

# McKinsey on Payments Special Edition on Advanced Analytics in Banking



The analytics-enabled collections model



How machine learning can improve pricing performance



Combating payments fraud and enhancing customer experience



Using data to unlock the potential of an SME and mid-corporate franchise



Hidden figures: The quiet discipline of managing people using data



Using analytics to increase satisfaction, efficiency, and revenue in customer service



Designing a data transformation that delivers value right from the start



Building an effective analytics organization



"All in the mind": Harnessing psychology and analytics to counter bias and reduce risk



Mapping AI techniques to problem types



Data sheet: Advanced analytics



# Hidden figures: The quiet discipline of managing people using data

The “war for talent” in financial services has evolved to encompass new frontiers and unfamiliar battlefields. This evolution is fueled by the fundamental transformation of capabilities essential to payments organizations and more broadly, banks’ future success: skills in digital technology, artificial intelligence, and automation alongside less tangible abilities such as problem-solving, emotional intelligence, resilience, and adaptability. Similar transformations are playing out across sectors however, leaving such capabilities in scarce supply. At the same time, banks’ historical playbook for attracting, developing, and retaining talent is in need of update given erosion in the perceived advantages of a banking career relative to other sectors.

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Successfully addressing this challenge pays dividends. Banks that prevail in the renewed war for talent will place greater emphasis on employee attraction, management, development and retention, starting with revamping their employee value proposition and embracing evidence-based talent management by deploying new capabilities such as data, analytics, and organizational science. We believe that banks and payments companies that recognize their talent management opportunities, set bold aspirations, and embrace new capabilities to address these imperatives will increasingly distance themselves from their competition.

## The new war for talent

The renewed war for talent is global, urgent and poses daunting challenges, for which the imperative is not only to attract and retain the highest performers, but also to enable leaders to better manage talent to deliver sustainable competitive advantage. A 2018 McKinsey analysis of European financial services firms on the future of work identified the critical talent segments these institutions need to fill over the coming years. Top of this list are new roles in software and application

development (e.g., scrum master), analytics (e.g., data scientists), new risk management roles (e.g., cybersecurity analysts), and digital marketing (e.g., UX designer). However, research from technology-sourcing firm Catalant finds that while many companies have begun to address top technology and training challenges, most continue to rely on traditional recruiting models that show signs of erosion, leading to key roles often taking 90 or more days to fill. By 2021, McKinsey projects that demand for talent with digital capabilities will outstrip supply by a factor of four in areas like agile, and by 50 to 60 percent for big-data talent, according to a study conducted two years ago.

McKinsey framed the war for talent as a strategic business challenge in 1997, setting forth the notion that better talent leads to better corporate performance. Bank leaders embraced the concept of talent as their firm’s most valuable asset; however, responsibility for hiring and development continued to be delegated to human resources or line managers. C-suite leaders focused on other priorities while battles for talent were won with monetary incentive packages that tech firms

and companies in other sectors were unable to match.

In the years following the financial crisis, banks focused on cost reduction and risk management to battle margin and regulatory pressures. This left a blind spot for strategic talent questions, and many banks now find themselves with a significant gap in their perceived employee value proposition (EVP) compared to technology and other leading sectors (Exhibits 1,2). As a result, future leadership talent is turning away from careers in finance. In 2007, four times as many US MBA graduates chose to enter the finance field over technology. By 2017, these two groups were roughly at parity. IPOs and

similar equity incentives made the tech field more lucrative, shifting the playing field just as banks trimmed their post-financial crisis bonuses. What once was a bank EVP selling point has now faded in comparison to other industries.

It's not only rigorous technical skills that are gaining importance for banks. An ironic aspect of the shift towards automation of many 20th-century jobs is the increasing focus on people skills—flexibility, problem-solving under uncertainty, collaboration, and emotional intelligence, to name a few. While these soft skills often get short shrift when sized up against measurable technical skills in Python and deep learning, their value

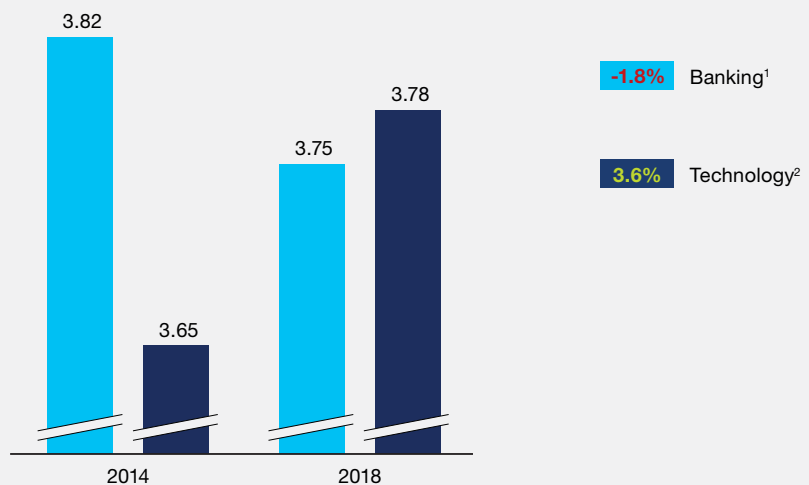
Exhibit 1

### Technology has overtaken banking in perceived attractiveness of compensation and benefits over the last 4 years.

#### Employee sentiment about compensation and benefits

1 is lowest and 5 highest rating

#### Improvement/Decline in rating



<sup>1</sup> Nine largest US banks by 2017 assets

<sup>2</sup> Ten largest US tech firms by 2017 revenue

Source: McKinsey analysis of publicly available data

should not be underestimated. A University of Michigan study showed that investing in training of soft skills yielded a whopping 250 percent return on investment in certain instances.

We have reason to believe that the war for talent is here to stay. Several parallel forces have fundamentally altered the global landscape, altering banks' roadmap to victory in the talent management space:

**Massive amounts of workforce data:**

The explosion of data over recent years—combined with the power to store and dissect it—opens new avenues for talent management. Email and calendar data are now being used to benchmark the col-

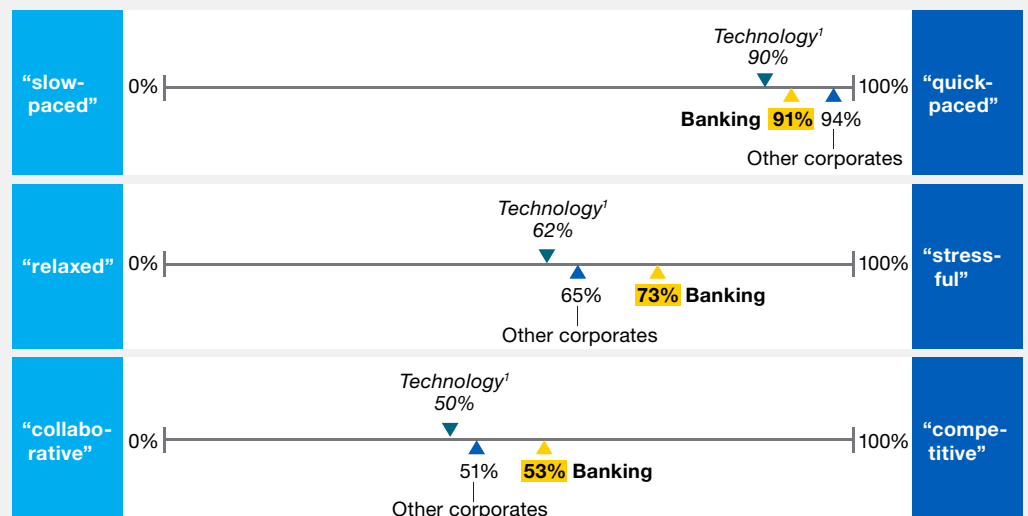
laborative approaches of effective teams. Engagement surveys—with greater depth and quicker turnaround than in the past—offer valuable insights into the themes and sentiments diverting employee focus, and employee location data can improve operational efficiencies in sectors such as restaurants and delivery services.

**Imperatives for speed and accuracy:** In an uncertain competitive environment marked by ever-shorter technology lifespans, winners in the war for talent will be able to quickly identify talent gaps at a micro-granular level. Agile talent management will drastically reduce the cost associated with having the wrong or even no talent at all in critical roles.

Exhibit 2

**Banks are perceived as more stressful and competitive than technology and other sectors.**

**Banks' culture is ...<sup>1</sup>**



<sup>1</sup> Analysis on employee reviews from 2017-18 for 29 banks, corporate MNCs, and tech firms: largest US banks by assets 2017; largest US tech firms by revenue; top 10 non-financial, non consulting, non-tech firms sought by MBAs. Source: McKinsey analysis

**Shortage of talent and a rapidly evolving workforce:** Forty-six percent of employers have difficulty filling jobs, mainly due to a shortage of applicants. Finance staff, a core constituency of banks and payments firms, rose to the sixth-most-difficult job category to fill in 2016, up from ninth in 2015. Winners will be able to fill jobs quicker and with better people as microtargeting and evidence-based selection allow firms to identify and tailor hiring to target talent and assess candidates more consistently to hire high performers.

Many banks have taken note of how talent is impacted by these trends. An analysis of earnings call transcripts of the ten largest US banks reveals that talent-related terms are being used three to four times as often in recent quarters than they were in the 2012-15 period. With employee turnover rates at ten-year highs, CEOs need to find ways to not only secure talent for the future, but also to stem near-term attrition and its drag on profitability.

#### Winning with analytics

We have documented substantial performance differences between the leaders and laggards in this new war for talent. Research outlined in the book *Talent Wins*, co-authored by outgoing McKinsey Managing Partner Dominic Barton, demonstrates that companies that use data and advanced analytics to inform their talent decisions realize up to a 30 percent increase in profits through hiring focus alone—before accounting for the benefits of higher productivity and better retention. Furthermore, 2018 McKinsey research on performance management indicates that organizations with effective performance management are 77 percent more likely to outperform competitors and peers.

Winners will be those firms who can harness data, advanced analytics, and behavioral science to make sound people and organization decisions faster, better, and with a level of specificity previously unavailable. This will enable them to preserve advantages gained by better deploying and nurturing skills across the full talent lifecycle.

We see three areas in which firms must master data and analytics in order to win the war for talent:

**Assess talent gaps and address accordingly:** The adage “culture eats strategy for breakfast” may soon be replaced—or at least complemented with—“and capabilities take lunch.” While many organizations invest significantly in strategy, the key is securing the capabilities needed to deliver that strategy. Leveraging internal and third-party data allow firms to quantify organizational skills deficits, target opportunities for re-skilling (through methods such as hierarchical clustering or cosine similarity), and identify the skills to source externally. A 2017 McKinsey Global Institute report on automation, employment and productivity showed that 43 percent of all finance and insurance activities can be automated through currently available technology. The aforementioned McKinsey study on the future of work in financial institutions found that one-third of existing talent gaps can be addressed by re-skilling current employees. One client established a best-practice adult-learning program, combining both in-house and external learning, and retrained more than 1,000 employees into new internet of things, analytics, and machine learning roles within the first ten months of the program. Winners in automation transfor-

mations pinpoint capability requirements and make the proper call on where to buy (source), build (re-skill), and rent (out-source or shift to contractors).

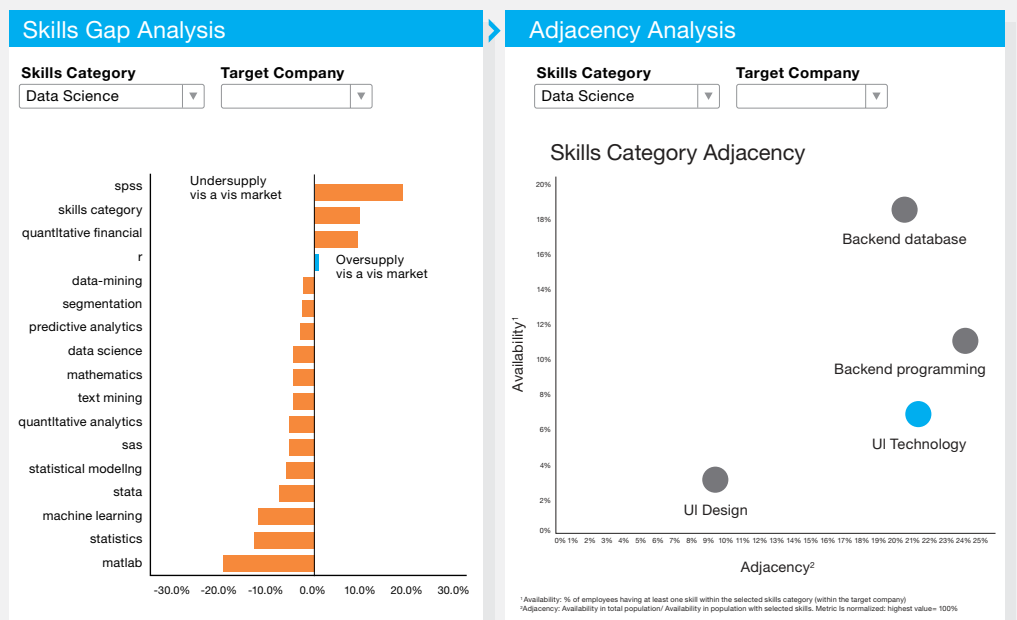
**Attracting and retaining the best talent:**

Microtargeting allows a firm to tailor its EVP and its communication to critical talent segments to increase conversion rates. There is clear evidence that objective hiring powered by analytics and behavioral science (versus traditional interviews) leads to better hiring decisions and greater value creation (Exhibit 3). In this area banks can learn from each other, as well as from other sectors. For instance, firms like Aegis Worldwide conduct text message-based initial interviews

to reduce bias and enable algorithmic analysis of answers. Unilever uses technology across its whole recruiting process; it begins by using LinkedIn profiles instead of résumés, deploying AI to select the best prospects. Next, it uses a series of online games to further narrow the field to a select few candidates for in-person interviews. The results are convincing: Using this approach Unilever tripled the roster of universities from which it recruits while reducing its average hiring cycle from four months to four weeks. McKinsey’s own use of artificial intelligence to screen résumés not only delivered 30 to 50 percent increases in hiring efficiency (reflecting a 400 to 500 percent

Exhibit 3

Bank x is missing data science capabilities, and can address the gap by tapping into existing backend database and programming expertise.



ROI), but also drove an increase in the share of women candidates passing initial screening.

One financial services firm found it could increase field effectiveness by systematically testing and recruiting for character traits such as curiosity and de-emphasizing humility, which was found to be underrepresented among its high performers. Another applied a predictive modeling technique called elastic net regularization to hire more employees with character traits similar to those of existing high performers, reallocating recruiting dollars to particular schools and majors and disintermediating headhunters in approaching high-potential candidates. A fast-food chain collected data on employees' character traits and behaviors in the workplace and generated more targeted recruiting, roles and expectations, culture-focused trainings, updated financial and non-financial incentives, and optimized shifts. The company soon documented customer satisfaction gains of 130 percent across stores, 30-second speed-of-service improvements, and per-store revenue increases of 5 percent.

We predict that winners will go beyond deploying “off the shelf” assessments to develop evidence-based models supporting the knowledge, skills, attributes, and experiences required to successfully deliver on a specific role in its unique environment. This can be accomplished through closed-loop machine learning to pinpoint what factors distinguish high performers from the rest, or science-based forensics on future work required, which informs objective screening criteria to be assessed through science-backed interviews and digital assessments, gamified or otherwise.

High performers are often at the highest risk of attrition, given their multitude of outside options. Data and analytics can serve as an early warning and mitigation system by predicting attrition risk at both individual and group levels and developing effective responses to address the root cause. For instance, using k-medoid and majority vote classification techniques, one financial institution found that attrition was elevated among three different groups—millennials seeking professional growth, employees working in larger teams, and those working for low-tenured managers. Leveraging this data-driven employee segmentation, the organization developed tailored preventive measures to reduce attrition for each of the clusters.

### Better manage and deploy talent

A plan to grow and deploy talent starts with identification of what drives true performance—collecting data to create a 360-degree view of who your employees are, what they do, who they interact with, how they're deployed—linking this information to the relevant dependent variables and building optimization strategies. This typically starts with a data-driven assessment of the organizational context for employee performance. For instance, to what extent does a manager's span of control impact individual performance? What role does coaching play in performance? More ambitious initiatives might develop guidance on time allocation, collaboration patterns, meeting practices, and more, through behavioral data such as calendar and email metadata (with appropriate encryption methodologies to maintain employee privacy).

As an example, one financial institution built and analyzed a behavioral dataset of how leaders split their time across recruit-

ing, coaching, clients, and other activities to identify a 30 percent growth opportunity in investments. The bank reallocated leaders' time from administrative and controls-oriented tasks to customer-centric coaching and fostering connectivity across lines of business. Another firm leveraged McKinsey's data-driven Talent to Value approach to identify a select number of critical roles driving the most economic value—some extending as far as four levels below the CEO. This client discovered that closer collaboration across four of 30 critical roles was critical to delivering more than 50 percent of the value at stake. Rather than merely encouraging general collaboration across the enterprise, the firm doubled down on tactical incentives for collaboration among these roles by, for example, implementing shared goals, with 30 to 50 percent of leaders' KPIs driven by factors beyond their direct control.

These steps create a “virtuous cycle” benefiting workers as well as employers. A better selection process leads to better organizational fits, which in turn fosters employee satisfaction and enhanced EVP. When organizations are redesigned to be more collaborative and agile, not only does employee time allocation change, but roles evolve too and traditional management hierarchies become redundant. At the end of the process, one European bank eliminated two entire layers of middle management while its employee engagement scores rose by over 20 percentage points.

#### What can be done today?

Humans do not change their behavior with the flip of a switch. It may take years to get a single individual to change behavior, which is only compounded when we consider the thousands of employees with unique values,

goals, and aspirations working at modern-day organizations.

While many people-related changes take time to reach full potency, most organizations possess the building blocks in both capabilities and data to start with small changes today to pave the way for larger shifts tomorrow. A key first step is to identify the human component of business challenges and opportunities, and build an analytics engine to collect data and validate hypotheses on performance drivers. For example, in a corporate bank, analytics on calendar meta data may help pinpoint the interaction patterns related to deal success. While in payments, data and analytics can enable faster and more nuanced hiring of the right combination of technical and “soft” skills. Deploying analytics to create transparency into what matters—for leaders, managers, and employees—empowers them to cut through the noise and focus on what really matters. Financial institutions looking to upgrade their talent management practices can follow a few simple guidelines to get started:

**Make talent the business's agenda:** A firm's people analytics agenda must focus on critical business needs and originate from a strong hypothesis on which factors do and do not matter to business performance. Setting this agenda is a collaboration between business and HR leaders.

**Don't underestimate what you already have:** Relevant data is often already available and can be complemented with nominal effort. In our experience, three out of four banks already possess the necessary data—such as attrition rates, team structures, employee backgrounds, and average time to fill a position—to test the most



pressing people analytics hypotheses.

**Treat data with the care and rigor it deserves:** Protecting data privacy and employee confidentiality are critical objectives, not only since the GDPR rules on data protection took effect earlier this year. Protecting data privacy is also core to preventing a situation where employees feel they are being unduly monitored or even manipulated. Create transparency on which data is sourced, how it is used and the tangible benefit that people analytics can provide. Establish protocols and encryption policies to appropriately anonymize and mask information.

**Start small and build over time:** Significant value can be gained by combining HR, financial, and operational data for basic “talent due diligence.” The first step is to identify drivers of compensation growth, performance ratings, promotions, and variance across the organization. This will begin to infuse talent decisions with the rigor normally reserved for financial decisions. By running a talent due diligence, one European bank quickly identified an opportunity for retooling, finding that

most new employees were not being hired into the most critical divisions and roles, and that base pay was more correlated with age and job grade than criticality of the role or performance. The people analytics journey is a transformation, comparable to robotic process automation. Start small, adhere to high standards when handling data, and quickly prove the value of the approach. A test-and-learn approach makes a difference, running trials to prove business value before scaling more broadly.

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Twenty years ago, the war for talent was fought with major changes in employee environment and compensation systems, triggering a number of innovations and a new informality—down to casual Fridays. Today’s changes are more nuanced and targeted. Instead of large-scale changes, the new war for talent will likely involve thousands of subtler microdecisions. This scope can seem daunting. Fortunately, embedding data and analytics into an organization’s people function begins with a few simple changes today that will lay the groundwork for a more profitable organization and more fulfilled employees.

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