



Analyzing recruitment trends on LinkedIn to provide human resource solutions for businesses

Nguyen Hoang Phuong

30/08/2024

OUTLINE



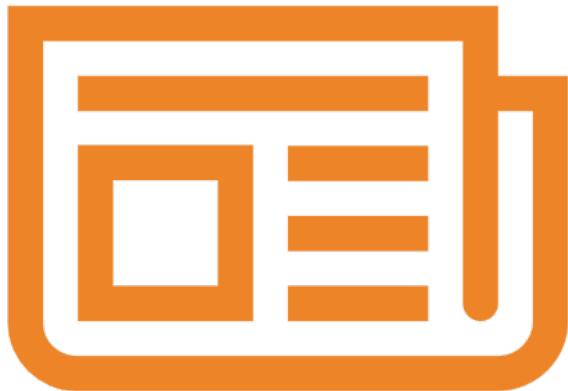
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INTRODUCTION



- The analysis focuses on three major banking and finance companies: Bank of America, Deloitte, and Vietcombank. All three companies are part of the Big Four group within their respective regions.
- The results are based on data from more than 5,000 employees across these companies, whose LinkedIn profiles were publicly available.
- The analysis aims to identify IT staff shortages at Vietcombank compared to other companies and provide strategic solutions for Vietcombank in terms of talent acquisition and building a robust IT workforce.
 - Refer to articles from Gartner, Seek, etc., to explore potential solutions.
 - Analyze recent LinkedIn job postings by searching for the keyword ‘Finance.’”

METHODOLOGY



- Collect LinkedIn data & explore its content
 - Web Scraping
 - StaffSpy
- Data Cleaning
- Data Wrangling
- Data Analysis: Cluster Analysis
- Data Visualization

DATASETS

- Data Source: All data extracted from LinkedIn.
 - Company Staff Datasets: Utilize Staffspy, a GitHub library, to gather data on each company.
 - Job Postings Datasets: Employ Selenium to interact with job postings by searching the keyword “Finance” in the US and Vietnam, and the keyword “Vietcombank.” Data scraping involves extracting relevant HTML tags.
- Data Structure:

Company Staffs Datasets

- name
- headline (staff's short description)
- estimated_age
- current_position
- current_company
- top_skill_1,2,3
- experiences

Job Postings Datasets

- title
- company
- description
- employment_type
- job_function

DATASETS(CLEANED)

Company Staffs Datasets

```
In [6]: concatenated_df.info()
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 5232 entries, 0 to 5231
Data columns (total 9 columns):
 #   Column           Non-Null Count  Dtype  
--- 
 0   name              5232 non-null    object  
 1   headline          5225 non-null    object  
 2   estimated_age     3411 non-null    float64 
 3   current_position  5232 non-null    object  
 4   current_company   4120 non-null    object  
 5   top_skill_1        3728 non-null    object  
 6   top_skill_2        3676 non-null    object  
 7   top_skill_3        3626 non-null    object  
 8   experiences       4120 non-null    object  
dtypes: float64(1), object(8)
memory usage: 368.0+ KB
```

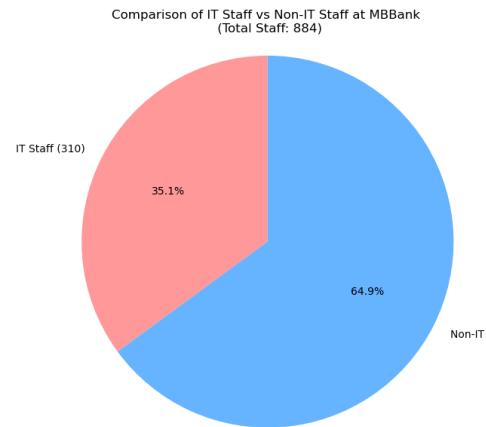
Job Postings Datasets

```
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Data columns (total 6 columns):
 #   Column           Non-Null Count  Dtype  
--- 
 0   Unnamed: 0        882 non-null    int64  
 1   title             882 non-null    object  
 2   company           882 non-null    object  
 3   description        882 non-null    object  
 4   employment_type   591 non-null    object  
 5   job_function      591 non-null    object  
dtypes: int64(1), object(5)
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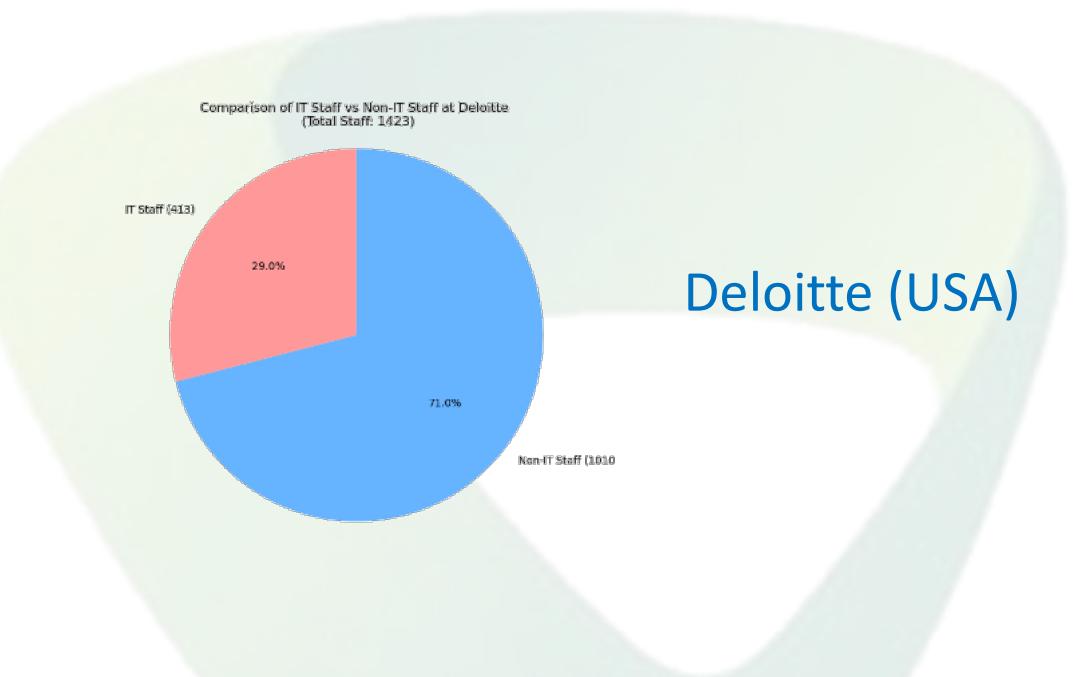
```
In [6]: 
```

RESULTS

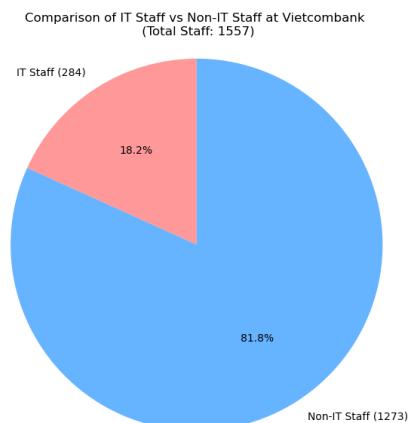
IT STAFFS COMPARISION



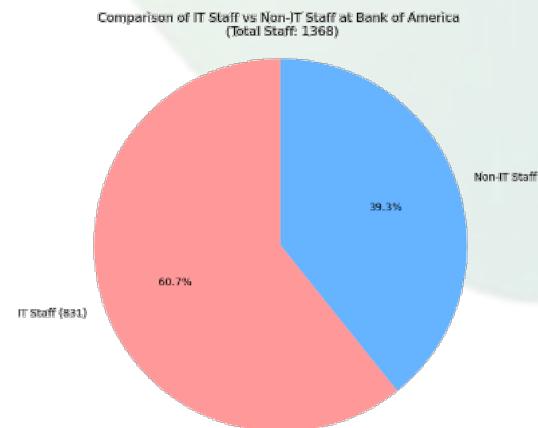
MB Bank



Deloitte (USA)



Vietcombank



Bank of America
(USA)

IT STAFFS COMPARISION

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

/Users/fuongfotfet/miniconda3/bin/python /Users/fuongfotfet/Desktop/linkedin-job-scraper-i
● (base) fuongfotfet@fuongs-MacBook-Pro staff-scrape % /Users/fuongfotfet/miniconda3/bin/py
  rape/visualize.py
The avarage age of Bank of America staff is 28.64388489208633
The average duration of Bank of America IT/Analyst employees 1.891618918522123
● (base) fuongfotfet@fuongs-MacBook-Pro staff-scrape % /Users/fuongfotfet/miniconda3/bin/py
  rape/visualize.py
The avarage age of Vietcombank staff is 31.004255319148935
The average duration of Vietcombank IT/Analyst employees 4.199534833345062
● (base) fuongfotfet@fuongs-MacBook-Pro staff-scrape % /Users/fuongfotfet/miniconda3/bin/py
  rape/visualize.py
The avarage age of Deloitte staff is 27.768
The average duration of Deloitte IT/Analyst employees 1.8708839923285374
● (base) fuongfotfet@fuongs-MacBook-Pro staff-scrape % /Users/fuongfotfet/miniconda3/bin/py
  rape/visualize.py
The avarage age of MBBank staff is 26.86574074074074
The average duration of MBBank IT/Analyst employees 1.613577866089949
○ (base) fuongfotfet@fuongs-MacBook-Pro staff-scrape %
```

IT STAFFS COMPARISION - FINDINGS & IMPLICATIONS

Findings

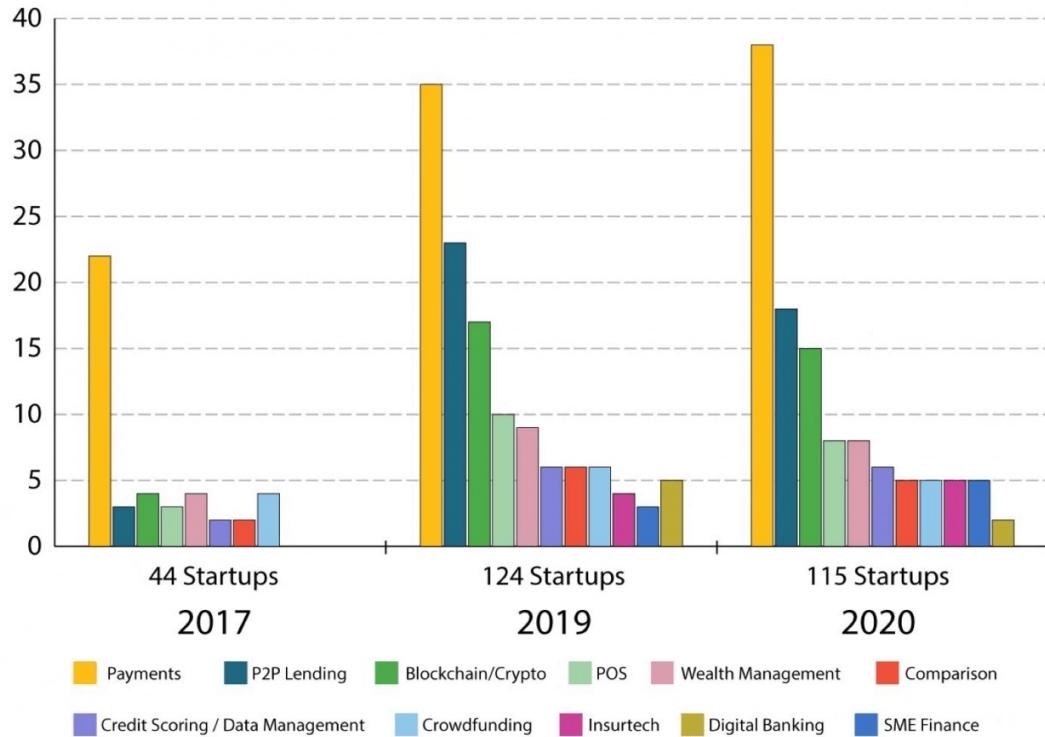
- Vietcombank has the smallest IT workforce among the four companies.
- Vietcombank has the highest average age of IT staff.
- Vietcombank has the longest average tenure for IT staff.

Implications

- Vietcombank may be experiencing a shortage of IT staff, which is a concern in the current Fintech era.
- The IT personnel at Vietcombank are generally older (average age: 31), which contrasts with the industry's trend towards younger talent.
- Deloitte, despite being an auditing service provider, has a larger IT workforce than Vietcombank.
- Compared to another bank in Vietnam (MB Bank), Vietcombank's IT staff numbers are significantly lower.

DISCUSSION

Source: [Finn](#)



An enormous growth of startups and Fintech services in Vietnam

- IT staff are becoming an essential component for the development of all sectors.
- Specifically, in the banking industry, Fintech is emerging as a strong growth trend in Vietnam.
- The shortage of IT personnel at Vietcombank will be a significant challenge in their digital transformation efforts.

“The banking industry is going through a period of rapid change to meet competition, challenges of technology and the demand of end user. Clearly technology is a key differentiator in the performance of banks. Banks need to look at innovation not just for product but for process also.”

- ROLE OF IT IN BANKING SECTOR & CHALLENGES - Indian Journal of Economics & Business, Vol. 17, No. 3 (2018): 41-53



SOLUTION

SOLUTION



- HR needs a solution to address the IT staffing shortage at Vietcombank.
- A comprehensive recruitment strategy is required to attract top talent.
- Revise the company culture and rules to enhance talent acquisition.
- Identify the necessary roles and skills to refine the job descriptions.

Today's Triple Talent Squeeze

(Gartner @2023)



More Expensive

Switch premium **expectations in 1H23** are at par with an all-time high score in 2H22.^b



Harder to Retain

29% of IT employees have a high intent to stay, compared with non-IT employees at 40%.^c



Harder to Find

78% of CEOs believe **talent scarcity is reaching crisis proportions.**^a



“Everyone is competing for the same talent. We’re increasing salaries and offering flexible work options, but even the most engaged employees are open to better offer elsewhere.”

- CIO, Financial Service, Gartner

TALENT “PATCHING” – A TYPICAL TALENT APPROACH



Fill specific open positions

Hire in **reaction** to need.

Just-in-time hiring



Search the “best” candidate

Recruit for **specialization**.



Hire exactly as many people as needed

Rely on **lean skills** capacity.



Provide training in addition to work

Build skills as an **add-on** to work.

Training “the right” technical specialists

TALENT “PATCHING” – Falls Short

Hire in **reaction** to need.

- ✗ Diverts attention to near-term needs.
- ✗ Leaves gaps until filled.

Recruit for
specialization.

- ✗ Escalates salaries within narrow talent pools.
- ✗ Increases time to hire.

Rely on **lean**
skills capacity.

- ✗ Limits organizational agility.
- ✗ Creates key-person dependency and burnout.

Build skills as an
add-on to work.

- ✗ Deprioritizes learning in favor of “doing work.”
- ✗ Detaches learning from its application.

Hire in **reaction** to need.

Recruit for specialization.

Rely on lean skills capacity.

**Build skills as an
add-on to work.**

No strategy – Weak recruitment platform

Few roles needed

“Manager”, “Senior”
highlighted
No attraction

Low recruitment demands

Vietnamese-based job descriptions



[TT NHS] CV kiểm thử ứng dụng

Hanoi, Hanoi, Vietnam · 6 months ago · 59 applicants

[TT NHS] CV Kiến trúc, giải pháp - phụ trách kiến trúc số

Hanoi, Hanoi, Vietnam 6 months ago · 23 applicants

- Nhận hồ sơ đến khi tuyển dụng đủ (tối đa đến hết ngày 31/12/2024)
 - Ứng viên tham gia 01 vòng thi (vòng phỏng vấn)

Chỉ tiêu tuyển dụng: 02

Vietcombank / Vietnamese Banking Job Description

FROM REACTIVE TO ADAPTIVE

From Patching Talent Gaps ...

Just-in-time hiring and training “**the right**” technical specialists in response to demand.

- ✗ Hire in **reaction** to need.
- ✗ Recruit for **specialization**.
- ✗ Rely on **lean skills** capacity.
- ✗ Build skills as **an add-on** to work.

... to an Adaptive Talent Strategy

Building processes that allow IT talent to **adapt to new roles** in anticipation of demand.

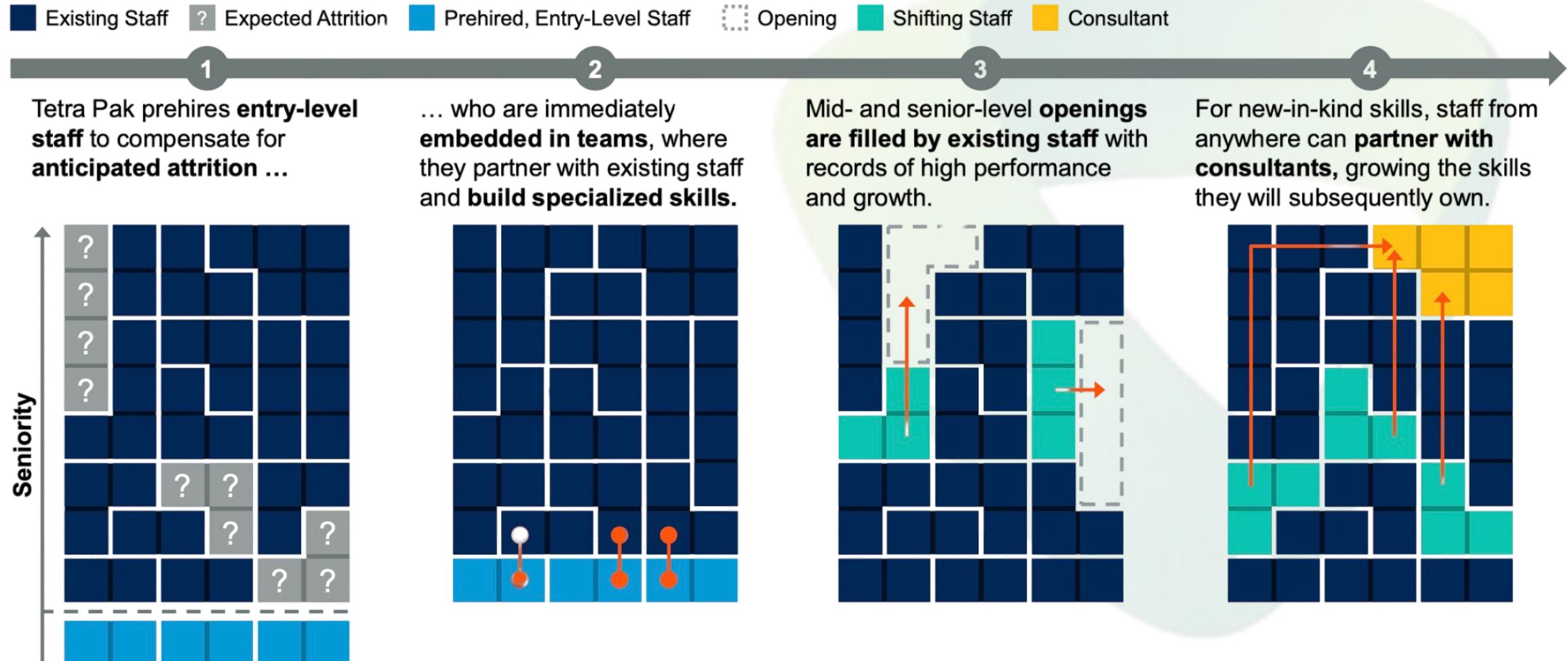
- ✓ Hire in **anticipation** of need.
- ✓ Recruit for **growth behaviors**.
- ✓ Build **overlapping skills** capacity.
- ✓ Embed **learning** in team backlogs.

ADAPTIVE HIRING - A SUCCESSFUL CASE: TETRA PAK



EXAMPLE – TETRA PAK'S PREHIRING

Tetra Pak's Flexible Approach to Manage Talent Demand Internally



Source: Adapted From Tetra Pak

EXAMPLE – TETRA PAK

Tetra Pak's Business Case for Prehiring

Illustrative



Prehiring Calculation:

Fully Staffed Insourced IT (400)
 x Attrition Rate (10%)
 + Org. Headcount Growth (0)
 = Number of Prehires (40)
 % Prehire Entry-Level = 75%
Total Number of Prehires = 30

	Sweden	U.S.	India
Resource Cost per Site			
Average Staff Salary ^a	\$120,000	\$125,000	\$24,000
Entry-Level Salary	\$60,000	\$62,500	\$12,000
Salary Cost Avoidance (A)	\$60,000	\$62,500	\$12,000
Resource Management Cost			
Onboarding and Introduction (15 weeks)	\$17,308	\$18,029	\$3,462
Travel and Tuition	\$10,000	\$10,000	\$10,000
Total Ramp-Up Cost (B)	\$27,308	\$28,029	\$13,462
Ramp-Up Costs as % of Entry-Level Salary	46%	45%	112%
Cost Avoidance per Employee			
Year 1 Savings (C = A - B)	\$32,692	\$34,471	\$(1,462)
Year 2 Savings (A)	\$60,000	\$62,500	\$12,000
Total Saved	\$92,692	\$96,971	\$10,538
Cost Avoidance per Site			
30 Entry-Level Employees	6	6	18
Two-Year Cost Avoidance	\$556,154	\$581,827	\$189,692
Total Two-Year Savings			\$1,327,673

Tetra Pak makes the case to finance and HR for hiring entry-level staff at **half the price** of more senior staff.

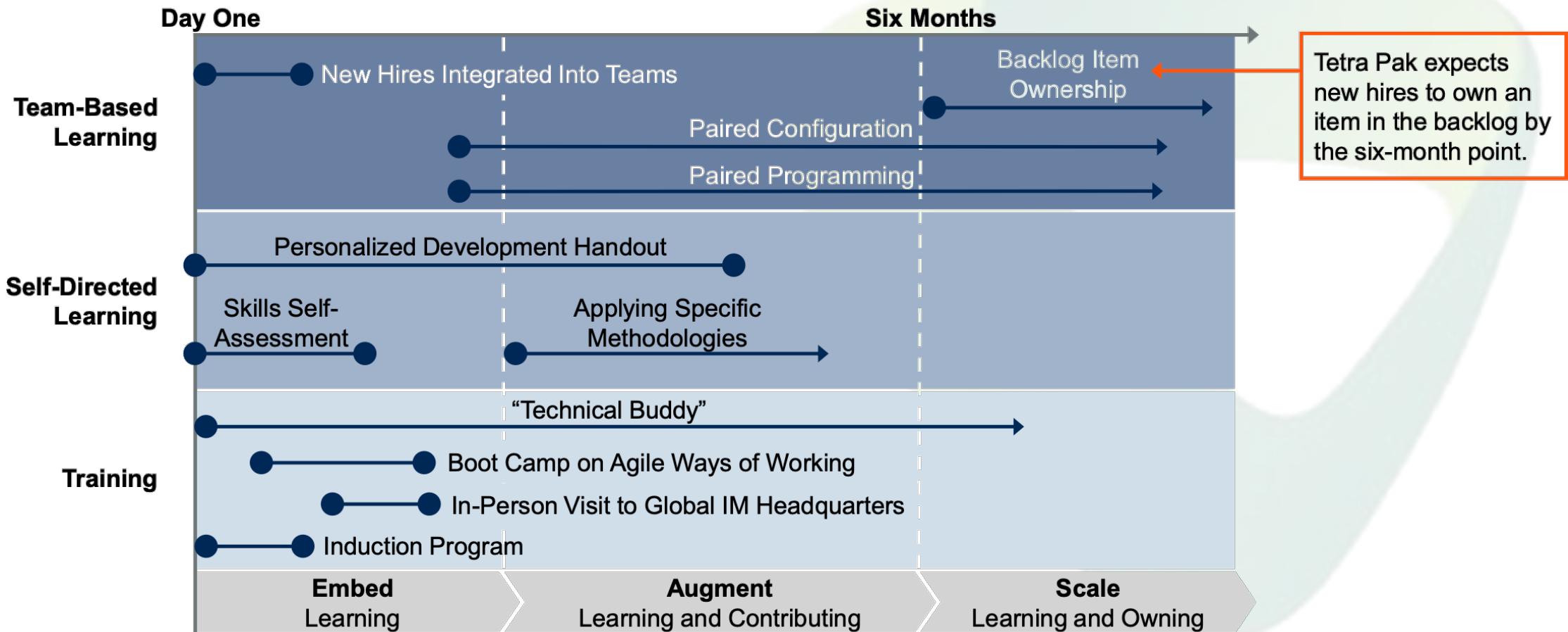
The business case includes significant investment in onboarding, including two weeks at global IM headquarters.

Tetra Pak maintains existing staffing by geographies.

EXAMPLE – TETRA PAK

New Hire Journey on a Product Team

Illustrative



Source: Adapted From Tetra Pak

EXAMPLE – TETRA PAK

New Hire Journey on a Product Team



Team-Based Learning

- Represents collaborative learning.
- New hires learn by working closely with experienced team members, gradually taking on more responsibilities.
- The timeline extends up to the point where new hires are expected to own a backlog item, indicating their progression from learning to contributing meaningfully to the team's work.

Self-Directed Learning

- Represents learning that is initiated and directed by the new hire themselves.
- Allowing them to assess their skills, identify areas for improvement, and apply new methodologies as they progress.
- This mode of learning continues throughout the six-month period, allowing for continuous self-improvement and adaptation to the role.

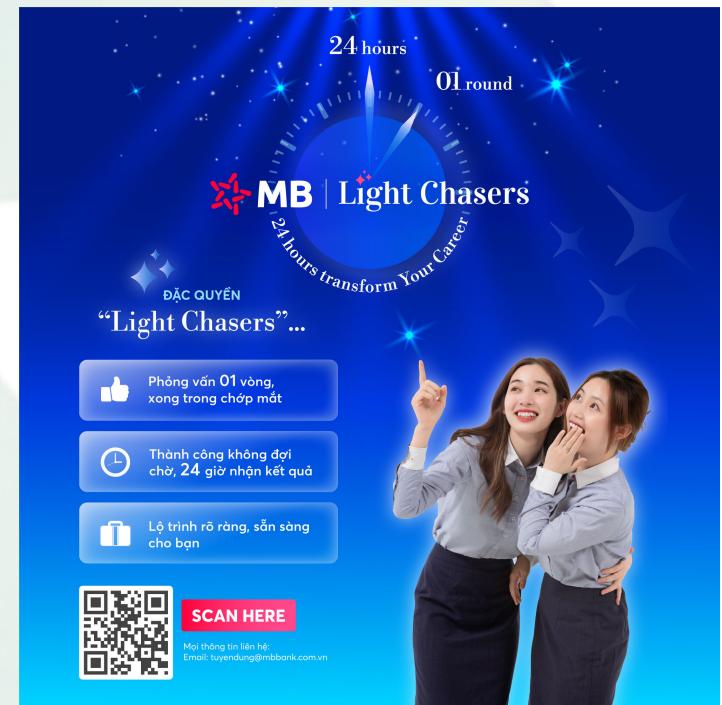
Training

- Represents formal and organized training sessions.
- Equip new hires with the necessary knowledge and skills to integrate into the team and the company.
- These activities are foundational and take place early in the journey, providing a base of knowledge that will be built upon through other types of learning.

“Embed Learning Into Ways of Working”

Source: Adapted From Tetra Pak

VIETNAM'S ADAPTIVE HIRING TREND



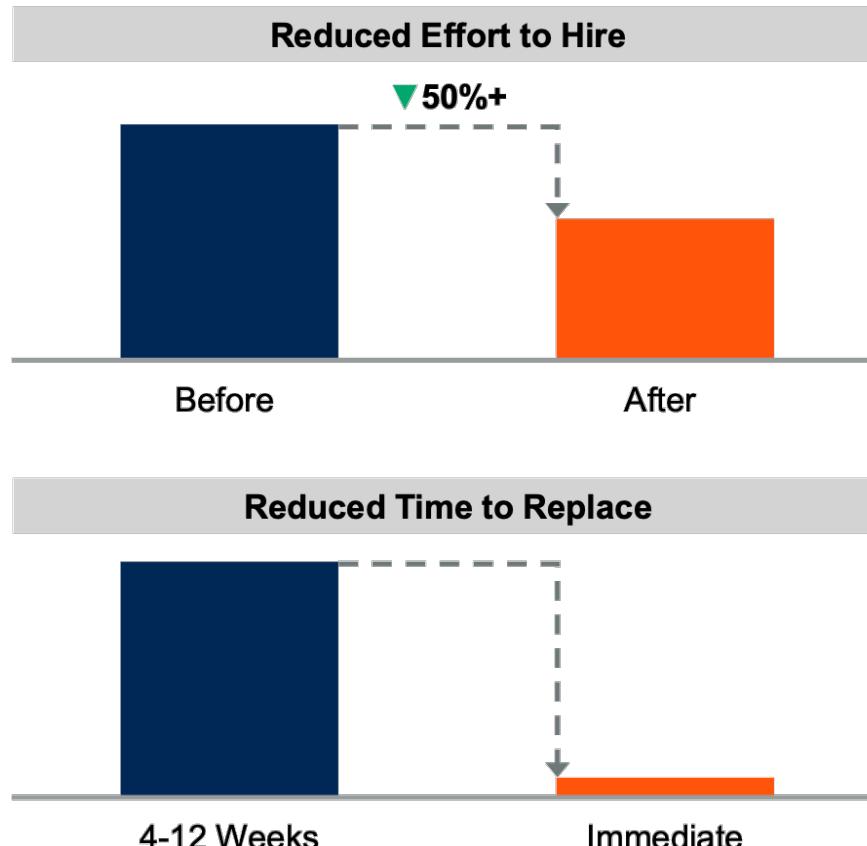
VIETNAM'S ADAPTIVE HIRING TREND



- ✓ Early Career Hiring
- ✓ Reaching Youth Talents
- ✓ Enhancing Employer Branding
- ✓ Increasing Recruitment Efficiency
- ✓ Creating More Job Opportunities

EXAMPLE – TETRA PAK'S RESULT

The Impact of the Flexible Internal Talent Marketplace at Tetra Pak



"This new structure allows us to maintain productivity, while employees are growing their skills and career. We don't want to lose great staff, but if we lost anyone, we'd be fine."

— Craig Bierman, Director — Technical Infrastructure

"With an aging workforce like ours, the lack of new perspectives is a real problem. Batch hiring of entry-level staff brings important fresh ideas to our organization."

— Michael Hantelis, Director Resource Management

Source: Adapted From Tetra Pak

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TALENT ACQUISITION

INTRODUCTION – TALENT ACQUISITION



Source: [SmartRecruiter](#)

- Talent acquisition refers to the process of identifying and acquiring skilled workers to meet your organizational needs.
- The talent acquisition team is responsible for identifying, acquiring, assessing, and hiring candidates to fill open positions within a company.

TALENT ACQUISITION VS RECRUITMENT



"Talent Acquisition is a strategy to acquire skilled leaders and employees - for a long term success"

"Recruitment is the process of filling positions - which needs to be filled quickly"

TALENT “FOCUSED”

“The war for talent is never-ending. In my view, there are two principles that organizations should leverage while building a talent strategy.

First, increase the self-sufficiency of internal workforce because we cannot always rely on the external market.

Second, in order to be self-sufficient, it’s important to leverage insights about our talents segments and attract, engage and retain them sustainably by helping them to move up their hierarchy of needs.

- Alexis Pham, CPO, Home Credit Vietnam

WHAT WE WANT . . .

Salary and compensation remains the key driver of attraction for banking and financial services candidates, however companies with **innovative training programs** and flexible working arrangements look set to stand out.



1.

Salary/Compensation

While base salary must be competitive, candidates are also on the lookout for a broader remuneration package, such as bonuses or profit-sharing.



2.

Career/Development opportunities

In-house training programs are considered a 'must have' for at least two in five respondents, while mentoring and coaching programs are also highly regarded.



3.

Work-life balance

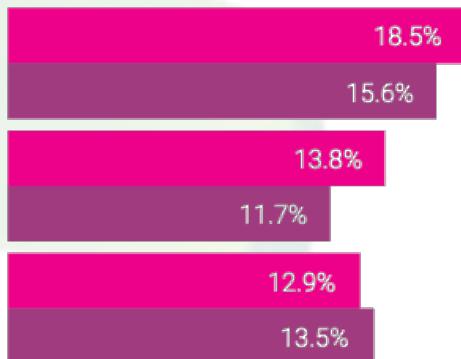
Although the banking and financial services industry has a reputation for long working hours, candidates still place a high emphasis on work-life balance.

DID YOU KNOW?

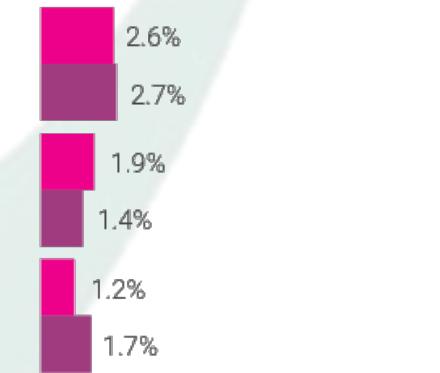
Environmental sustainability is highly valued among candidates in banking and financial services. One in five respondents ranked '**values and protects the environment**' as a 'must-have' quality for their next workplace, so employers would be well advised to inform candidates of any corporate social responsibility initiatives.

Drivers of attraction

TOP 3 DRIVERS



BOTTOM 3 DRIVERS



● Banking & Financial Services

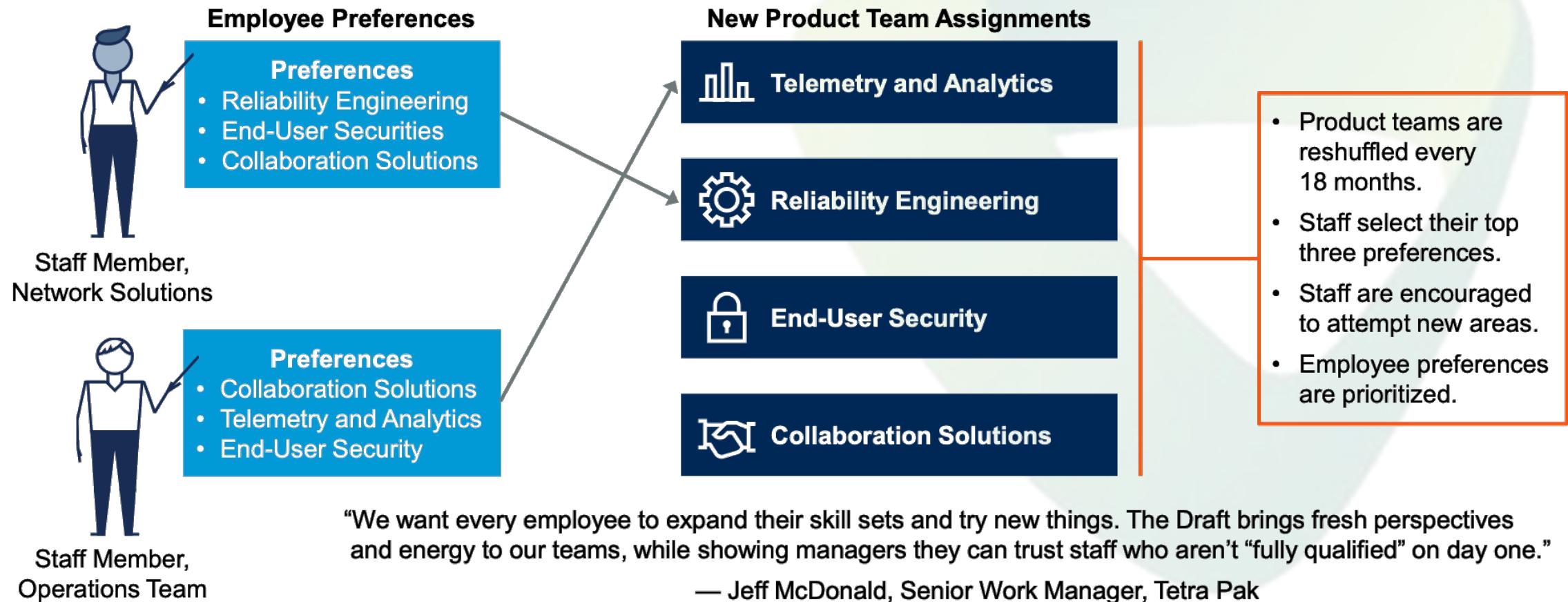
● Total Market

A PLACE TO GROW CAREER



Tetra Pak's "Draft System" to Empower Staff Members to Move Teams

Illustrative

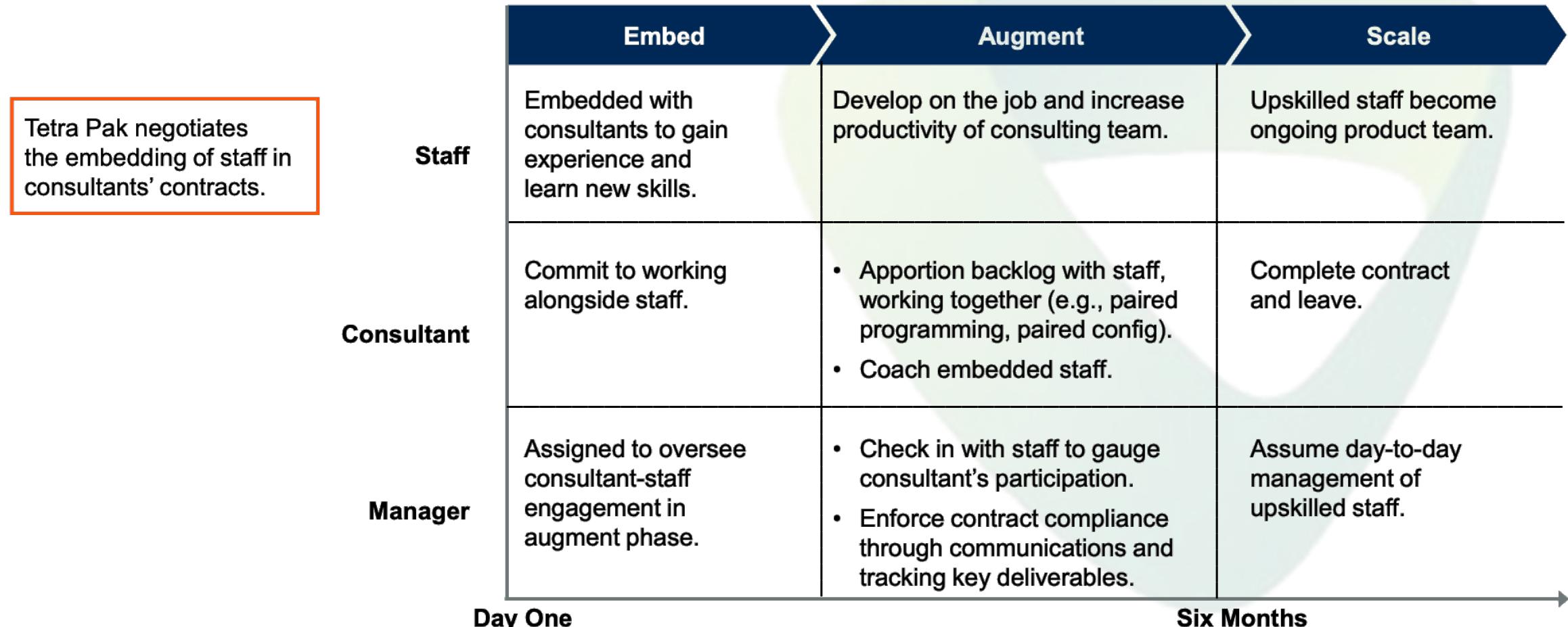


Source: Adapted From Tetra Pak

A PLACE TO GROW CAREER

How Tetra Pak Transfers New Skills From Consultants to Staff

Illustrative



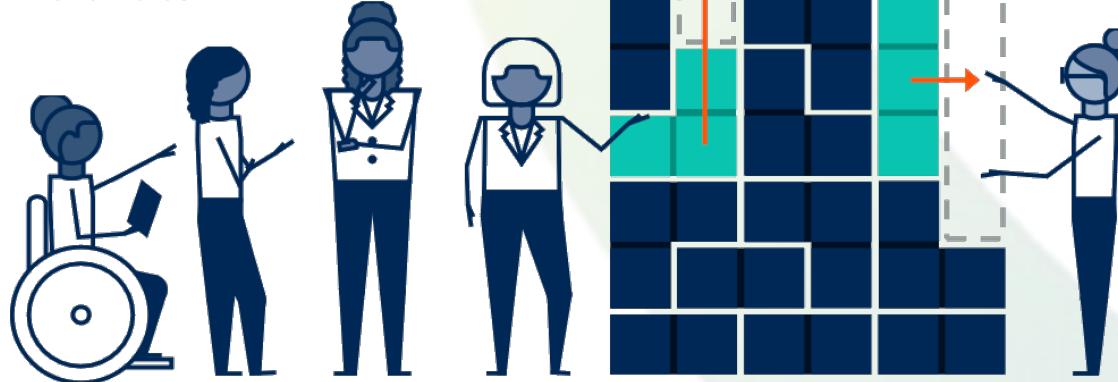
Source: Adapted From Tetra Pak

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...AND EMPOWER TEAM MANAGERS TO TRUST THEM

How Tetra Pak Prepares and Promotes Internal Staff



- 1 IT directors oversee skills capacity, assessing:
 - Key person dependency
 - Insufficient coverage
 - Emerging capabilities
 - Succession planningand collaborating with ...
- 2 ... team managers, who identify high-potential staff for internal promotions to mid- and senior-level roles ...A diagram illustrating career progression and promotion paths. It features five stylized human figures standing next to a grid of dark blue squares. The grid is organized into vertical columns of varying heights, representing career levels. A figure on the far left is seated in a wheelchair. Two figures in the center are pointing towards a highlighted teal-colored square in the middle column. A figure on the far right is pointing towards a highlighted teal-colored square in the rightmost column. Red arrows indicate movement: one arrow points vertically upwards from a lower square to a higher one in the same column, and another arrow points horizontally from a square in the middle column to a square in the rightmost column, representing lateral movement or promotion.
- 3 ... and help employees succeed in new roles through training, self-study, and experiential learning.

"No one is ever more than 70% qualified for a new role. We don't expect it. We expect people to grow and learn new capabilities through their work."

— Craig Bierman, Director — Technical Infrastructure

Source: Adapted From Tetra Pak

D_(Diversity) • E_(Equity) • I_(Inclusion)

Diversity, equity, and inclusion (DEI) are organizational frameworks which seek to promote the fair treatment and full participation of all people, particularly groups who have historically been underrepresented or subject to discrimination on the basis of identity or disability

- Wikipedia



Diversity is representation of, and respect for, people from different backgrounds and identities.

We Believe Diversity Is Our Strength...

We represent parents, caregivers, educators and communities of all children, which enables us to best achieve PTA's mission to make every child's potential a reality.



Equity provides fairness in resources, opportunities and outcomes so that all communities get what they need to be engaged and successful.

We Believe Equity Drives Our Mission...

We seize opportunities to build and share new models and ways of working on behalf of children.



Inclusion is actions, behaviors and social norms that ensure all people feel they are safe, welcomed, and that they belong.

We Believe Collaboration Must Be Inclusive...

We can only achieve our mission and vision in full collaboration and partnership with the broadest possible set of volunteers, staff, educators, schools and communities.



**we expect CEOs
to listen more
to colleagues at
every level**

Empathy Regains Importance

Listen up or step down. Empathy regains importance at the top Are CEOs becoming less empathetic? In a survey of 3,000 HR professionals at the start of 2023, a third said empathy was lacking at the top. And as our own research shows, that's a big problem for any business that wants to hire and hold onto high performing people. As those high performers move on—taking roles in organizations that give them greater work-life integration, or more freedom to share their opinions without fear, CEOs will have to make changes. By 2024, we expect CEOs to listen more to colleagues at every level in their business without judgment. That doesn't mean they'll stop asking teams to return to the office, but it does mean they'll think more about the culture they create. And they'll make more allowances for people's personal circumstances.

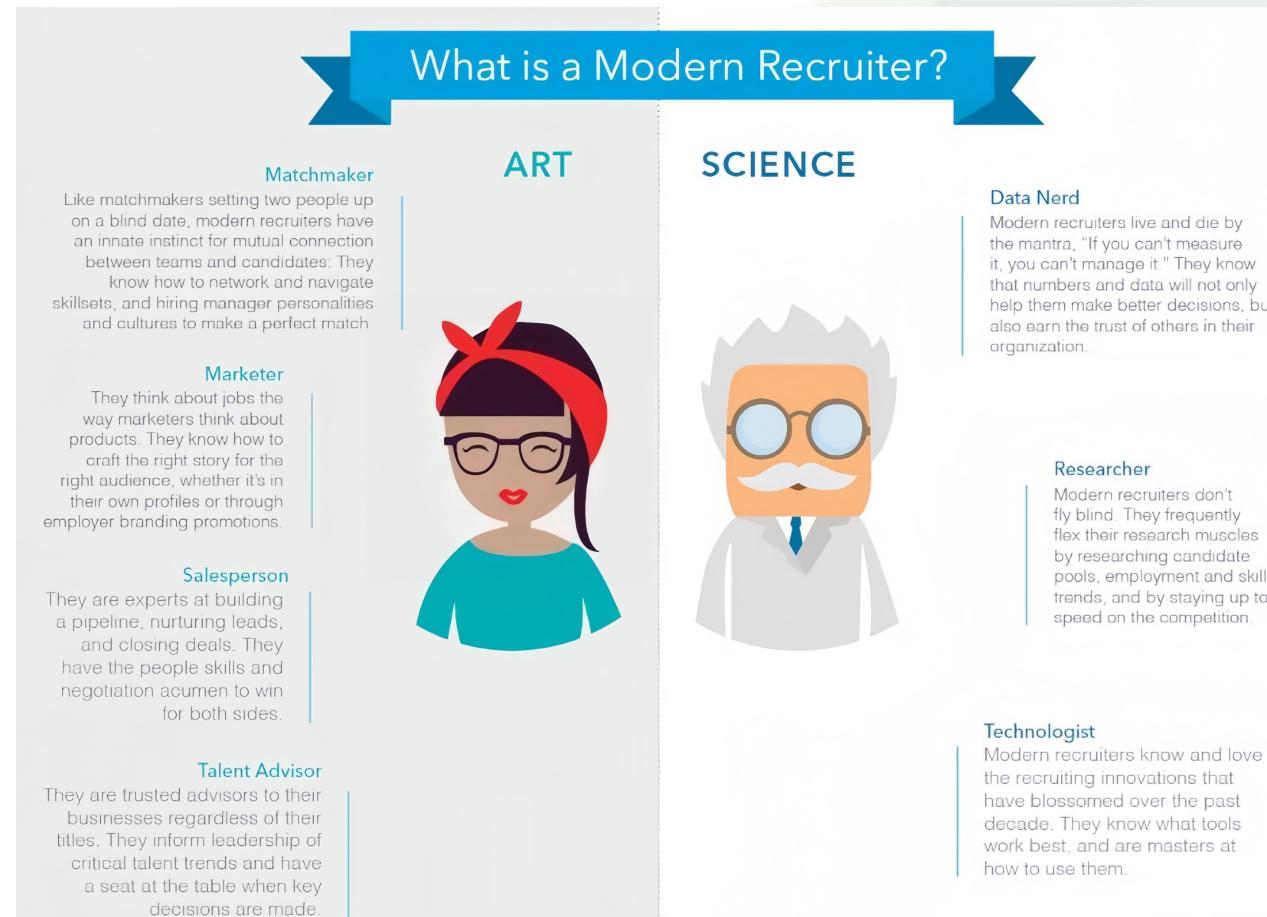
Source: [Konn Ferry](#)

TALENT “FOCUSED” - CONCLUSION

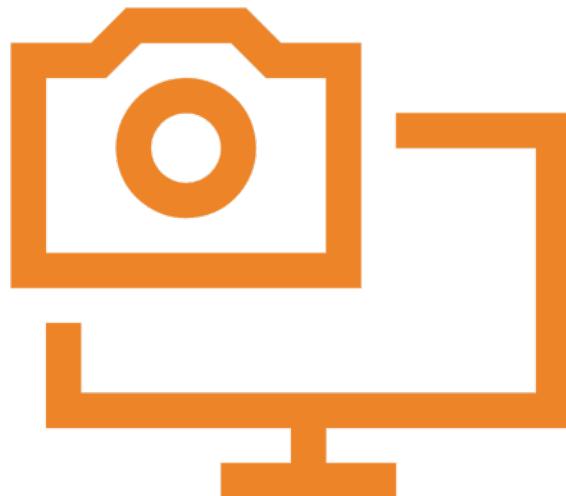


- Strengths-Based Approaches: Identify and leverage employees' strengths, providing opportunities for them to excel in areas they are passionate about. This boosts motivation and engagement.
- Employee Voice and Inclusion: Establish avenues for employees to share perspectives, ideas, and concerns through regular surveys, feedback sessions, and open communication channels. This allows them to have a say in shaping their work experience.
- Access to Performance Analytics: Leverage data and analytics to track performance trends, identify patterns, and share insights with employees. This improves alignment between employees, learning and development strategies, and organisational goals.

A HR PROFESSIONAL



APPENDIX



- Adaptive Talent Management: Building a Resilient Workforce for the Future – Neil Osmond.
- A diverse workforce requires inclusive employment practices: Home Credit Vietnam's Alexis Pham – Shivangi Sharma.
- Talent Acquisition Trends 2024 – Korn Ferry.

APPENDIX: JOB DESCRIPTION

SKILL “ISSUES”



Comparision between workforce competencies of Vietcombank (left) and Other Companies in U.S (right).

- U.S. companies exhibit a broader range of skills.
 - > This is crucial for fulfilling organizational roles that extend beyond mere technical expertise.
 - Vietcombank shows a lack of communication and teamwork skills.
 - > This could potentially impact team performance and work reporting.

JOB DESCRIPTION

Tetra Pak's Standardized Job Description for Hiring Entry-Level Employees in Batches



All entry-level staff are hired into the same **Technical Expert I** role in two batches, spring and autumn ...

... managed by a **single hiring team** ...

... and using a **single, standardized job description** ...

... that doesn't filter for specialized technical skills, certifications and experience ...

... but instead **prioritizes passion and behaviors** required for employees to continuously develop skills and grow in the organization.

Technical Expert I

Functional Competencies:

- Coding
- Knowledge of processes, systems and technical infrastructure

Critical Experience:

- 0-2 years of relevant experience within information management

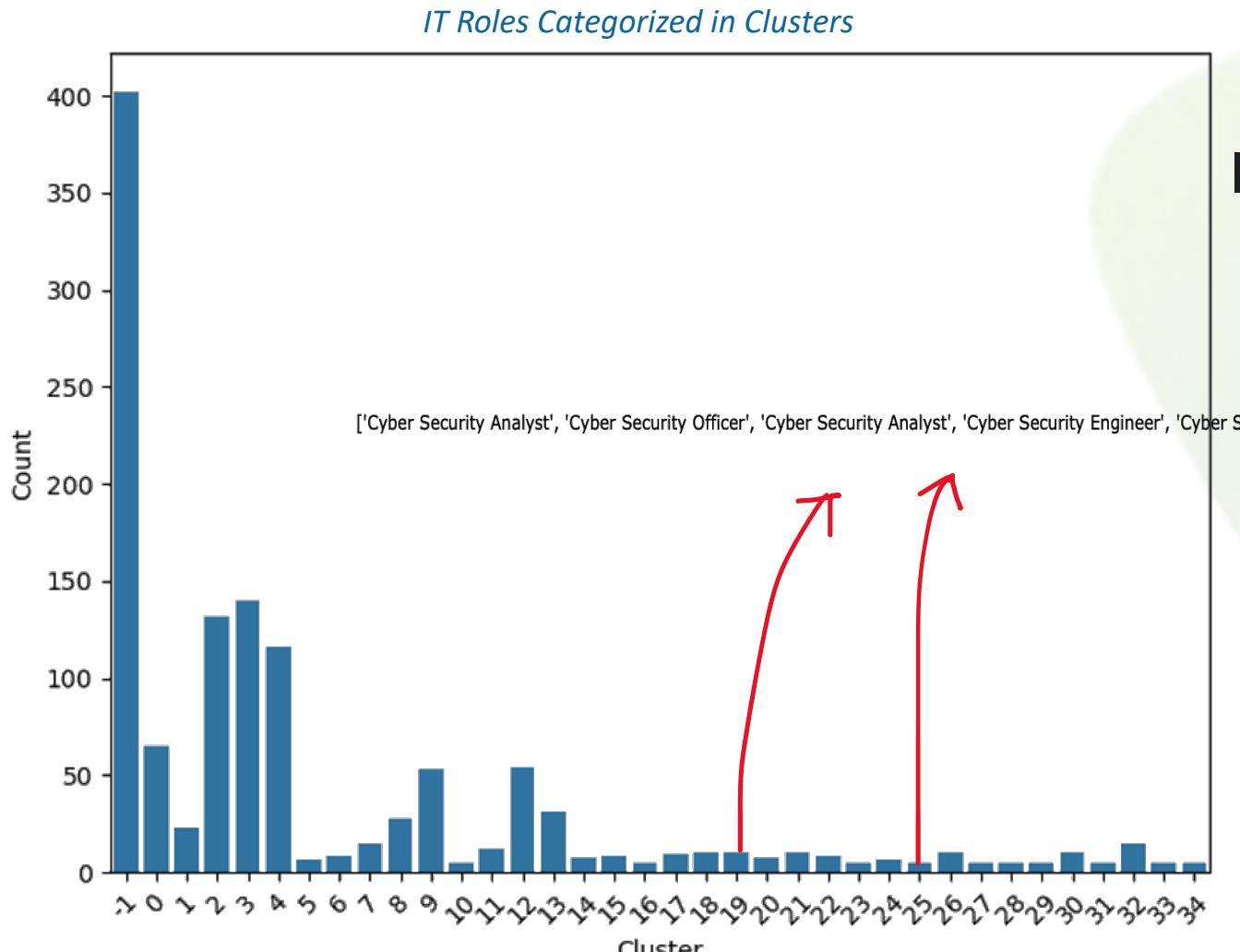
Minimum Education:

- University degree in IT or equivalent

Character Traits:

- | | |
|---|---|
| <ul style="list-style-type: none">• People skills• Empathy• Communication | <ul style="list-style-type: none">• Learning mindset• Collaborative• Risk taker |
|---|---|

TOP KEYS ROLES



Note:

"-1" represents a cluster of outliers.
There is overlap between clusters due to excessive noise.

```
dbSCAN = DBSCAN(eps=0.3, min_samples=5, metric='cosine')
```

- Overall, the skills predominantly pertain to Web Development, Cloud Computing, Data Analysis, Machine Learning and AI...
- By concentrating on small clusters, I have identified and highlight roles related to **Cybersecurity**. This is an important role, but it is rarely seen.

Silhouette Score = **0.4483502503075001**

Method: Density-Based Clustering
(DBSCAN)

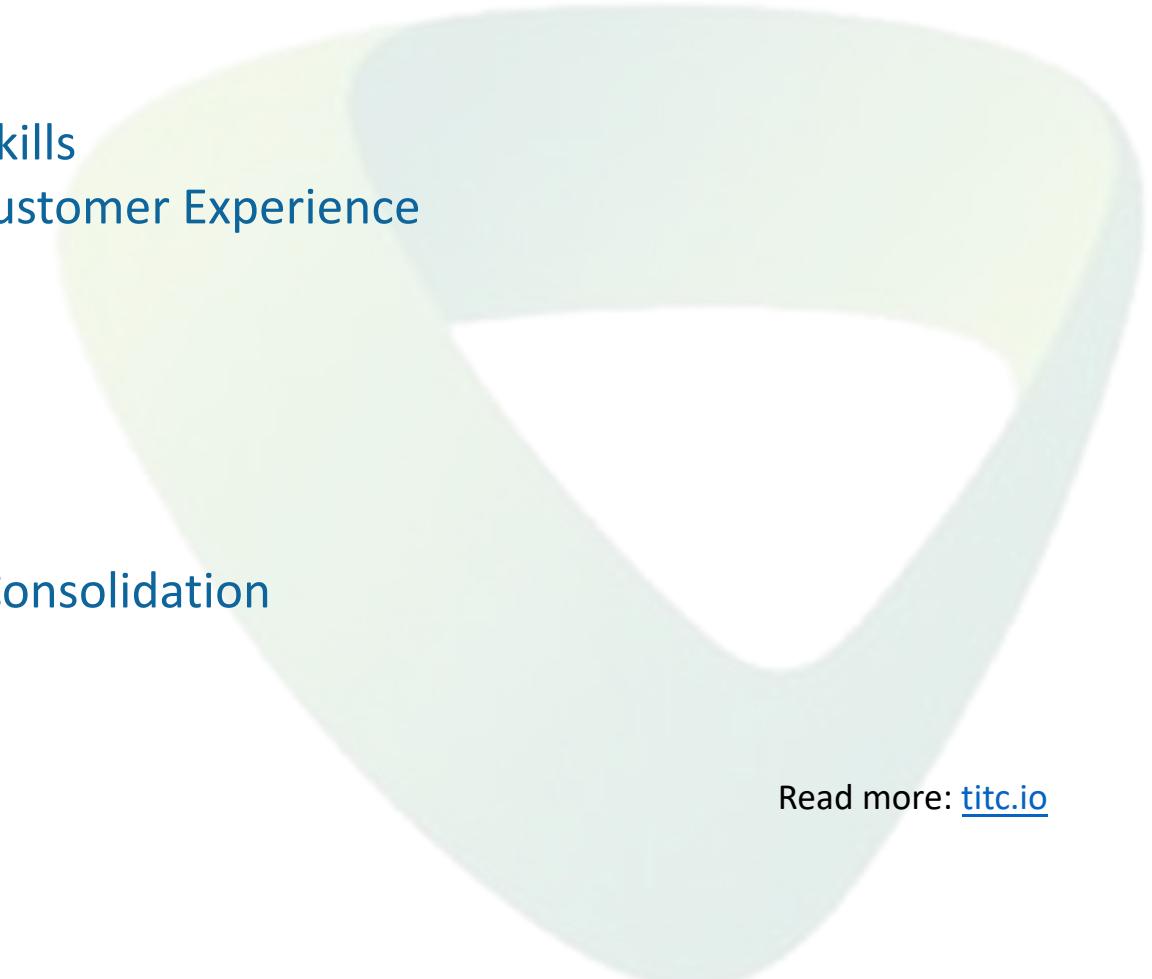
TOP KEYS ROLES

CYBERSECURITY

In the ever-evolving FinTech industry, **cybersecurity has become a critical skill set**. International Banker highlights the increasing adoption of AI in FinTech, raising the stakes for cybersecurity. As technology becomes more advanced, the potential for sophisticated cyber-attacks also rises. Professionals must be skilled in safeguarding systems, understanding the latest threats, and implementing robust security protocols. With AI-driven security breaches on the rise, the demand for cybersecurity experts who can anticipate and counter these threats is surging, making this skill set indispensable in the modern FinTech landscape.

Source: [International Banker](#)

THE 10 ESSENTIAL FINTECH SKILLS

- 
1. Cybersecurity and Information Security Skills
 2. Business Skills in Digital Marketing and Customer Experience
 3. Data Literacy and Visualization
 4. Web Development and Cloud Computing
 5. Audit and Compliance Skills
 6. AI and Large Language Models in FinTech
 7. Digital Twinning and Robotics
 8. Understanding and Adapting to Fintech Consolidation
 9. Internationalization of Fintech
 10. Sustainability in FinTech

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RECOMMENDATION

1. Work with HR and finance to prepare for anticipated attrition by pre-hiring in batches.
2. Cultivate learning and expand talent pools by prioritizing passion and potential in employees and new hires.
3. Offer a job rotation program that incorporates development of new skills into the work of delivering key business objectives.
4. Require consultants to embed your employees in their teams to augment the team's work, so that employees acquire skills that had not previously existed in your organization.

EXECUTIVE SUMMARY

