



SKILLS-FIRST OBSERVATORY

PROPOSED FRAMEWORK FOR MONITORING SKILLS-FIRST
PRACTICES AND OUTCOMES IN SINGAPORE

Sets out a monitoring framework to track Singapore's progress towards a Skills-First future, monitoring how Skills-First practices and outcomes evolve, and identifying areas for further action to strengthen adoption across the ecosystem.

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Publisher's note

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OVERVIEW

This report proposes a monitoring framework, operationalised through a Skills-First Observatory, to **track Singapore's progress towards a Skills-First workforce ecosystem**. As the measurement component of the *Skills-First Framework for Action*, it will provide a systematic and evidence-based view of how Skills-First practices and outcomes evolve over time.

The Observatory will establish a consistent set of macro-level indicators to provide a baseline and enable regular monitoring of progress. **This will provide evidence to inform policy and programme design, identify areas for further action, and support the continued development of Skills-First practices across the ecosystem.**



RATIONALE

Singapore has introduced a range of initiatives to advance Skills-First practices, including the Skills Framework, Jobs Transformation Maps, Careers & Skills Passport, and Enterprise Workforce Transformation Package. These initiatives support different aspects of Singapore's transition towards a Skills-First economy by enabling individuals and employers to make workforce, learning and talent decisions based on skills.

As these initiatives become more established, there is an increasing need for a national evidence base to assess whether they are collectively contributing to sustained changes in workforce and employer practices and ultimately improving workforce and enterprise outcomes. Existing workforce surveys and programme evaluations provide valuable evidence on specific workforce outcomes and the effectiveness of individual interventions. However, because these data sources are designed for different policy purposes, they do not provide a coordinated, longitudinal view of how Skills-First practices are being adopted, embedded and translated into workforce and enterprise outcomes across the ecosystem. Consequently, there is currently **no national mechanism to systematically monitor Singapore's overall progress towards a Skills-First economy**. Such evidence is essential for identifying implementation gaps, evaluating the effectiveness of national efforts, and informing continuous policy and programme development.

The Observatory addresses this need by providing a Singapore-specific capability for continuous system-level monitoring. It **builds on the OECD and SUSS-IAL Skills-First Readiness and Adoption Index** (OECD & IAL, 2025), launched in 2025 as the first international framework for benchmarking countries' progress towards a Skills-First future. While the Index provides a valuable basis for comparing countries' readiness and adoption of Skills-First practices, the Observatory extends this work by providing a more detailed, context-specific and longitudinal measurement for Singapore. This **enables policymakers and ecosystem partners to track progress over time, identify implementation gaps, and generate evidence to inform policy development, programme implementation and continuous improvement**.



CHAPTER 3

OBJECTIVES

The Observatory seeks to provide a robust evidence base for monitoring Singapore's progress towards a Skills-First workforce ecosystem (Gog et al., 2025; Tay et al., 2025; Ong et al., 2025; Ho et al., 2026; Lim et al., 2026). Specifically, it aims to:



Establish a **macro-level baseline and monitor changes over time** in the adoption and routinisation of Skills-First practices across individuals and employers.



Identify strengths, implementation gaps and emerging trends in Skills-First implementation across individuals, employers and the wider workforce ecosystem.



Develop and test a theory of change linking Skills-First practices to individual and enterprise outcomes, including the identification of practices and pathways most strongly associated with positive outcomes and the interdependencies between them.



Identify and share lessons from emerging approaches to Skills-First implementation, including promising practices and insights from selected initiatives and pilots that can inform wider learning and future action.



Provide **actionable evidence** to inform the continuous refinement of policies, programme design, and ecosystem interventions to strengthen Skills-First implementation.



These objectives guide the Observatory in addressing key research questions across five levels: national, sectoral, enterprise, individual, and emerging initiatives and pilots. At each level, the Observatory's Research and Develop priorities identify questions to investigate and opportunities to strengthen skills-first practices.

National level

Research: Are skills becoming the basis of hiring, deployment and progression across the labour market? Is this shift sustained over time?

Develop: A national indicator set based on revealed behaviour, such as job postings, hires and internal moves. The set will have a 2027 baseline and an annual refresh as a minimum.

Sectoral level

Research: Do Skills-First practices routinise more easily in some sectors? What roles do firm size, sector structure, occupational licensing and regulation play?

Develop: Sector indicators of Skills-First hiring penetration, linked to the Skills Frameworks and Jobs Transformation Maps. Sector bodies can use these indicators to track their own progress.

Enterprise level

Research: What moves a firm from one-off Skills-First pilots to routine practice in hiring, work design, deployment and reward? Which practices are associated with returns in productivity, retention and internal mobility?

Develop: An enterprise routinisation scale, from first adoption to embedded practice. The scale will be validated against HR and administrative data.

Individual level

Research: How do individuals identify, develop, signal and use their skills across a working life? How does this relate to Career Health across life stages and workforce segments?

Develop: A Career Health measure that detects change within one to two years. A linked panel that tracks skills use at work in addition to training participation.

Emerging initiatives and pilots

Research: Which ground-up and community-based initiatives shift Skills-First practices? Through what mechanisms, and in which contexts? What signals that an initiative is ready for evaluation in Area 2 or scale-up in Area 3?

Develop: A light-touch reporting protocol that enables grassroots initiatives to report their outcomes using indicators consistent with those adopted across the Observatory

Across all levels

Research: How can federated data from public agencies, employers, platforms and surveys be combined without loss of privacy or trust?

Develop: A data linkage protocol for the federated Observatory. It will cover access, privacy, interoperability and common definitions. This will enable evidence from different studies and data sources to be integrated and analysed coherently, rather than remaining fragmented across separate research efforts.



CHAPTER 4

SKILLS-FIRST OBSERVATORY FRAMEWORK

The Observatory will bring together two complementary layers: a **Core Monitoring Layer** and an **Innovation Layer**. Together, these layers will provide a more comprehensive understanding of Skills-First implementation, while enabling the Observatory to track both established practices and emerging approaches. The Observatory will track four complementary components, as outlined below.

Core Monitoring Layer

1

Adoption and Routinisation of Skills-First Practices (Individuals) – the extent to which individuals adopt and consistently apply Skills-First practices in their career, learning and skills-related decisions.

2

Adoption and Routinisation of Skills-First Practices (Employers) – the extent to which employers adopt and embed Skills-First practices into regular workforce and talent decisions.

3

Workforce and Enterprise Outcomes – the outcomes associated with Skills-First practices for individuals and employers.

Innovation Layer

4

Emerging Initiatives and Pilots – selected ground-up, community-based and pilot initiatives that provide insights into emerging approaches to Skills-First implementation. This will include tracking their implementation, progress and effectiveness in advancing Skills-First practices.

SKILLS-FIRST OBSERVATORY FRAMEWORK

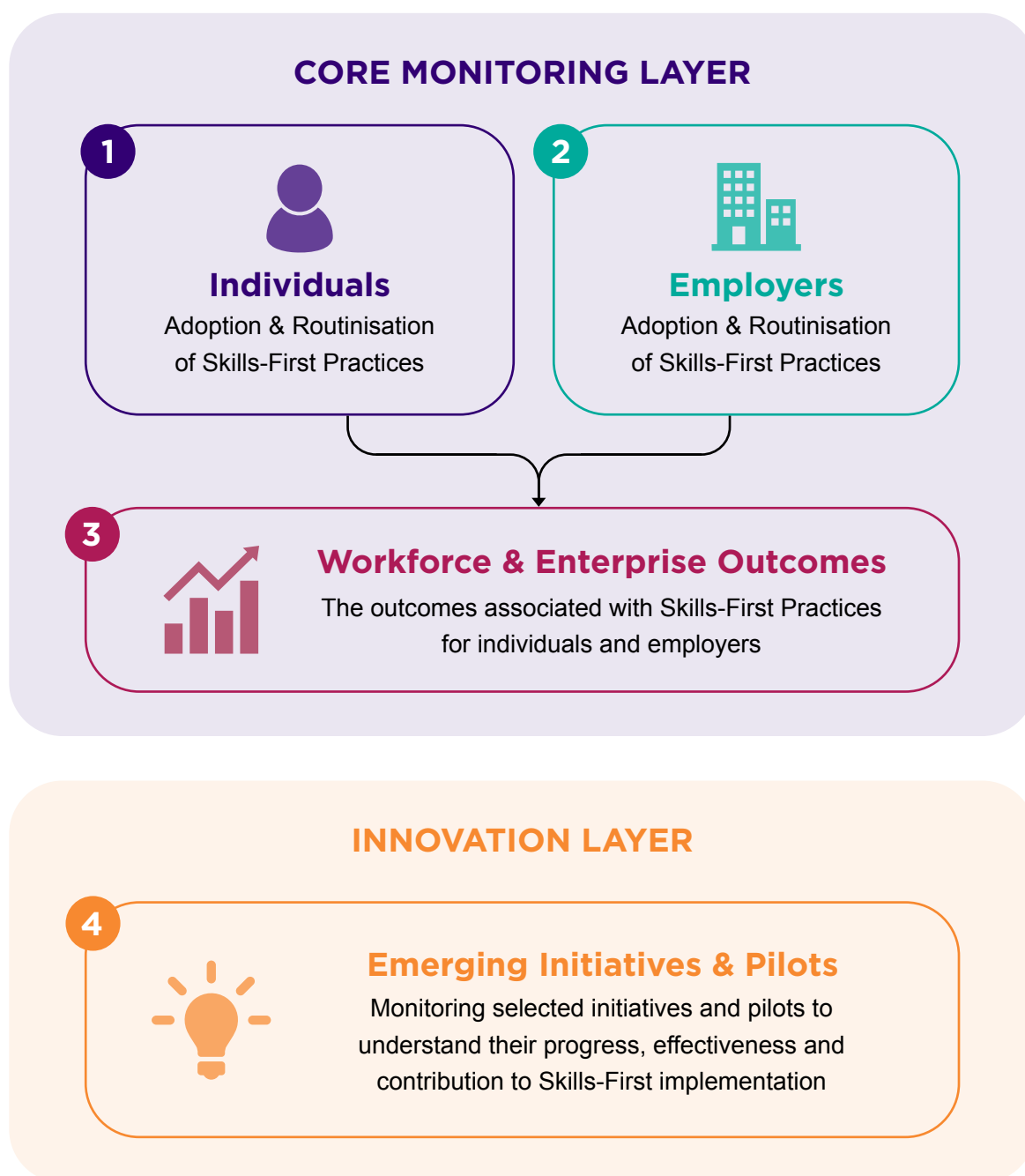


Figure 1: Skills-First Observatory Framework

Together, these components provide a basis for monitoring the adoption and routinisation of Skills-First practices, assessing their associated workforce and enterprise outcomes, and tracking and learning from emerging approaches across the ecosystem.

DESIGN PRINCIPLES

The Observatory is **guided by a set of design principles that underpin the selection of indicators and overall measurement approach**. These principles ensure that the Observatory provides a robust, policy-relevant and consistent assessment of Singapore's progress towards a Skills-First workforce ecosystem, while enabling evidence generated through the Observatory to inform ongoing learning, adaptation and improvement.

5.1 MEASURING PRACTICE RATHER THAN INTENT

The Observatory measures **whether Skills-First practices are reflected in actual workforce and talent decisions**. While attitudes, awareness and intentions are important enablers of Skills-First adoption, they do not necessarily translate into consistent practice. The Observatory therefore focuses its indicators on observable practices, such as how individuals and employers make decisions about hiring, learning, deployment, and career progression. This provides a more direct assessment of Skills-First implementation than self-reported aspirations or policy intentions alone.

5.2 MEASURING BOTH ADOPTION AND ROUTINISATION

The Observatory **distinguishes between adoption and routinisation of Skills-First practices** by assessing the extent to which practices have been implemented and embedded in regular decision-making. Rather than treating practices as simply present or absent, the Observatory measures different levels of implementation to reflect that Skills-First practices may be adopted to varying degrees across individuals and employers. This enables the Observatory to distinguish between initial implementation and sustained application, providing a more nuanced assessment of Skills-First adoption. This also provides greater sensitivity to incremental progress and allows changes in implementation to be tracked over time.

In addition, the Observatory will **explore the development of a Skills-First maturity pathway to assess how far organisations have progressed towards fully embedding Skills-First practices in their workforce and human capital practices.** The pathway could distinguish between different stages of implementation, from initial awareness and adoption to more integrated and sustained implementation across workforce and talent practices. This would provide a practical way of interpreting enterprise progress over time and identifying the support needed at different stages of the Skills-First journey. The specific maturity stages and measurement approach will be further developed as part of the Observatory's measurement design.

5.3 FOCUSING ON INDIVIDUALS, EMPLOYERS AND THE WIDER ECOSYSTEM

The Observatory **focuses primarily on individuals and employers** as these are the two actors whose decisions play a central role in determining whether Skills-First practices are adopted and translated into workforce and enterprise outcomes. Individuals make decisions about learning, career development and skills signalling, while employers determine how skills are recognised and rewarded through hiring, deployment, progression, job design and workforce development. At the system level, the Observatory will also seek to monitor participation and implementation across the wider workforce ecosystem, where relevant.

Other stakeholders—including training providers, career coaches, unions, industry associations and government agencies—play an important enabling role in advancing Skills-First practices. While these stakeholders are not the primary units of measurement, their influence is reflected in the environments, systems and support available to individuals and employers. By examining patterns of adoption, implementation gaps and areas of strength among individuals and employers, the Observatory can also generate insights into where the wider ecosystem may need to strengthen support, address gaps or build on areas of strength.

5.4 ENABLING CONTINUOUS LEARNING AND IMPROVEMENT OVER TIME

The Observatory is **designed as an ongoing learning mechanism rather than a one-off measurement exercise**. By tracking a consistent set of indicators over time, it will assess not only the level of Skills-First adoption at any given point, but also the direction and magnitude of change (or delta) between measurement cycles. This will provide evidence on whether Skills-First practices are shifting in the intended direction, where progress is accelerating or slowing, where implementation gaps persist, and where further attention or support may be needed.

Findings across these areas will inform the refinement of policies, programmes and ecosystem interventions, while subsequent measurement cycles will provide feedback on how practices and outcomes continue to evolve. This creates a continuous cycle of measurement, learning and improvement over time.



CHAPTER 6

MEASUREMENT APPROACH

Multi-Source Triangulation

No single data source is sufficient to capture the breadth of Skills-First practice across individuals and employers. The Observatory **will adopt a multi-source measurement approach** that combines dedicated survey data with administrative and labour market datasets, allowing self-reported behaviour to be cross-checked against independent records where available. This reduces reliance on any one data source and strengthens confidence in the resulting indicators.

Equity as a Standing Lens

Skills-First adoption is unlikely to proceed evenly across the workforce. Wherever sample sizes allow, **indicators will be disaggregated by relevant workforce characteristics**, such as age, wage band, employment type, sector and firm size, so that differences in adoption across groups can be observed rather than obscured within national averages. This is treated as a standing analytical lens applied to the core indicators, rather than a separate parallel set of measures.

6.1 EXISTING MEASUREMENT LANDSCAPE

Several national surveys already collect information relevant to Skills-First practices, including employer and workforce surveys conducted by organisations such as the Ministry of Manpower (MOM), Singapore Business Federation (SBF), and the Institute for Human Resource Professionals (IHRP). These surveys provide valuable insights into workforce transformation, learning and development, hiring practices, and business capabilities.



While these existing instruments provide valuable inputs, they are not sufficient for comprehensive national monitoring of Skills-First practices. A review of the current landscape highlights several recurring limitations:



The **measurement landscape is fragmented**, with relevant indicators spread across multiple surveys developed for different policy objectives. **Survey methodologies and fielding frequencies vary** across organisations, limiting comparability over time.



Skills-First practices are measured only as one component of broader workforce surveys, resulting in **limited coverage** of many priority Skills-First practices.



Most existing surveys capture whether practices exist but **not the extent to which they have become embedded in routine workforce and talent decisions**.



There is currently **no dedicated, nationally coordinated mechanism** for monitoring Skills-First practices over time.

These limitations highlight the need for a dedicated measurement framework capable of providing a comprehensive, consistent, and nationally representative assessment of Skills-First adoption in Singapore. To avoid duplicative fielding and respondent fatigue, the Observatory will establish data-sharing arrangements with ecosystem partners where relevant indicators already exist in their instruments, rather than re-collecting the same information independently. New data collection will be equally important for priority Skills-First practices and dimensions of adoption that are not adequately captured through existing sources, enabling the Observatory to address critical evidence gaps and provide a more complete picture of Skills-First adoption. The Observatory will therefore combine existing data accessed through agreed arrangements with targeted new data collection where needed.



6.2 DATA COLLECTION AND SOURCES

To address these gaps, the Observatory will adopt a multi-source measurement approach, drawing on relevant survey, administrative and labour market data, alongside new data collection where existing sources do not adequately capture priority Skills-First practices.

New Data Collection Approaches

Where new data collection is required, survey-based approaches may be used to collect information from individuals and employers. Three implementation approaches have been identified:

Approach	Description	Advantages	Considerations
Insert Questions into an existing survey	Incorporate a dedicated Skills-First module into an existing national survey.	Lower implementation cost, established sampling infrastructure, regular fieldwork.	Limited questionnaire space and reduced flexibility.
Administer a separate survey through existing survey platform	Administer the module using an existing survey platform or panel managed by a partner organisation.	Good population coverage and operational efficiency.	Survey cadence and questionnaire content may depend on the host organisation.
Conduct a dedicated Skills-First survey	Develop and administer a standalone survey specifically for the Skills-First Observatory.	Maximum flexibility, comprehensive coverage of Skills-First practices, and full control over measurement.	Higher implementation cost and greater operational requirements.

Table 1: New Data Collection Approaches

At this stage, a **hybrid approach** is recommended. Core indicators can be embedded within existing survey vehicles to provide regular national monitoring, while a more comprehensive standalone survey can be conducted periodically to measure the full range of Skills-First practices in greater depth.

The survey is intended to **provide nationally representative estimates of Skills-First practices** across both individuals and employers. The individual survey should cover Singapore residents who are employed, self-employed, platform workers, freelancers, or actively seeking employment. Full-time students and economically inactive individuals not intending to participate in the labour force will be excluded. The employer survey should cover organisations across different industries, ownership types and firm sizes, with respondents drawn from individuals responsible for workforce and talent decisions, such as business owners, senior management or human resource leaders.

Appropriate sampling and weighting methodologies should be applied to ensure representativeness of the target populations. For individuals, key stratification variables may include age, gender and ethnicity, with additional weighting by labour market characteristics where appropriate. For employers, representativeness should be considered across firm size, industry sector and ownership characteristics to ensure findings accurately reflect the national employer landscape.

Administrative and Labour Market Data Sources

Administrative and labour market datasets will form part of the Observatory's multi-source measurement approach, alongside survey and other newly collected data. **Different data sources will be used according to their relevance and suitability for measuring specific Skills-First practices and outcomes.**

Potential sources include:

- Administrative employment and wage records;
- Job posting and online labour market data;
- Careers & Skills Passport usage data;
- Consented professional profile data from digital platforms such as LinkedIn;
- The Singapore Opportunity Index; and
- Other relevant national administrative datasets.

These data sources will provide a more comprehensive evidence base for measuring Skills-First adoption and associated workforce and enterprise outcomes. Where appropriate, multiple sources may also be used to triangulate findings and strengthen the robustness of the Observatory's indicators.

6.3 MEASUREMENT DESIGN

The Observatory is **designed to monitor changes in Skills-First practices over time through the repeated collection of a consistent set of indicators**. Where feasible, a longitudinal design that follows the same individuals and employers across multiple waves is preferred, as it enables changes in practices to be observed directly. Where this is not feasible, repeated cross-sectional surveys using the same measurement framework and questionnaire can provide comparable evidence on national trends and changes over time.

The frequency of data collection will be determined based on implementation considerations and the expected pace of change in Skills-First practices. **As an initial approach, the Observatory is proposed to be administered on a biennial basis, with the measurement interval reviewed and refined over time as evidence accumulates**. As workforce and talent practices, such as hiring criteria or workforce planning cycles, typically take time to evolve, a two-year interval provides a practical timeframe for meaningful changes in Skills-First practices to become observable.

6.4 REPORTING

Findings will be updated following each measurement cycle, providing policymakers and ecosystem partners with a consistent evidence base to monitor progress, identify emerging trends, assess changes in both Skills-First practices and associated outcomes, and support policy and programme development.

To complement the quantitative findings, the Observatory will also publish **case studies highlighting good Skills-First practices and implementation experiences** from individuals and employers. These case studies will provide practical examples of how Skills-First practices are being adopted and embedded, helping to facilitate peer learning and the dissemination of effective practices across the workforce ecosystem.



PROPOSED INDICATOR FRAMEWORK

The proposed indicator framework translates the Skills-First Observatory Framework into potential indicators and measurement approaches. The following sub-sections **set out the potential measurement approaches for each component**, including the practices and outcomes to be measured and how selected emerging initiatives and pilot programmes may be monitored.

The proposed measurement approaches are illustrative rather than definitive and are intended to guide the development of future indicators and research instruments. They reflect what should ideally be measured, rather than being constrained by currently available data. Some measures may require new data collection, partnerships, or consented linkage with administrative and digital data sources before they can be fully implemented.

7.1 INDIVIDUAL SKILLS-FIRST PRACTICES

The Observatory measures Skills-First practices among individuals across **three pillars: Skills Identification & Career Navigation; Skills Development & Learning; and Skills Demonstration & Signalling**, alongside cross-pillar practices that support the broader application of a Skills-First approach. Together, these practices capture how individuals apply a Skills-First approach to career decisions, learning and development, and the demonstration and signalling of their capabilities. The table below maps each individual Skills-First practice to a potential measurement approach.



Skills-First Practices	Proposed Measurement Approach
Pillar 1: Skills Identification & Career Navigation	
You plan your next career move around what you can actually do, not just the certificates you hold — because employers increasingly hire and promote based on proven ability.	Measure the extent to which individuals prioritise their existing skills, capabilities and experience over formal qualifications when making career decisions. Assessment may capture the extent to which skills-based considerations consistently guide career planning.
You assess how your current skills map onto other jobs, including ones you may not have considered.	Measure the extent to which individuals identify transferable skills and alternative career opportunities. Indicators may capture both frequency of use and purpose of use.
You identify skills you already have that would let you move sideways into a different job — useful if your current role is shrinking or changing.	Measure whether individuals actively identify transferable skills when considering career transitions or adjacent roles. Scenario-based items may be used to supplement self-reported practices.
You set aside time — for example, once a year — to take stock of your skills and experience, so you have an up-to-date picture ready when a new opportunity or job change comes up.	Measure the regularity with which individuals review, document or reflect on their skills, experience and career development. Measurement may distinguish between ad hoc reflection and a structured, recurring practice.
You hold onto a clear sense of who you are and what you want from your career, so that a setback — including losing a job to automation — becomes a chance to choose a new direction, not just a search for the same job again.	Measure career identity and career adaptability using an existing validated psychometric scale, embedded without modification where appropriate.
You check that a course fits your interests and life priorities before spending time or money on it, rather than choosing it simply because it is popular or in demand.	Measure the extent to which individuals consider personal interests, career goals and life circumstances when making learning decisions, alongside labour market opportunities and skills demand.

Skills-First Practices	Proposed Measurement Approach
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Pillar 2: Skills Development & Learning

You choose learning based on whether it builds a skill you'll actually use at work, not for the certificate it comes with.	Measure the extent to which individuals prioritise the development of work-relevant skills over obtaining formal credentials when making learning decisions. Assessment may capture the consistency with which learning decisions reflect skill application.
You weigh up whether a skill is likely to still be useful in a few years before committing time to learning it.	Measure the extent to which individuals consider the future relevance and transferability of skills before investing in learning. Indicators may assess whether labour market trends, future career goals and anticipated skill demand influence learning decisions.
You set out a plan for the skills you want to build over time, and follow through on it.	Measure whether individuals develop and maintain a structured skills development plan. Assessment may capture both the existence of a skills development plan and the extent to which it is reviewed and acted upon over time.
You look for opportunities to learn new skills through your actual work — for example, a new project or assignment — rather than only through formal courses.	Measure the extent to which individuals actively pursue work-based learning opportunities, such as stretch assignments, job rotations, project work or mentoring, alongside formal learning. Indicators may capture both the frequency and diversity of workplace learning experiences.
You learn at a pace that fits your work and family commitments, rather than trying to match a pace that doesn't suit your life stage.	Measure the extent to which individuals adapt their learning pace and intensity to their work, family and personal circumstances in order to sustain continuous learning. Assessment may focus on self-directed management of learning rather than externally imposed learning schedules.
You consciously let go of outdated habits or ways of working, so a newer, more relevant method can actually stick.	Measure the extent to which individuals intentionally replace obsolete knowledge, skills or work practices with newer approaches. Assessment may capture the consistency with which individuals update and adapt their ways of working.

Skills-First Practices	Proposed Measurement Approach
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Pillar 3: Skills Demonstration & Signalling

You describe your experience in terms of the skills you've built — for example leadership or budgeting — rather than just listing past job titles.	Measure the extent to which individuals present their work experience in terms of demonstrated skills, capabilities and achievements rather than relying primarily on job titles or qualifications. Assessment may capture the consistency with which skills-based profiles are maintained and used.
You build a record that proves your skills — such as completed work samples, test results, or a skills passport — that you can show to employers.	Measure whether individuals maintain evidence of their skills through work samples, portfolios, assessment results, digital credentials or a skills passport. Assessment may capture the completeness, currency and application of these records.
You build relationships with mentors, colleagues, family and others who can open doors and support you through career decisions — connections often matter as much as skills.	Measure the extent to which individuals actively develop and utilise professional networks, mentors and peer communities to support career planning and decision-making. Indicators may capture both the frequency of engagement and the diversity of support networks.
You ask people who know your work for a direct recommendation, rather than relying only on an online job application — this matters because automated résumé-screening systems can filter out good candidates before a human ever sees their application.	Measure the extent to which individuals obtain and use recommendations or endorsements from supervisors, colleagues or professional contacts to demonstrate their capabilities, during job applications.



Skills-First Practices	Proposed Measurement Approach
Cross Pillars	
You make use of shared tools, such as the national skills framework and Jobs Transformation Maps, to better understand your skills, career options and changing job opportunities, without needing expert interpretation.	Measure awareness and independent use of national skills and career planning tools, such as the Skills Frameworks and Jobs Transformation Maps, to support career planning, skills development and job transitions. Indicators may capture both frequency of use and purpose of use.
You keep your Careers & Skills Passport and career planning documents up to date, so they reflect your latest skills, experience, career goals and next steps.	Measure the extent to which individuals regularly update their Careers & Skills Passport and other career planning documents to reflect their current skills, experience, career goals and development plans. Assessment may capture the frequency of updates and the extent to which these tools are used to inform career and learning decisions.
At every major career transition, you discuss your skills and career plans with your employer or a career coach, and review whether your actions are improving your career opportunities, skills and earnings.	Measure the extent to which individuals seek structured career discussions with employers, managers or career coaches during key career transitions. Assessment may also capture whether individuals subsequently review the impact of these discussions on career outcomes such as employability, career progression or earnings.

Table 2: Individual Skills-First Practices

7.2 EMPLOYER SKILLS-FIRST PRACTICES

The Observatory measures Skills-First practices among employers across **three pillars: Recruitment & Hiring; Work Design & Redesign and Skills Development & Utilisation**; alongside cross-pillar practices that support the broader implementation of a Skills-First approach across workforce and talent management. Together, these practices capture how employers apply a Skills-First approach to hiring, workforce planning, skills development, deployment, work design and progression. The table below maps each employer Skills-First practice to a potential measurement approach.

Skills-First Practices	Proposed Measurement Approach
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Pillar 1: Recruitment & Hiring

You write job advertisements in terms of the actual tasks and skills required, using shared, sector-wide definitions — not vague titles.	Measure the extent to which employers describe job advertisements using skills, tasks and competencies, drawing on nationally recognised frameworks such as the Skills Frameworks, rather than relying primarily on job titles or qualifications. Assessment may capture the consistency with which skills-based job descriptions are adopted across the organisation.
You assess candidates based on the skills required for the role, using demonstrated capabilities, and qualifications as complementary sources of evidence.	Measure the extent to which employers use demonstrated capabilities alongside formal qualifications during recruitment and candidate selection. Assessment may capture the consistency with which skills-based hiring practices are applied across roles.
You formalise skills-based hiring practices so that candidates are assessed consistently, rather than relying on individual managers' judgement.	Measure whether skills-based recruitment practices have been formalised into documented recruitment policies, processes and assessment criteria. Assessment may reflect the degree to which these practices are consistently applied across hiring managers and business units.
You use work samples or practical tasks to assess candidates' skills, and regularly evaluate and refine these assessments to improve hiring decisions.	Measure the extent to which employers use work samples, practical assessments or other skills-based selection methods during recruitment. Assessment may also capture whether organisations evaluate the effectiveness of these approaches using recruitment and workforce outcomes such as job performance, retention or hiring quality.

Skills-First Practices	Proposed Measurement Approach
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Pillar 2: Work Design & Redesign

You maintain visibility of the skills your employees have and how those skills are being used in the business.	Measure whether employers maintain an up-to-date inventory of workforce skills and regularly monitor how these skills are utilised across the organisation. Assessment may reflect the completeness, currency and operational use of workforce skills data.
You plan ahead for how new technology or business changes will reshape jobs.	Measure the extent to which employers proactively assess the impact of technological and business changes on jobs and workforce skills requirements. Assessment may capture the use of workforce planning tools, job redesign processes and forward-looking skills planning.
As part of your regular business planning, you check whether you have the skills you need to hit your targets and stay competitive — not just once, but as a standing item every planning cycle.	Measure the extent to which workforce skills planning is integrated into regular business planning and strategic decision-making. Assessment may capture the consistency with which current and future skills needs are reviewed.
You prepare employees early for changes to their roles — for example, retraining of employees are planned as part of business transformation to enable employees to take on new roles.	Measure the extent to which employers proactively prepare employees for job redesign or workforce transformation through early reskilling and redeployment initiatives. Assessment may capture whether skills development begins before workforce changes are implemented and the consistency with which this practice is applied.
You match employees to projects and internal roles based on their actual skills, not just their job title — opening up opportunities for them.	Measure the extent to which organisations deploy employees to projects and internal roles based on their demonstrated skills and capabilities rather than solely on their formal job titles or positions.

Skills-First Practices	Proposed Measurement Approach
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Pillar 3: Skills Development & Utilisation

You identify the skills your business will need now and in the future, based on sector trends, so training can begin before shortages become urgent.	Measure the extent to which employers identify current and future workforce skills needs as part of workforce planning. Assessment may capture whether skills requirements are informed by business priorities, sector trends and anticipated workforce changes.
You plan training around your business strategy, rather than delivering generic programmes disconnected from future needs.	Measure the extent to which organisational learning and development is aligned with business strategy and identified workforce skills needs. Assessment may capture how systematically training priorities are linked to business objectives.
You offer employees internal career moves based on the skills they already have, even into departments they haven't worked in before.	Measure the extent to which employers facilitate internal mobility based on employees' demonstrated skills and capabilities rather than previous job titles or departmental experience. Assessment may capture the availability and use of skills-based internal mobility practices.
You formally assess and recognise employees' skills, so skills are backed by real evidence, not just self-reporting.	Measure whether employers formally assess, validate and recognise employees' skills using evidence-based methods such as practical assessments, portfolios, certifications or structured skills assessments. Assessment may reflect the consistency and coverage of these practices.
You recognise employees who develop and apply new skills that create value, through job enrichment, career progression, formal recognition or remuneration where appropriate.	Measure the extent to which skills acquisition is recognised through tangible workforce outcomes, such as career progression, internal mobility, remuneration or formal recognition. Assessment may capture both the availability and consistency of these practices.

Skills-First Practices	Proposed Measurement Approach
Cross Pillars	
You leverage relevant national and industry tools, such as Skills Frameworks and Jobs Transformation Maps, where appropriate, rather than spending time and money building your own from scratch.	Measure the extent to which employers adopt nationally recognised skills tools and frameworks, such as the Skills Frameworks, rather than relying solely on internally developed classifications. Assessment may capture both the breadth and consistency of adoption across workforce practices.
You distinguish general, transferable skills from knowledge unique to your organisation, and make sure critical know-how is documented and passed on — protecting the business against disruption when key people leave or retire.	Measure the extent to which employers distinguish transferable skills from organisation-specific knowledge and implement knowledge management practices to preserve critical capabilities. Assessment may capture the documentation, transfer and continuity of business-critical knowledge.
You regularly check whether your organisation's Skills-First practices are actually improving performance, retention or profitability.	Measure the extent to which employers monitor and evaluate the effectiveness of Skills-First practices using workforce and business outcomes such as employee performance, retention, productivity, innovation or organisational performance. Assessment may capture how consistently these outcomes are reviewed and used to inform future workforce decisions.

Table 3: Employer Skills-First Practices



7.3 OUTCOME INDICATORS

The Observatory will also measure **individual and enterprise outcomes** alongside Skills-First practice indicators to assess whether greater adoption and implementation of Skills-First practices are associated with improved workforce and enterprise outcomes. The table below sets out potential outcome areas and examples of how they may be measured. The specific outcome indicators and their measurement approaches will be further developed as part of the Observatory's measurement design.

Outcome Group	Potential Measurement Approach
Individuals	Pay raises/wage progression; promotions and career progression; movement into new occupations or roles; employment and job stability; extent of skills utilisation; career satisfaction
Employers	Workforce productivity; employee retention; time to fill vacancies; business performance; innovation; workforce adaptability

Table 4: Outcome Indicators

7.4 EMERGING INITIATIVES AND PILOT PROGRAMMES

The Observatory will also **monitor selected ground-up, community-based and pilot initiatives** as part of its innovation layer. This will provide visibility into how new approaches to Skills-First are being implemented, the progress they are making and their effectiveness in achieving their intended objectives. Monitoring these initiatives will also enable the Observatory to identify implementation challenges and lessons and learn from approaches that may have potential for wider adoption across the workforce ecosystem.

Potential measurement approaches may consider **implementation progress, effectiveness and learning and potential to scale**, as set out in the table below. This ensures that monitoring goes beyond whether an initiative has been implemented to assess its progress, whether it is achieving its intended Skills-First objectives, and what can be learned from its implementation. The specific indicators and measurement approaches will be further developed based on the nature and objectives of the initiatives selected for monitoring.

Assessment	Potential Measurement Approach
Implementation Progress	Track the implementation of the initiative , including progress against intended milestones, reach, participation and the extent to which planned activities have been carried out.
Effectiveness	Examine whether the initiative is achieving its intended objectives , including its contribution to the adoption, embedding or routinisation of Skills-First practices. This may also consider the extent to which the initiative reflects the three shifts of the Framework for Action—from one-off to routine, from opt-in to default, and from isolated to shared—in its design and implementation.
Learning and Potential for Scale	Identify implementation challenges, lessons and promising approaches through ongoing follow-up with initiative leads, to inform future refinement and decisions on whether initiatives should be scaled, adapted or discontinued.

Table 5: Emerging Initiatives and Pilot Programmes

The Innovation Layer may also **explore measures of Skills-First awareness, understanding and capability among key ecosystem stakeholders who play an enabling role in advancing Skills-First implementation**. This could include career development professionals, adult educators, HR professionals, business leaders and business consultants, among others. Such measures could provide insights into how different stakeholder groups understand, adopt and apply Skills-First principles and language in their respective roles and services, and help identify areas where further capability development and support may be needed.



CHAPTER 8

TIMELINE

The Observatory will be **developed in phases, with the baseline established before longitudinal monitoring begins**. This phased approach ensures that the measurement framework, research instruments and supporting data infrastructure are in place before changes in Skills-First practices and outcomes are tracked over time.

First Half of 2027

- Finalise the indicator framework and measurement approaches for both individuals and employers.
- Develop and refine the research instruments, identify indicators that can be embedded within existing surveys, and determine where new data collection is required.
- Confirm implementation and data-sharing arrangements with relevant partners.

Second Half of 2027

- Pilot and cognitively test new research instruments, finalise sampling frames for individuals and employers, and establish data governance arrangements for administrative data linkage where appropriate.
- Undertake the first measurement cycle and establish the national baseline.
- Develop the initial reporting and dissemination approach.

2028 Onwards

- Implement regular measurement cycles to monitor the direction and magnitude of change in Skills-First adoption over time.
- Update findings following each measurement cycle and progressively strengthen the evidence base on the relationships between Skills-First practices and workforce and enterprise outcomes.
- Use emerging findings to identify areas of strength and gaps, and inform ongoing policy, programme and ecosystem improvement.

CHAPTER 9

GOVERNANCE AND PARTNERSHIPS

The Observatory will be **operationalised by the Centre for Skills-First Practices (CSFP) at the Institute for Adult Learning, Singapore University of Social Sciences, in partnership with the Skills and Workforce Development Agency (SWDA)**. CSFP will be responsible for the design, implementation and ongoing management of the Observatory, with SWDA providing strategic advisory. Relevant government agencies, academic institutions, and other ecosystem partners will also be engaged to ensure that the Observatory remains relevant, robust, and responsive to the evolving needs of Singapore's workforce ecosystem, and continues to support evidence-informed workforce planning and the adoption of Skills-First practices in Singapore.

CONCLUSION

The Skills-First Observatory represents a first attempt to **establish a systematic mechanism for monitoring progress towards a Skills-First workforce ecosystem**. By bringing together measures of Skills-First practices among individuals and employers, associated workforce and enterprise outcomes, and emerging ground-up, community-based and pilot initiatives, the Observatory will **provide a more comprehensive evidence base** on the adoption and implementation of Skills-First practices across the workforce ecosystem.

As this is an initial framework, the proposed indicators, data sources and measurement approaches will require further development and refinement as the Observatory is established. Over time, the Observatory can provide an ongoing evidence base to identify strengths and implementation gaps, understand which Skills-First practices are most strongly associated with positive outcomes, and learn from emerging approaches. This evidence can support the continuous refinement of policies, programmes and ecosystem interventions.

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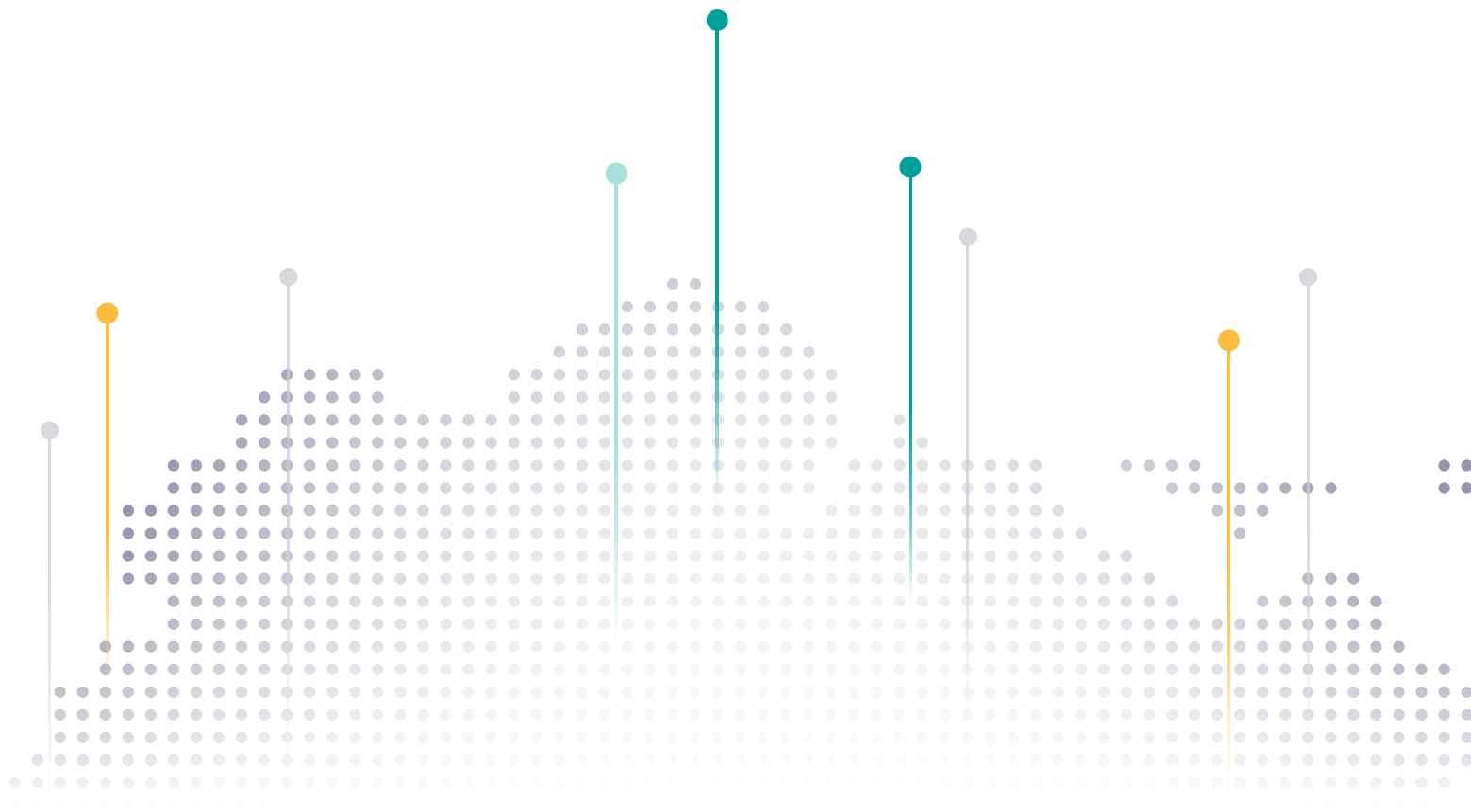
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