloting it, 21% are evaluating it and 13% are not currently pursuing it (see Figure 1).

Overview

Using RPA to automate certain manual tasks can substantially reduce the time spent by finance staff on highly manual work. RPA is best suited for automating five types of processes: reporting, alerting, migration, validation and calculation. In each case, a software bot is programmed to follow instructions to complete highly repetitive tasks at a much higher speed and error-free rate. Automating such processes can also improve control, as all RPA bots' actions can be tracked and reviewed for compliance.

This application of digital technology is among the most common in finance, especially as only one or two robots are needed for RPA to start generating a return on investment. Currently, the most common use cases include:

- **Report automation.** The bot downloads statements from multiple financial systems and combines them into a digital package. The bot emails this package according to user-access restrictions.³
- **Budget data prepopulation.** The bot logs into a financial system, extracts data, performs data manipulations and inputs data into a corporate budget that is then submitted to budget contributors as a starting point.⁴
- **Embedded derivatives accounting.** The bot pulls a regional BI report, performs data manipulations and sends updated data to a corporate team that runs further transformations. The bot then sends the updated data to the general ledger team.⁵

02

Routine Business Decision Automation



What it is

Digital technologies (primarily RPA with select uses of AI) completely execute frequent, rule-based decisions without human intervention.



Implementation progress

Fifteen percent of finance functions are implementing or have already implemented routine business decision automation, while 15% are piloting it, 26% are evaluating it and 43% are not currently pursuing it (see Figure 1).

Overview

Many manual, routine business decisions are subject to human bias and subjectivity. Using digital technologies to perform routine business decisions helps eliminate this subjectivity. In most cases of routine business decision automation, RPA bots are taught decision rules to automatically apply a particular action to a given item. As finance's customers increasingly expect shorter decision times, routine business decision automation allows finance to quickly advise on complex decisions by freeing up time previously spent on relatively simple decisions. Currently, the most common use cases include:

- **Credit decision automation.** Establish decision rules to govern the credit decision process, including perimeters for an automatic denial or an automatic approval based on the company's level of acceptable risk. Finance staff members only make credit decisions for which the automated process is inconclusive.⁶
- **Automated cash allocation.** Use an accounts receivable (AR) software to automatically read, match and record open items against payments received in real time, shortening the average collection period and decreasing days sales outstanding (DSO).⁷

03

Intelligent (Hyper)Finance Process Automation



What it is

Digital technologies automate end-to-end processes that use unstructured data, are highly variable and require judgments RPA cannot manage.



Implementation progress

Only 8% of finance functions are implementing or have already implemented intelligent (hyper) process automation, while 10% are piloting it, 39% are evaluating it and 43% are not currently pursuing it (see Figure 1).

Intelligent (hyper)finance process automation uses a combination of automation tools (typically RPA and ML are combined) to generate predictions to help finance better execute complex finance processes. ML models are particularly useful for predicting a quantity or a category and should be applied to business processes with potential to generate significant cost savings or revenue impact if improved.

Machine learning (ML) is a subset of artificial intelligence that solves problems using algorithms and statistical models to extract knowledge from data.

Although some finance leaders may assume ML is prohibitively resource-intensive and requires advanced computer science skills beyond their finance staff, developing an ML solution is simpler than it appears. It primarily requires choosing a precise business prediction, acquiring historical data and using open-source ML tools. The ML model is trained on historical data to create future-looking predictions.

Case in Point: Simple Machine Learning Pilots (Iron Mountain)

When late customer payments prevented finance from making reliable predictions and plans based on expected revenue, Iron Mountain used ML to develop a targeted customer treatment plan. First, it identified an opportunity to improve its A/R process by predicting the probability of a customer settling an invoice late. Second, it collected customer data required for an ML training set. Third, it deployed the trained ML model. Finally, it targeted high-risk, high-value customers for direct intervention. The result was a 40% reduction in settlement time for accounts within the ML pilot. The average time to settle for high-risk customers decreased from 68 days to 40 days.⁸

04

Business Decision Augmentation



What it is

Digital technologies augment complex, ambiguous business decisions by producing insightful recommendations humans can choose from.



Implementation progress

Fourteen percent of finance functions are implementing or have already implemented business decision augmentation, while 14% are piloting it, 32% are evaluating it and 41% are not currently pursuing it (see Figure 1).

Overview

Like routine decision automation, business decision augmentation also helps reduce human bias in business decisions. However, it typically uses AI instead of RPA bots to augment more complex decisions that require significant degrees of judgment. For example, while RPA bots can provide simple “yes” or “no” answers, AI’s self-teaching capability provides more tailored answers based on large amounts of data.

Business decision augmentation is particularly useful in situations that demand swift or large-scale classification and prediction, and is most likely to be helpful when data is well-defined and of good quality.

Case in Point: Pricing Simulation Tool (Food and Beverage Company)

A brewery used an AI-enabled simulation tool to help decision makers understand the likely impact of various approaches to pricing in different markets worldwide. First, the brewery performed an impact assessment to understand the relationship between price and demand in various markets. Second, the brewery used an AI-enabled simulation tool employing discrete choice modeling techniques and economic and demographic indicator data. This enabled decision makers to test out and visualize the impact of potential pricing strategy on sales, as well as sales lost to competitors. The brewery discovered opportunities to optimize prices by 16%, resulting in a potential improvement of \$250 million in revenue.⁹

05

AI-Enabled Analysis and Decision Support



What it is

Digital technologies automate the generation of customized reports and analyses.



Implementation progress

Only 9% of finance functions are implementing or have already implemented AI-enabled analysis and decision support, while 15% are piloting it, 27% are evaluating it and 49% are not currently pursuing it (see Figure 1).

Overview

AI-enabled analysis and decision support capability enables finance to automatically generate analysis that is more complex than the reports typically enabled by RPA bots. In practice, finance functions seeking this capability may need to enlist multiple forms of AI tools in a multistep process. For example, finance may need a tool with the functionality to fix inconsistent and unstructured data, identify data trends by correlating and grouping data, generate suggested corrective actions, or all of the above.

This capability can significantly enhance finance's self-service offerings, freeing finance analysts to focus on more hands-on decision support and more customized analysis.

Case in Point: Machine-Learning-Powered Trend Analysis (UBS)

UBS uses ML and NLP to analyze employee expense data and automate corresponding reporting. First, ML automatically corrects inconsistencies within varied and often unstructured employee travel receipts. Second, additional ML identifies spending trends within the cleaned data and automatically pulls them into a visualized presentation for stakeholders. Finally, NLP generates summary text to describe the nature of the trends. Armed with a clearer and more immediate understanding of its employees' travel activities and needs, UBS is able to negotiate improved booking rates and travel terms with suppliers/agencies globally.¹⁰

Natural language processing (NLP) is a subset of AI that involves the ability to turn text or audio speech into encoded, structured information, based on an appropriate ontology.

06

AI-Enabled Nudges



What it is

Digital technologies identify finance or decision maker behaviors that historically have had a negative financial impact, and suggest an alternative decision with superior outcomes.



Implementation progress

Only 5% of finance functions are implementing or have already implemented AI-enabled nudges, while 10% are piloting the capability, 27% are evaluating it and 58% are not currently pursuing it (see Figure 1).

Overview

Originally established as a behavioral economics concept, nudges are subtle signals designed to steer individuals' behavior in a predictable way, without limiting choice or implementing additional economic incentives. For finance functions, nudges represent a powerful tool to indirectly or subtly encourage employees to make "better" (i.e., more financially sound) decisions. This acts as an extra layer of quality or compliance control when finance staff are unable to provide this same level of oversight.

This capability is particularly useful for processes where human judgment cannot be eliminated but still needs to be improved. For example, AI-enabled nudges can identify the most high-risk decision points (those more likely to produce errors in human judgment) and share digital prompts to signal either the risk of continuing with a particular decision and/or the benefit of pursuing an alternative decision.

Case in Point: Anomalous Transaction Risk Training (Financial Services Company)

A fund used an AI capability to coach its analysts to spend more time assessing risky anomalous transactions. To begin, the AI scored potential anomalies by risk and potential cost. It used a time tracker tool to monitor how much time analysts were spending on anomalies of various levels of risk, which revealed analysts were spending too little time on the riskiest anomalies. Then, the AI employed an algorithm used in chess-playing programs to "challenge" the analysts' assessments of anomalies in real time. If an analyst made a conclusion on a risky anomaly too quickly, the AI prompted the analyst to take another look. The fund was able to slow down analysts' assessments of transaction errors, enabling the company to catch a greater percentage of high-risk transaction errors by combining artificial and human intelligence.¹¹

Take Three Steps to Get Started

As finance leaders consider how and where to introduce these six digital capabilities within finance, they should start with the following steps:

1. Consider not just whether targeted finance processes and/or set of activities can be improved, but also how they can be improved (e.g., automating a manual task, automating a decision, identifying patterns, generating predictions).
2. Develop a finance digital technology roadmap to guide digital technology investment prioritization decisions.
3. Consult with the organization's IT support partners (e.g., finance IT, corporate IT, chief digital officer, chief information officer) to determine whether a particular application of digital technology is appropriate, particularly when considering more advanced digital capabilities that use AI.

Evidence

¹ 2020 Future of Finance Survey, n = 137 finance leaders

² 2020 Future of Finance Survey, n = 137 finance leaders

³ [Cross-Functional RPA Use Cases](#)

⁴ [These Are the Bots You're Looking For, Strategic Finance.](#)

⁵ [Cross-Functional RPA Use Cases](#)

⁶ [Ten Dimensions of Decisioning.](#)

⁷ [How to Maximize AR Efficiency With Cash Allocation Software, Cashbook.](#)

⁸ [Case Study: Simple Machine Learning Pilots \(Iron Mountain\)](#)

⁹ [CPG Industry Use Case — Price Optimization Analytics](#)


¹⁰ [Machine Learning Powers UBS's Travel Reporting, Business Travel News.](#)

¹¹ [Can AI Nudge Us to Make Better Choices?, Harvard Business Review.](#)

The organizations profiled in this research are provided for illustrative purposes only, and do not constitute an exhaustive list of examples in this field nor an endorsement by Gartner of the organization or its offerings.

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