



# UNDERSTANDING THE HR TOOLSCAPE:

## A CONSTRUCT FRAME OF APPLICATIONS AND TOOLS

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A data-driven framework mapping the features, applications and adoption of tools by HR professionals, guiding organisations in navigating the evolving technology landscape.

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**LEE SHI HUI (KYLA)**

**SILIN YANG**

**LEE CHONG EU (STEVEN)**

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# CONTENTS

Executive Summary	02
<b>CHAPTER 1</b> Introduction	04
<b>CHAPTER 2</b> Methodology	07
<b>CHAPTER 3</b> The Construct Frame	15
<b>CHAPTER 4</b> Adoption Trends of Apps and Tools by HR Professionals	19
<b>CHAPTER 5</b> Conclusion	24
Acknowledgements	29
Project Team and Advisors	30
Appendices	31
A   Survey on Apps and Tools for HR Professionals	
B   HR Survey Demographics and Dissemination Methods	
C   COSTAR-Compliant System Prompts	



# EXECUTIVE SUMMARY



The proliferation of digital applications (apps) and tools has reshaped how organisations attract, develop and engage their workforce, creating new pathways for skills visibility, deployment, and development. While SkillsFuture Singapore (SSG) has curated a comprehensive list of over 5,000 human resource (HR) and non-HR tools to support career readiness and job functions, organisations still lack a structured framework to navigate this complex toolscape and to assess how digital tools can be strategically leveraged to advance skills-first practices across HR functions.

This report presents the outcomes from the study “Understanding the HR Toolscape: A Construct Frame of Applications and Tools”, which consisted of three components:

- 1** The development of a construct frame that systematises information on commonly used apps and tools adopted by HR professionals. It serves as a structured framework that organises each tool’s key features and functionalities and maps them to the HR work functions and competency domains they support.
- 2** The analysis of survey findings from HR professionals to surface emerging insights on adoption of apps and tools.
- 3** The examination of how apps and tools may function as enablers of skills-first practices across HR functions.

Drawing on a survey of 32 HR professionals across small, medium, and multinational corporations (MNCs), supported by desk research and AI-assisted classification via COSTAR-compliant prompts, the study harmonised information on 47 unique tools adopted by HR professionals. These tools were mapped against Institute for Human Resource Professionals (IHRP) Body of Competencies (BoC) and subsequently validated through comparison with SSG’s national job postings dataset (2023–2025) to test alignment with employer demand signals. The analysis also drew on the “Skills-First Desired Behaviours of Organisations” to examine how these tools correspond to skills-first practices, including recruitment, work redesign, skills recognition and skills development.

The analysis revealed the following key insights into the adoption of apps and tools by HR professionals:



### **Uneven adoption of apps and tools across competency domains**

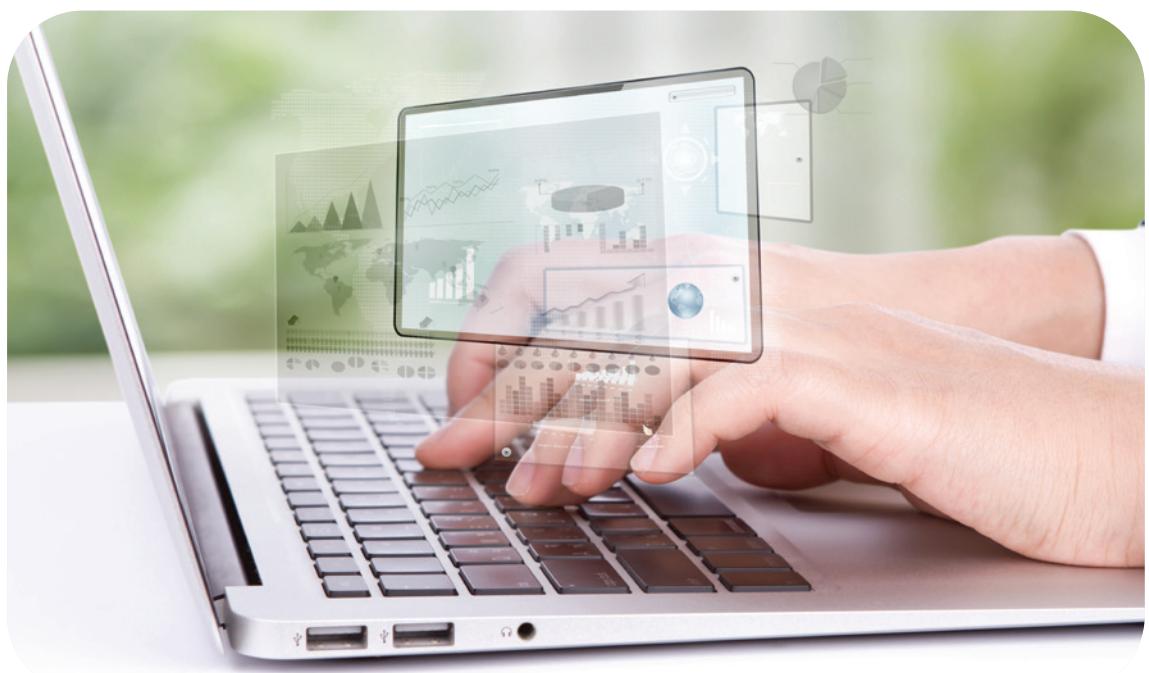
This uneven distribution suggests that organisations have focused their digital investments on tools that optimise operations, planning, and engagement, while comparatively fewer digital solutions have been applied to sustainability-related practices or end-of-employment processes.



### **Existing apps and tools can be leveraged to enable skills-first practices**

Of the 47 tools identified, 16 tools were mapped as potential enablers of skills-first practices. Most tools support specific behaviours related to recruitment or skills development and use, while comparatively fewer demonstrate integration across multiple domains.

The construct frame and accompanying insights provide organisation and HR professionals a structured view of how digital tools support different HR functions and where adoption gaps remain. This study marks an important first step in building a structured, data-driven approach to understanding the role of apps and tools adopted by HR professionals in shaping organisational and workforce practices. Deliberate and strategic utilisation of apps and tools can better align workforce capabilities with business outcomes while reinforcing the skillset–mindset–toolset needed for organisations to thrive in a skills-first ecosystem.



# INTRODUCTION

1



## CHAPTER 1

# INTRODUCTION

The proliferation of apps and tools has transformed how organisations operate across sectors. For organisations, they have become a fundamental pillar upon which companies rely to enhance productivity, collaboration, and innovation<sup>1</sup>. For individuals, effective job performance depends not only on possessing the right skills but also on leveraging the right apps and tools<sup>1</sup>. These apps and tools are closely intertwined with individual skills<sup>2</sup>: they create new opportunities for upskilling, shape how existing skills are applied in daily work, and provide new ways to make skills visible and recognisable. In this way, digital apps and tools are both enablers of skill development and drivers of emerging skill demands.

While SSG has curated a dataset of more than 5,000 apps and tools<sup>3</sup>, the breadth of solutions is extensive and the absence of a structured framework makes it difficult for organisations and individuals to identify which tools are most relevant to their needs and how they contribute to workforce and organisational outcomes. From enterprise systems that manage workflows to specialised platforms supporting workforce development, the digital landscape is widely recognised as both highly diverse and deeply fragmented. Without a clear framework, organisations may risk underutilising both the tools available and the skills of their workforce, limiting their ability to respond to evolving labour market demands.

<sup>1</sup> Muhammad Ali et al., "Synergizing AI and Business: Maximizing Innovation, Creativity, Decision Precision, and Operational Efficiency in High-Tech Enterprises," *Journal of Open Innovation Technology Market and Complexity* 10, no. 3 (August 1, 2024): 100352–52, <https://doi.org/10.1016/j.joitmc.2024.100352>.

<sup>2</sup> Chin Yin Ong et al., "Skills-First: What Does It Mean for My Organisation? Charting out Possibilities for a Virtuous Ecosystem" (Institute for Adult Learning, Singapore University of Social Sciences, August 2025), <https://www.ial.edu.sg/resources/publications/skills-first-publications/skills-first-papers/paper-3-skills-first-what-does-it-mean-for-my-organisation/>.

<sup>3</sup> SkillsFuture Singapore, "Seeking Feedback on List of Apps and Tools," SkillsFuture Singapore, 2025, <https://www.skillsfuture.gov.sg/feedback-on-list-of-apps-and-tools>.



This report presents the outcomes of the study “Understanding the HR Toolscape: A Construct Frame of Applications and Tools”, undertaken to address this gap. The HR sector was selected because HR practices cut across all industries and play a pivotal role in workforce development, management, and organisational transformation. The study aims to build a structured, data-driven understanding of how apps and tools adopted by HR professionals support workforce and organisational development through the following:



### **Development of a construct frame that systematises information on commonly used apps and tools adopted by HR professionals**

It provides a structured view of each tool’s key features and functionalities and maps them to the HR work functions and competency domains they support, drawing on the IHRP Body of Competencies (BoC)<sup>4</sup>.



### **Analysis of survey findings from HR professionals to surface emerging insights on adoption of apps and tools**



### **Examination of how apps and tools may function as enablers of skills-first practices across HR functions**

Over time, the framework developed here for HR can be scaled to other sectors, providing comparative insights across sectors and contributing to broader strategies for digital adoption and workforce transformation.

This report is organised as follows:

- **Chapter 1** introduces the context, purpose, and scope of the study.
- **Chapter 2** describes the study’s methodology, including data sources, survey design, and the AI-assisted process used to harmonise the features of the apps and tools.
- **Chapter 3** presents the construct frame, detailing the features of commonly used apps and tools by HR professionals and how these support different HR functions and competency domains.
- **Chapter 4** analyses survey findings to surface emerging insights on adoption of apps and tools by HR professionals.
- **Chapter 5** concludes with reflective questions for organisations and HR professionals and potential next steps.

<sup>4</sup> Institute for Human Resource Professionals (IHRP), “IHRP Body of Competencies 3.0,” August 2024, <https://ihrp.sg/body-of-competencies/>.

# METHODOLOGY

2

# METHODOLOGY

This study adopted a mixed-method approach to understand how apps and tools adopted by HR professionals support workforce and organisational outcomes. In this study, apps and tools are defined as digital and technology solutions programmes, in software, app and platform formats, used in the application of skills to perform job tasks. This chapter outlines the methodology underpinning the study, detailing the data sources, analytical processes, and frameworks used to generate the findings.



## • SURVEY DESIGN AND DATA COLLECTION

A structured survey was disseminated through the IHRP network to HR professionals across different organisations. The survey consisted of 8 questions (refer to Annex A for details of the survey questions) covering areas such as:

- **General Information of HR practitioners** (HR function, industry, organisation size)
- **Commonly used tool details** (tool name, its most useful feature, cost category (free or paid), satisfaction metrics)

Responses were received from 105 HR professionals, and 32 responses were retained for analysis based on data completeness and quality. These represented organisations of different sizes: 8 from small enterprises, 8 from medium enterprises, and 16 from MNCs. Small enterprises are defined as those with 50 or fewer employees; medium enterprises are defined as those employing between 51 and 200 employees; and MNCs as those with more than 200 employees. Only validated (e.g. no contradictory or obviously erroneous inputs) and methodologically reliable (e.g. eligible respondents, did not show patterns suggesting random clicking) responses by the respondents were incorporated into the analysis (refer to Annex B for HR Survey Demographics and Dissemination Methods).

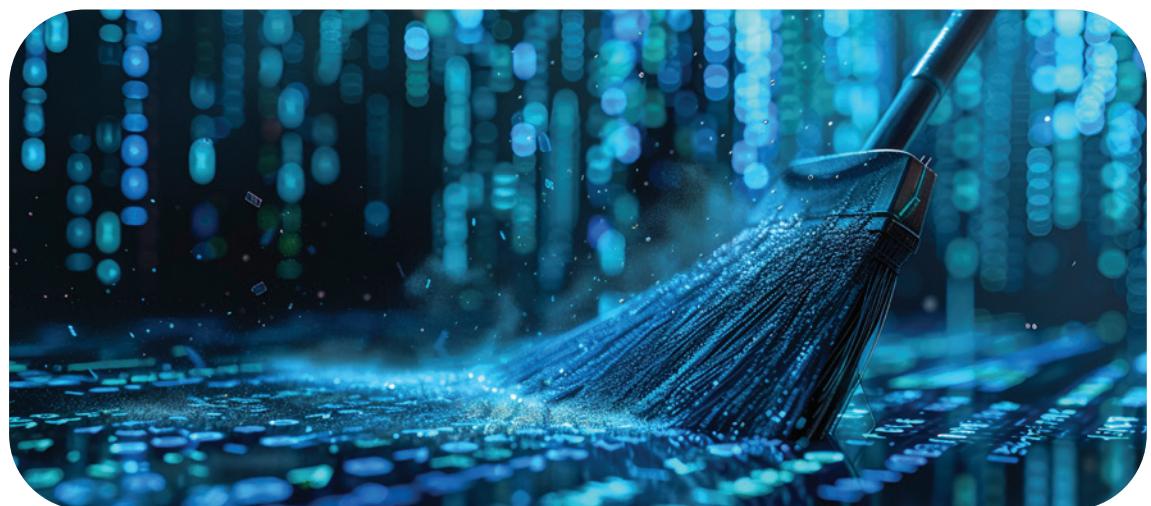
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- **DATA CLEANING AND ENRICHMENT**

The raw survey data were cleaned and enriched through supplementary desk research, which involved removing duplicates, identifying unique tools, standardising tool names and verifying vendor and product information (e.g. tool names, key features, and availability of free tiers or trials). The data cleaning and verification process resulted in a consolidated list of 47 unique tools, which was then cross-referenced against SSG's national job-postings dataset spanning 2023–2025. Of these tools, 20 appeared in the job-postings dataset, while 27 were absent. The absence of certain tools may reflect several plausible factors such as:

- **Tools being described generically in job postings** (e.g., “HR systems” or “AI tools” rather than specific product names); and
- **Tools that are emerging or recently introduced**, and therefore not yet widely adopted or referenced in postings.

This verification and enrichment process ensured that information from different respondents could be aggregated into a coherent, reliable dataset suitable for mapping and subsequent analysis.



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- **FEATURE HARMONISATION AND FRAMEWORK MAPPING**

Because respondents often described tools in varying terms, a Large Language Model (LLM) using COSTAR-compliant prompts (refer to Annex C for the COSTAR-Compliant System Prompts) was applied to harmonise feature descriptions, ensuring clarity, comparability, and consistency across different respondent descriptions. Once standardised, the tools were mapped to IHRP BoC (refer to table 1 for an overview of the framework), which was selected for its strong relevance to the HR sector.

## IHRP BoC<sup>4</sup>

### Functional Competencies

**These underpin and span across the HR Functional Competencies. They serve as core enablers supporting HR functional activities.**



#### Plan

Relates to how the HR function designs and manages a HR strategy and workforce planning approach which enables value creation and the achievement of the organisation's purpose and business objectives.



#### Attract

Relates to sourcing, acquiring and onboarding of suitably qualified talent into the organisation to enable the achievement of the organisation's business objective.



#### Develop

Relates to the on-going investment by the organisation in developing the capability of its workforce required to deliver on its business objectives and future or growth plans. It encompasses learning and development, career development, performance management, talent management, and succession.



#### Engage

Relates to keeping the workforce of the organisation motivated to create value and deliver on business objectives. The functional activities span across core HR domains such as compensation and benefits management, people engagement, holistic wellbeing, diversity and inclusion management, as well as managing workforce and labour relations.



#### Separate

Relates to the ending of an employment relationship through voluntary exits, involuntary exits and retirement. Voluntary exits and retirement happen when an employee chooses to resign or elects to retire from work respectively, whereas involuntary exits refer to dismissal, redundancy and termination due to performance or business needs and conditions.

Table 1: IHRP BoC

## IHRP BoC (Cont.)

### Foundational Competencies

These are required for HR professionals to successfully deliver their functional roles, reflective of the HR lifecycle.



### Technology and Operational Excellence

Deliver effective HR services in a value-generating manner through a stakeholder-centric and technology-enabled service delivery operating model to enhance the end-user experience.



### Insights-Driven Practices

Analyse data to uncover insights, utilising insights to inform decision-making, shape strategies and address business challenges in a methodical and data-driven manner.



### Labour Policies and Legislation

Comply with employment laws, regulations and tripartite guidelines and advisories that impact the business and employees of the organisation.



### Relationships and Communication

Manage relationships and communicate with impact and empathy to build trust, navigate complex business scenarios and carry out the strategic role of HR effectively.



### Sustainability

Design and implement initiatives (e.g., fostering culture, identifying emerging talent needs, designing policies) that enable the organisation to promote financial, environmental and social sustainability.

Table 1: IHRP BoC



- **EXAMINATION OF TOOLS WITH SKILLS-FIRST DESIRED BEHAVIOURS**

In addition to IHRP BoC, the mapped tools were examined in relation to the Skills-First Desired Behaviours of Organisations (refer to Table 2), which were derived from the Skills-First working papers and roundtable discussions convened by the Centre for Skills-First Practices<sup>2</sup>. These behaviours articulate the organisational shifts required to embed skills-first practices, in areas such as recruitment, work redesign, skills recognition and skills development, and served as an interpretive lens for analysing how digital tools may enable these behaviours within HR functions.

<b>15 Desired Behaviours of Organisations to Embrace Skills-First Practices</b>	
<b>During recruitment</b>  <b>Prioritise attitude-skills-capability over qualification and other factors</b>	<ul style="list-style-type: none"> <li>Articulate job description using Singapore job-task-skill taxonomy</li> <li>Identify the in-demand and emerging skills required for the role</li> <li>Design ways for applicants to demonstrate their attitude, skills, and capability</li> </ul>
<b>During work design/redesign</b>  <b>In time of anticipated job requirement changes in tandem of business and operational requirement</b>	<ul style="list-style-type: none"> <li>Keep track of employees' skills-capability</li> <li>Prepare employees for job content changes and/or new job roles by creating personalised learning plans</li> <li>Support employees transition through skills development and coaching</li> </ul>
<b>During skills development and skills use</b>  <b>In time of transition</b>	<ul style="list-style-type: none"> <li>Deliberate in support employee's role transition (e.g. changing role due to business and personal requirement)</li> <li>Pre-emptive upskilling and reskilling</li> <li>Provide work projects to support new skills use</li> <li>Offer person-centric skills development opportunity</li> <li>Offer job role-skills development pathway options</li> <li>Monitor skills inventory within organisation</li> </ul>
<b>Skills recognition</b>	<ul style="list-style-type: none"> <li>Mobilise employees for work/projects based on skills</li> <li>Recognise skills proficiency</li> <li>Motivate employees to upskill through rewards and compensation</li> </ul>

Table 2: 15 Desired Behaviours of Organisations to Embrace Skills-First Practices

Each tool may be linked to multiple competencies and Skills-First desired behaviours, depending on its range of features and applications. This one-to-many mapping provided a holistic view of how digital tools enable various HR functions such as planning, attraction, development, and engagement. While the IHRP BoC was applied to structure the technical and functional tool mapping, the Skills-First Desired Behaviours offered an interpretative lens for understanding how these tools may support organisational shifts towards skills-first practices. The emphasis remained on the IHRP BoC which provided a macro-level, integrative view of the tools and their relevance on HR work functions.

To ensure analytical rigour, any automated mapping generated through the LLM was manually reviewed and refined by the project team (see Figure 1).

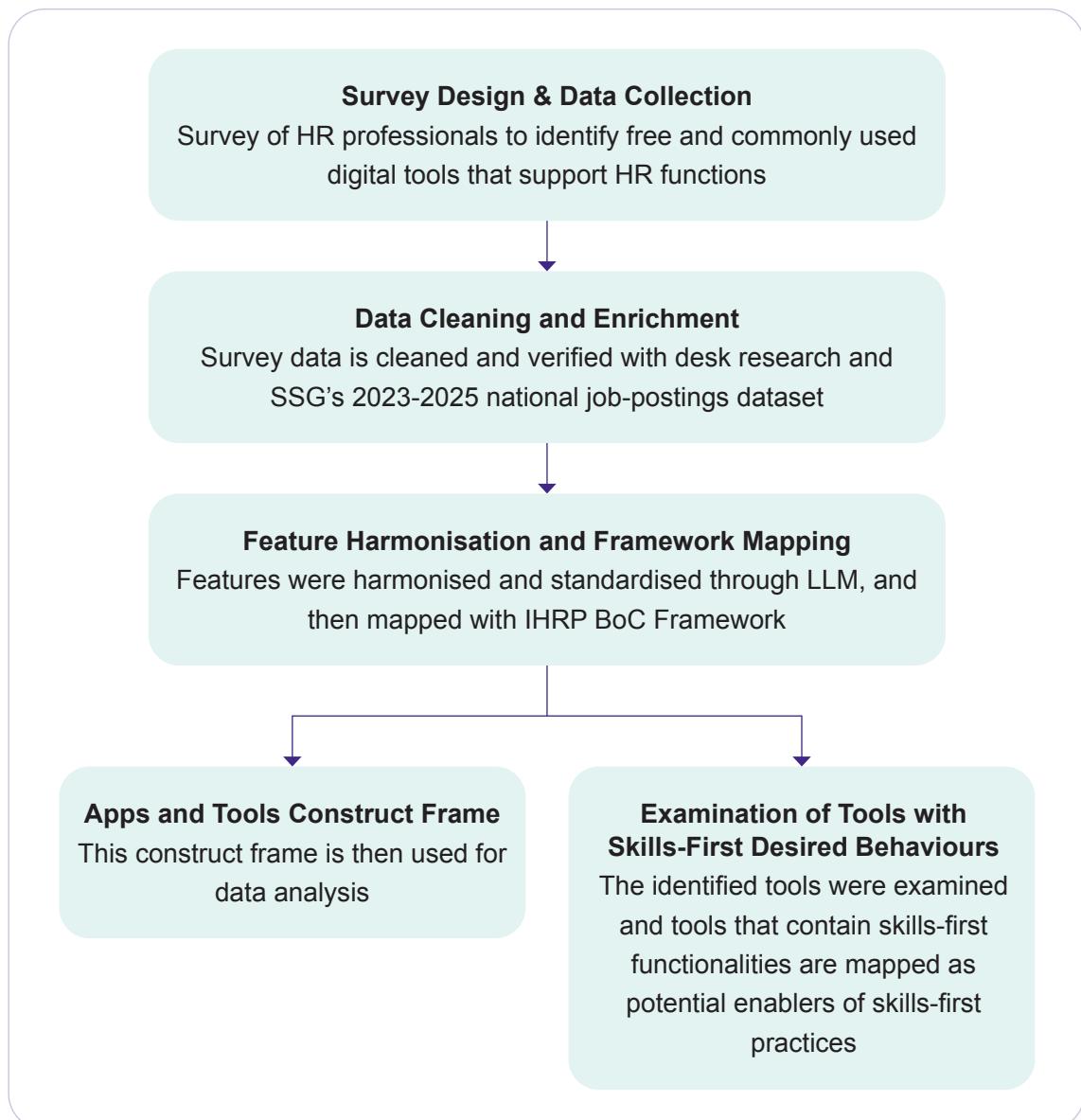


Figure 1: Overview of Methodology

## • **METHODOLOGY LIMITATIONS**

While this study aims to shed light on important patterns of apps and tools adoption among HR professionals, three key limitations of the methodology must be acknowledged.



### **Standardisation and Classification Constraints**

Harmonising survey responses with vendor data required the use of LLM techniques and subsequent manual review. While this improved comparability, the process inevitably involved judgment calls of the project team in aligning tools with the IHRP BoC and Skills-First Desired Behaviours of Organisations. As with any standardisation and classification exercise, some nuance is lost and results may be sensitive to methodological choices such as prompt design or reconciliation rules.



### **Data Source Limitations**

The analysis draws upon a relatively small sample of 32 survey responses and supplementary desk research. This restricts representativeness across industries and HR functions. Moreover, the dataset reflects a single temporal snapshot whereas apps and tools evolve rapidly in terms of features, pricing models, and adoption patterns. In addition, some open-ended survey questions received minimal responses, which limited the depth of insights directly extractable from the data, requiring some inference and interpretation by the project team. While these inferences were triangulated with desk research where possible, they nonetheless may introduce a degree of subjectivity. These limitations highlight the need to increase survey responses and expand data inputs in future iterations.



### **Assumption of Tool Utilisation**

The analysis assumes that HR professionals who indicated particular tools in their survey responses actively utilise the features of those tools. However, this may not always be the case. Some respondents may have listed tools available within their organisations without fully engaging with their functionalities. This introduces potential overestimation of actual utilisation intensity and functional proficiency.

# THE CONSTRUCT FRAME

The background features a subtle, abstract design. At the top, there is a horizontal gradient from purple to blue. Below this, a series of thin, wavy lines create a sense of depth and motion. At the bottom, a larger, more complex grid pattern of lines forms a textured, undulating surface.

3



## CHAPTER 3

# THE CONSTRUCT FRAME



This chapter documents the structure of the construct frame, which serves as the analytical foundation of this study. It provides a structured and data-driven overview of the HR toolscape, based on the tools reported by HR professionals through the survey, complemented by desk research validation.

The construct frame is important because it translates complex information about apps and tools adopted by HR professionals into a usable, evidence-based framework that supports decision-making and capability development among HR professionals. In an environment where digital transformation continually reshapes HR functions, the construct frame enables HR professionals to navigate the expanding toolscape with greater clarity. By mapping each tool's features and functionalities against the IHRP BoC, it allows HR professionals to assess not only what apps and tools are available, but how these align with their own competency gaps and organisational priorities. This construct frame facilitates more informed adoption decisions, supports targeted upskilling strategies, and helps ensure that apps and tools investments reinforce the broader skills agenda within the community.

The construct frame consolidates information on 47 unique tools, capturing how their features and functional relevance align with the IHRP BoC. Approximately 74% of the tools identified in the study offered a free trial or tier. The mention of any tools in this report reflects those cited by HR professionals during the survey and is intended solely for the purpose of understanding the current HR toolscape; it does not imply endorsement or promotion of any particular tool.

Each entry in the construct frame corresponds to one unique tool and includes the following core fields (refer to Table 3):

Core Fields and Description of Construct Frame	
<b>Vendor name</b>	The name of the vendor providing the HR technology or tool (e.g., OpenAI for ChatGPT)
<b>Tool name</b>	The standardised/cleaned name of the HR technology tool being used
<b>Features</b>	The functionalities, modules, or capabilities offered by the tool obtained from their website
<b>Free tier/ Trial available</b>	Indicates whether the tool offers a free version or trial access
<b>% HR reported the tool</b>	The percentage of HR practitioners reported using the tool in our survey
<b>Avg. satisfaction reported (scale of 1-10)</b>	The average reported level of satisfaction of HR professionals with the tool
<b>Industries of HR reported</b>	The consolidated list of industry category to which the HR professionals belong
<b>IHRP Foundational Competency</b>	The competency(s) mapped to the tool. These are required for HR professionals to successfully deliver their functional roles, reflective of the HR lifecycle
<b>IHRP Functional Competency</b>	The competency(s) mapped to the tool. These competencies underpin and span across the HR Functional Competencies. They serve as core enablers supporting HR functional activities

Table 3: Core Fields and Description of Construct Frame



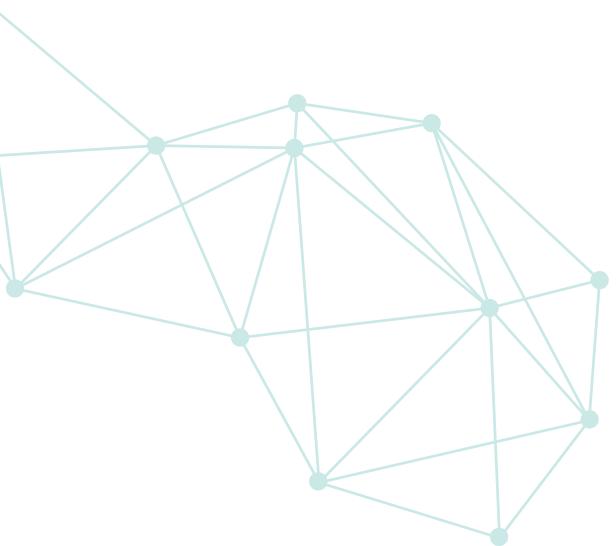
The construct frame is presented as a dashboard (refer to Figure 2 for a static view of the dashboard) that enables filtering, sorting, and cross-referencing by any of the key dimensions listed above. This facilitates targeted exploration of the HR toolscape, for example, by HR function, competency domain, or vendor type. The construct frame can be accessed via [this link](#) in the format of an excel file or an interactive dashboard.

Tool Name	Vendor Name	Whether Free Tier/Trial Available <sup>1</sup>	IHRP Functional Competency <sup>3</sup>	IHRP Foundational Competency <sup>4</sup>	Avg. Satisfaction Reported <sup>2</sup> (scale of 1-10)	
Adaptive Pay	Adaptive Pay	No	9.00	3.13	Plan; Attract; Develop; Engage; Separate	Technology and Operational Excellence
AdobeSign	Adobe	Yes	10.00	3.13	Plan	Technology and Operational Excellence
Asana	Asana	Yes	6.00	3.13	Plan	Technology and Operational Excellence
Canva	Canva	Yes	9.00	3.13	Attract; Engage	Technology and Operational Excellence; Relationships and Communication
ChatGPT	OpenAI	Yes	8.43	21.88	Plan; Attract; Develop; Engage; Separate	Technology and Operational Excellence
Copilot Standard	Microsoft	Yes	6.50	6.25	Plan; Attract; Develop; Engage; Separate	Technology and Operational Excellence
Culture Amp	Culture Amp	No	9.00	3.13	Plan; Develop; Engage	Insights-Driven Practices; Technology and Operational Excellence
CuteOffice	Cute InfoComm Solutions	No	2.00	3.13	Plan; Attract; Develop; Engage; Separate	Technology and Operational Excellence
FormSG	Open Government Products	Yes	8.00	3.13	Plan	Technology and Operational Excellence
Google Docs	Google	Yes	9.00	3.13	Plan; Engage	Technology and Operational Excellence
Google Gemini	Google	Yes	7.00	3.13	Plan; Attract; Develop; Engage; Separate	Technology and Operational Excellence

**Footnotes:**  
<sup>1</sup>Free Tier/Trial Available - Indicates whether the tool offers a free version or trial access.  
<sup>2</sup>Avg. Satisfaction Reported - The average reported level of satisfaction of HR professionals with the tool on a scale of 1-10.  
<sup>3</sup>% HR Reported the tool - The percentage of HR practitioners reported using the tool in our survey.  
<sup>4</sup>IHRP Foundational Competency - The competency(s) mapped to the tool. These are required for HR professionals to successfully deliver their functional roles, reflective of the HR lifecycle.  
<sup>5</sup>IHRP Functional Competency - The competency(s) mapped to the tool. These competencies underpin and span across the HR Functional Competencies. They serve as core enablers supporting HR functional activities.  
Please note that this construct frame is built with 47 tools identified by the final 32 HR practitioners that responded to our survey. Additionally, GPT-5 and ChatGPT were used for writing, coding, and formatting assistance in this project. Refer to our report for more information.

[View on Tableau Public](#)

Figure 2: Apps and Tools Dashboard



# ADOPTION TRENDS OF APPS AND TOOLS BY HR PROFESSIONALS

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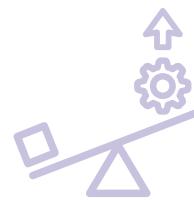
## CHAPTER 4

# ADOPTION TRENDS OF APPS AND TOOLS BY HR PROFESSIONALS

This chapter presents the key insights on the adoption trends of apps and tools by HR professionals:



**Uneven adoption of apps and tools across functional and foundational competencies**



**Existing apps and tools can be leveraged to enable skills-first practices**

## • **UNEVEN ADOPTION OF APPS AND TOOLS ACROSS FUNCTIONAL AND FOUNDATIONAL COMPETENCIES**

The analysis reveals a distinct divide in tool adoption by HR professionals across both the foundational and functional competencies. Chart 1 presents the distribution of tools according to their alignment with the Functional Competencies and Foundational Competencies categories.

For analytical clarity, broad-based systems such as Human Resource Management Systems (HRMS) and chatbots powered by LLMs, which often support multiple stages of the HR lifecycle, were proportionally allocated across the Functional Competencies. This approach ensures that multifunctional tools are represented in the analysis according to their breadth of applicability, while preserving comparability across more specialised tools.

However, HRMS and LLM-enabled chatbots were also classified under Technology and Operational Excellence within the Foundational Competencies, as this represents the sole category in which they offer direct and substantive support.

Under the Functional Competencies, HR professionals reported the lowest level of tool adoption in the “Separate” function, with only 12 applications and tools adopted, compared to “Plan,” which recorded the highest number at 36.

Within the Foundational Competencies, adoption was most prominent in “Technology and Operational Excellence,” while “Sustainability” recorded no tools.

This uneven distribution highlights a persistent gap in the HR digital ecosystem: organisations have invested more heavily in tools that optimise operations, planning and engagement but have yet to extend comparable digital adoption in sustainability-oriented practices or end-of-employment processes.

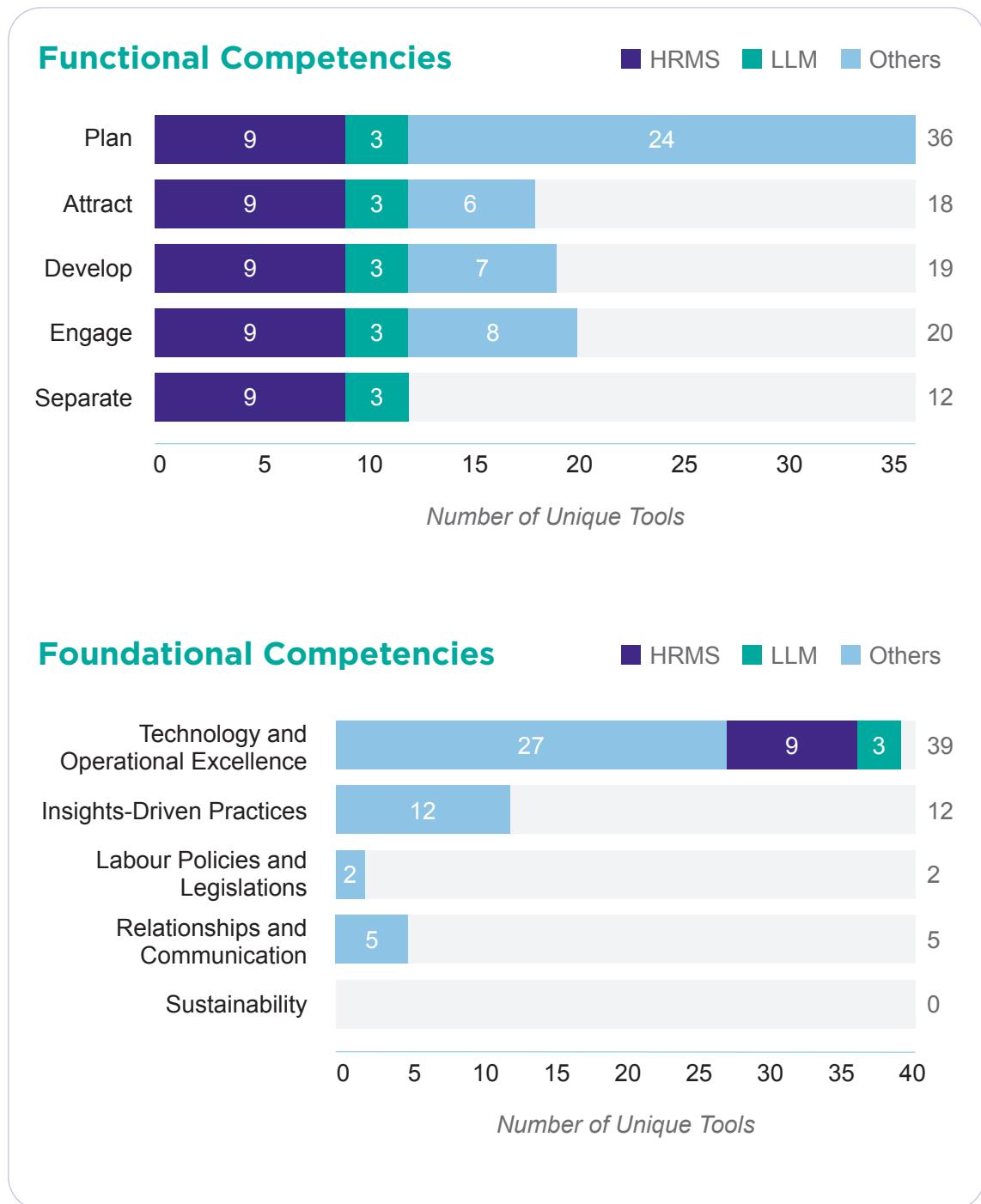
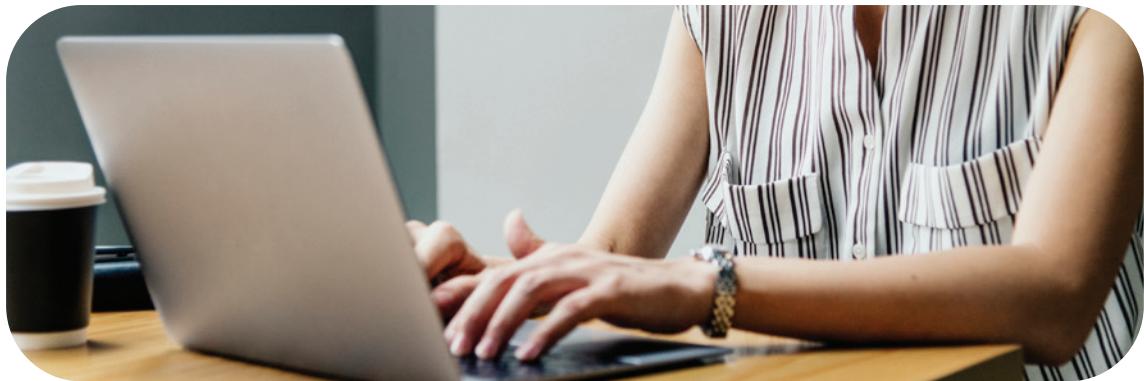


Chart 1: Number of Apps and Tools Adopted by HR Professionals in Functional and Foundational Competencies

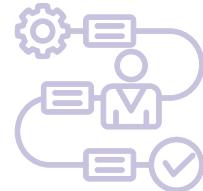


- **EXISTING APPS AND TOOLS CAN BE LEVERAGED TO ENABLE SKILLS-FIRST PRACTICES**

A skills-first approach is essential as it enables organisations to respond more effectively to evolving workforce demands by prioritising skills over credentials and creating more agile, inclusive, and future-ready talent practices. By focusing on what individuals can demonstrably do, organisations are better positioned to deploy talent strategically and support continuous workforce development. The 15 Desired Behaviours of Organisations articulate the organisational practices required to embed skills-first approaches across four domains:



**Recruitment**



**Work design/redesign**



**Skills development and skills use**



**Skills recognition**

Of the 47 tools identified, 16 tools were mapped as potential enablers of skills-first practices (see Chart 2). The analysis reveals that many of the tools currently adopted by HR professionals already contain functionalities that can be leveraged to advance skills-first practices. Most tools support specific behaviours related to recruitment or skills development and use, while comparatively fewer demonstrate integration across the multiple domains.

For example, the Venn diagram shows that only Workday and SAP SuccessFactors HCM spans all four domains, reflecting comprehensive functionalities that may support recruitment, work design/redesign, skills development, and skills recognition through their integrated talent marketplaces and skills ontologies. Tools such as Workable, JobStreet, and LinkedIn Recruiter Lite primarily address the recruitment stage by facilitating the sourcing and matching of candidates based on skills. LinkedIn Learning, Hupo AI, and Udemy anchor skills development by facilitating continuous learning and reskilling, while Visier and JobKred Skills Profiler strengthen skills recognition through analytics and visibility of workforce capabilities.

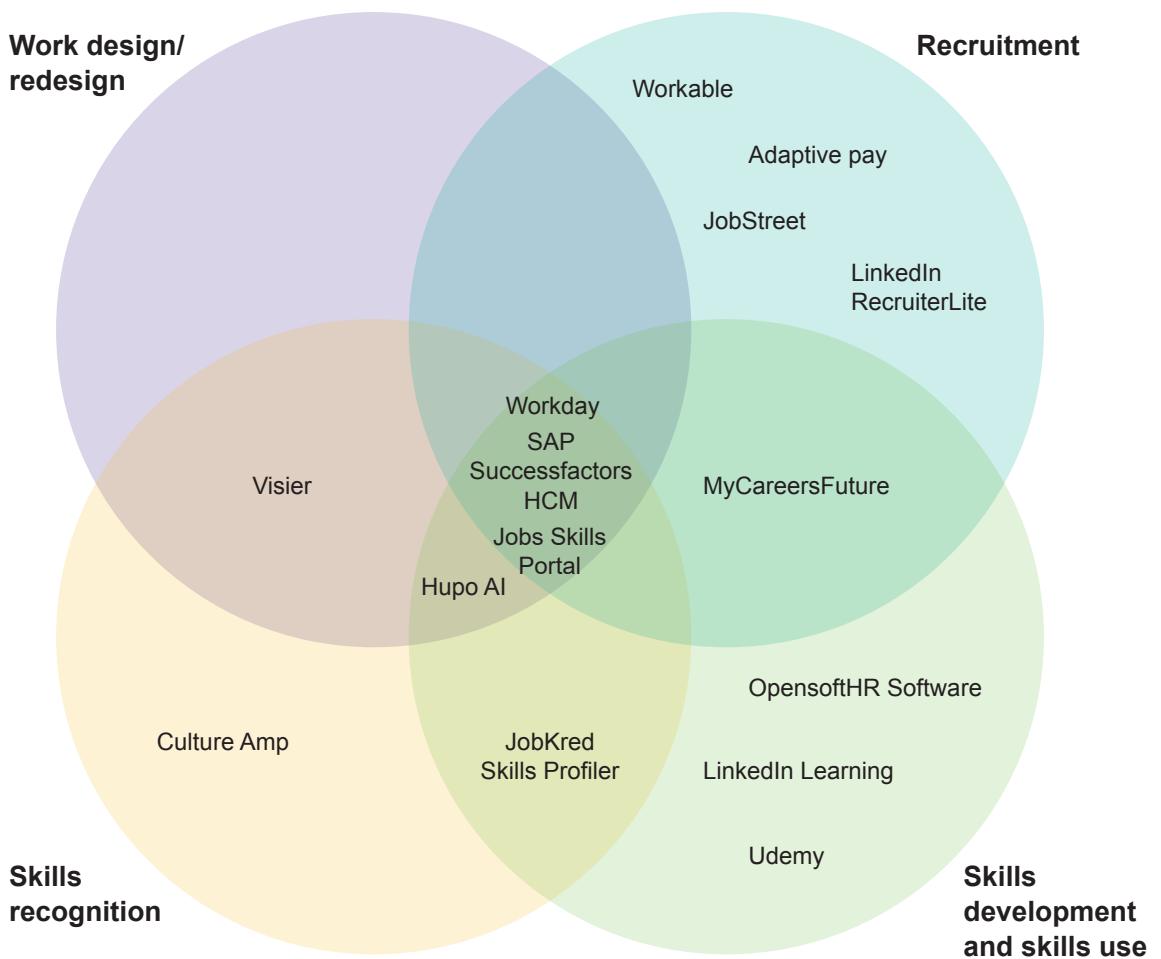
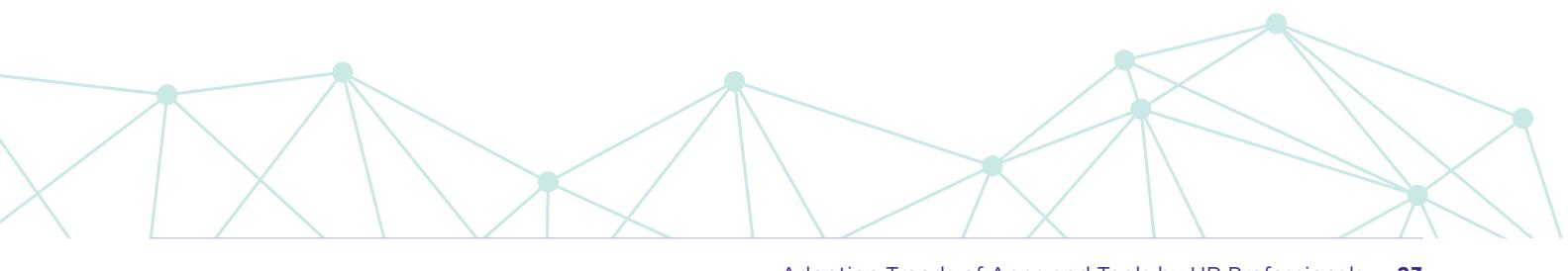


Chart 2: Pictorial Representation of 16 out of 47 tools Identified for Skills-First Toolscape



# CONCLUSION

5

# CONCLUSION



The findings of this study indicate that the adoption of digital apps and tools within HR functions remains uneven, reflecting differentiated organisational priorities. Drawing on the findings of this study, several critical questions arise for business leaders and HR professionals seeking to strengthen tools adoption and skills-first transformation within their organisations. These questions are intended to prompt reflection on strategic priorities, capability gaps, and organisational readiness.

## Strategic Alignment and Organisational Readiness

- How can organisations move from fragmented adoption of apps and tools towards a coherent, organisation-wide digital strategy?
- To what extent are existing apps and tools being strategically aligned with organisational objectives and workforce transformation strategies?

## Capability Building

- Do HR professionals currently possess the digital and analytical capabilities needed to fully utilise the functionalities of the tools adopted?
- How can organisations better leverage existing tools to make skills more visible, portable, and actionable across HR processes such as recruitment, development, and performance management?

## Strategic Partnerships

- What partnerships are needed for organisations to effectively leverage apps and tools to drive organisational and workforce transformation
- How can SMEs be better supported to access, adopt, and integrate apps and tools in ways that are cost-effective and scalable?

## • **TAKING THE NECESSARY STEPS**

Moving from reflection to implementation requires careful consideration of which digital tools to adopt, how they align with organisational priorities, and the capabilities needed to use them effectively.

Given the uneven and moderate adoption of HR applications and tools, organisations have an opportunity to move beyond fragmented implementation towards a more deliberate strategy that anticipates how HR work will evolve. In particular, organisations can identify HR tasks where automation is viable and redesign workflows so that HR capacity is shifted towards higher-value work such as workforce planning, organisational change facilitation, and employee experience.

This shift also implies a capability need: HR professionals should build fluency in work-process redesign and skills-first tools (e.g., SSG Jobs-Skills Portal and JobKred Skills Profiler) to support workforce transition planning and internal mobility.

Finally, as engagement practices mature, organisations can expand adoption into employer wellbeing and sentiment tools to create stronger feedback loops that inform HR interventions and sustain workforce outcomes.



The following six steps set out practical ways in which HR professionals and organisations can make more deliberate, informed use of apps and tools to ensure that digital transformation is both effective and sustainable.

## STEP 1 | Assess Digital Readiness and Barriers

**Start by understanding where your organisation stands today.**

- Review your current HR systems, data literacy levels, and workforce skills to understand where digital tools can meaningfully enhance HR decision-making and organisational effectiveness.
- Gather feedback from employees to identify the factors that constrain their ability to fully utilise existing tools and to surface unmet needs that tools could potentially address.
- Use these insights to prioritise areas where apps and tools can provide the greatest value.



**Create a short digital readiness survey for HR teams and staff**

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## STEP 2 | Design a Skills-Aligned Digital Roadmap

**Use your assessment findings to design a clear and practical plan.**

- Align digital strategy with business goals and workforce capabilities.
- Choose tools that integrate well with existing systems and align with organisational priorities and workforce strategies.
- Focus on interoperability, usability, and long-term value.



**Map each digital tool to specific workforce skills or business outcomes**

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## STEP 3 | Make Apps and Tools Accessible

**Encourage wider adoption by lowering barriers to entry.**

- Explore tools that offer free trials or low-cost tiers to test functionality.
- Advocate for open-access or trial-based procurement to give teams more flexibility in experimenting with tools, comparing alternatives, and determining which solutions best meet organisational needs.



**Run a “tool discovery week” where teams can experiment with free or demo versions of HR tools**

## STEP 4 | Pilot, Evaluate, and Iterate

Adopt an experimental mindset: test, learn, and adjust.

- Start with small pilot projects in specific HR areas (e.g., recruitment analytics, learning systems).
- Evaluate both technical and behavioural outcomes:
  - Are teams using data more effectively?
  - Are tools improving engagement or workforce planning?
- Use lessons learned to refine and scale up successful solutions.



**Set up a short “lessons learned” session after each pilot phase**

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## STEP 5 | Build Feedback Loop and Alignment

- Ensure that the selection and use of apps and tools remain responsive to organisational needs and guided by ongoing feedback.
- Gather regular feedback from HR teams and tool users to identify what is working well and where adjustments are needed.
- Review outcomes periodically to refine priorities and ensure that tools are being applied in ways that add value.



**Schedule regular check-ins to assess progress and update the roadmap**

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## STEP 6 | Develop a Skills-Ready Workforce

Digital adoption must go hand in hand with skills development.

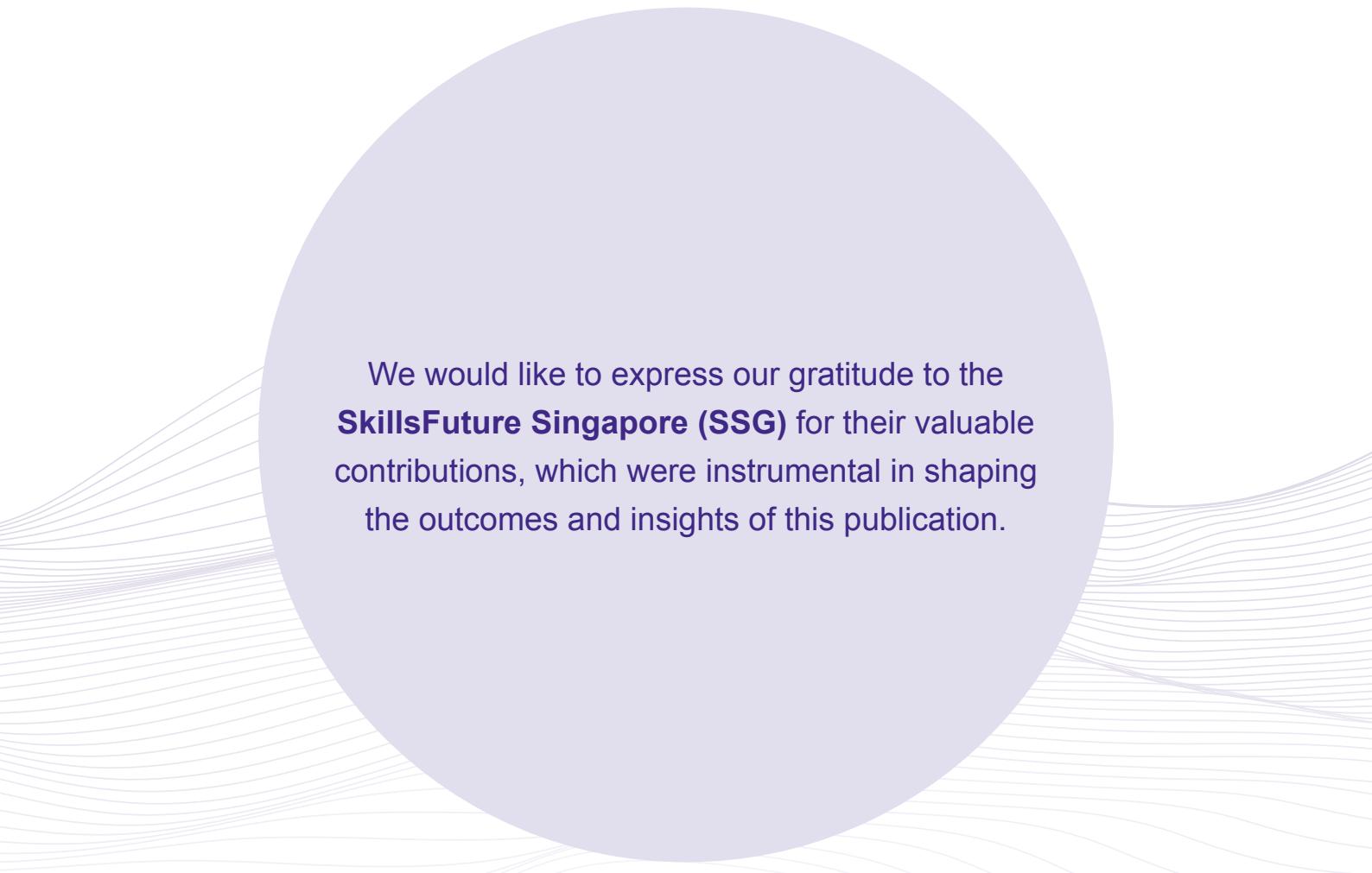
- Train HR teams to interpret data, use digital insights, and redesign work around skills, not roles.
- Embed learning opportunities into daily tool use — so every digital task builds capability.



**Pair new tool rollouts with short “how-to” learning modules or peer-sharing sessions**



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# PROJECT TEAM



## KYLA LEE

Analyst, Centre for Skills-First Practices, Institute for Adult Learning

Kyla is an Analyst at the Centre for Skills-First Practices, Institute for Adult Learning (IAL). She leads and supports research in HR technology, job-skills intelligence, and programme design, with a strong focus on methodological rigour and cross-sector collaboration. Her work contributes to advancing Singapore's skills-first ecosystem by translating data and insights into strategies that strengthen workforce capability and agility.



## SILIN YANG

Deputy Director, Centre for Skills-First Practices, Institute for Adult Learning

Silin is Deputy Director of the Centre for Skills-First Practices at the Institute for Adult Learning, where she oversees the analytics function at the centre. With nearly 20 years' experience, she translates data, behavioural insights, and trend forecasting into strategic workforce solutions. Silin also leads transformation initiatives, working with stakeholders to strengthen organisational and workforce agility. She is both the founding editor and an editorial board member of the *Singapore Labour Journal*.



## STEVEN LEE

Associate Specialist, Centre for Skills-First Practices, Institute for Adult Learning

Steven Lee, Co-founder and CTO of JobKred, with a background in agent-based simulation and computational physics, spearheaded the development of an award-winning skills-matching AI that is transforming workforce development. He currently leads AI research strategy for a team of developers and data scientists and the advisory board of NTU's College of Science.

## ADVISORS



### GOG SOON JOO

Fellow, Centre for Skills-First Practices, Institute for Adult Learning



### EDWIN TAN

Director, Centre for Skills-First Practices, Institute for Adult Learning

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### LLM assistance statement

GPT-5 and ChatGPT were used for writing, coding, and formatting assistance in this project.

# APPENDICES

## ANNEX A | Survey on Apps and Tools for HR Professionals

We invite you to participate in a survey conducted jointly by the Institute for Adult Learning (IAL) and the Institute for Human Resource Professionals (IHRP). This survey aims to gain insight into the digital tools that support HR functions within your organisation.

Your detailed responses will help us develop a comprehensive understanding of the tools you use, their effectiveness, and any gaps or unmet needs you may experience. Please be as specific as possible in your feedback.

Rest assured that all responses will be kept confidential, and only aggregated findings will be reported. The consolidated results will be shared with you through IHRP after the study.

For any queries regarding this survey, please contact [csp@ial.edu.sg](mailto:csp@ial.edu.sg).

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### General Information

1. (Drop down list) How many years of experience do you have in the HR profession?

\_\_\_\_\_ years

2. (Multi-select) Which HR function do you specialise in? Please select all that apply:

- Full Spectrum
- Operations and Technology
- Performance and Rewards
- HR Business Partner
- Talent Attraction
- Employee Experience and Relations
- Talent Management
- Learning and Organisation Development
- Others (please specify): \_\_\_\_\_

3. (Open-ended) What is the name of your organisation? *(optional)*

4. (Multiple choice) What is the size of your organisation (by number of full-time employees)?

- 1-10 employees
- 11-50 employees
- 51-200 employees
- 201-500 employees
- 501-1000 employees
- 1001 or more employees

5. (Multiple choice) What industry is your organisation primarily operating in?

- Accommodation and food service activities
- Administrative and support service activities
- Agriculture and fishing
- Arts, entertainment and recreation
- Construction
- Education
- Electricity, gas, steam and air-conditioning supply
- Financial and insurance activities
- Human health and social services
- Information and communications
- Information technology
- Manufacturing
- Mining and quarrying
- Professional, scientific and technical activities
- Public administration and defence
- Real estate activities
- Transportation and storage
- Water supply; sewerage, waste management and remediation activities
- Wholesale and retail trade
- Others (please specify): \_\_\_\_\_

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### Current Usage & User Experience

6. (Tabular Format)

- a. (List format) Could you list out **at least 3 often used digital** applications and tools do you currently use in your HR activities?
- b. (Open Ended) What do you find to be the most useful features of each tool you've shared? For example: auto-summarisation, real-time collaboration, or user-friendly interface.
- c. (Multiple choice) Is this digital tool free or paid?
  - Free
  - Monthly/Annual subscription by organisation
  - One-time payment
  - Usage-based
  - Others: \_\_\_\_\_
- d. (Likert scale) Please rate your level of satisfaction with each of the free tools stated in question 6a, using a scale from 1 to 10 (1 = Very Unsatisfied, 10 = Very Satisfied).
- e. (Open Ended) Where can each of the application/tool be accessed? (*Please provide the website link or platform location*)

7. (Multi-select) How do you stay updated about new free or commonly used applications and tools in your field? Please select all that apply:

- Industry newsletters
- Professional HR forums
- Webinars and online training sessions
- Networking events and conferences
- Recommendations from colleagues
- Social media (LinkedIn, Twitter, etc.)
- HR blogs and websites
- I do not actively stay updated on such tools (if participants chose this option, they will not be able to choose the rest)
- Others (please specify): \_\_\_\_\_

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3. (Open-ended) The consolidated survey results will be shared with participants once the analysis is complete. If you would like to receive a copy of the results, please provide your email address below:

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Thank you for your participation!

## ANNEX B | HR Survey Demographics and Dissemination Methods

### Organisational Size (out of 32 responses):

- Small (<= 50): 8 (25%)
- Medium (<= 200): 8 (25%)
- MNC (>200): 16 (50%)

### Most surveyed HR professional also served multiple portfolios:

- Operations and Technology (21)
- Performance and Rewards (25)
- HR Business Partner (2)
- Talent Attraction (26)
- Employee Experience and Relations (18)
- Talent Management (1)
- Learning and Organisation Development (19)

### Survey Dissemination Methods - Supported By IHRP:

- EDM (Electronic Direct Mail) to IHRP Community
  - IHRP prepared and sent out an EDM (email blast) to their community of HR professionals. The EDM included a visually appealing banner, subject line, and a direct survey link. The EDM was crafted collaboratively, with attention to branding and clickthrough optimisation.
- Social Media (eg. Instagram) Posts
  - The survey was promoted on IHRP's social media channels. There were coordinated efforts to post about the survey, create urgency with a closing date, and encourage participation through these platforms.
- IHRP Community App "IHRP Connect"
  - IHRP leveraged their community app, "Connect," which is targeted at certified HR professionals, to do a callout and further promote the survey.

## ANNEX C | COSTAR-Compliant System Prompts

### Feature Harmonisation and Standardisation

#### Context

You are a feature description rewriter. Your job is to rewrite product feature descriptions into clear, concise, and user-focused paragraphs suitable for end users. Follow all instructions below exactly. Do not skip validation.

#### Objective

For the tool features provided, rewrite them into one description as a single paragraph made up of multiple full sentences. Emphasize what the feature does and its benefit to the user. Avoid implementation details.

#### Style Guide

- Each paragraph must contain at least two sentences.
- Each sentence must be 15–20 words max.
- Use a semicolon (;) between sentences except the last one (no ending punctuation).
- Start each sentence with a capital letter.
- Use active voice, present tense, and clear action verbs.
- Avoid technical jargon. Write in plain, user-friendly language.
- Do not include phrases like “This feature allows users to...”
- Do not use vague phrases like “It is used for...”
- Do not use passive phrasing like “User can...”
- Do not submit incomplete phrases or non-sentences like “Filter functionality”

#### VALIDATION CHECK (Before Finalizing): After rewriting each feature, ensure the output:

- Follows all style guide rules
- Contains at least two complete sentences, that starts with a different action verb
- Describes both what the feature does and its benefit to the user
- Uses action-oriented, user-friendly language
- If any of the above is not met, self-correct before finalizing

#### Examples to Follow

Sorts job matches based on skills relevance; Helps users prioritize opportunities that align with their strengths

Displays badges earned from completed learning pathways; Encourages users to track and celebrate skill development progress

#### Output Format

Only return the rewritten paragraph. Do not add explanations, lists, or headers. Use semicolons correctly



## **Institute for Adult Learning Singapore**

11 Eunos Road 8  
#07-04 Lifelong Learning Institute  
Singapore 408601

 (65) 6579 0300

 CSFP@ial.edu.sg

 [www.ial.edu.sg](http://www.ial.edu.sg)