The Workforce Development Applied Research Fund (WDARF) Grant Call
Singapore - April 2017

RESEARCH FOCUS
Globalisation and the technological revolution that began in the last decades of the 20\textsuperscript{th} century has affected how, what, and where we work. Coupled with the local labour market conditions, they are impacting current and future workforce development at a pace that has not been experienced before.

On the global front, there is growing access to and use of information and communication technology, which is changing how services are provided and consumed. There is also growing employment in high-skilled and services occupations, as well as creation of jobs with new skills required. With the rapid pace of skills obsolescence, many of the jobs today will not exist in 2030.

On the local front, Singapore is restructuring its economy towards a knowledge-intensive and innovation-driven economy. We are also facing an ageing and diverse workforce profile, as well as diverse capital across age groups, where competency levels of our workers vary by age groups, relative to the rest of the world. Raising our workforce productivity and competency will be critical to addressing manpower issues and supporting economic restructuring. Our Continuing Education and Training (CET) system will need to develop and adopt innovative approaches to accommodate learning differences of the different groups and better meet their needs.

As part of our efforts to address the challenges ahead, Singapore’s Deputy Prime Minister Tharman Shanmugaratnam launched the SkillsFuture national movement in 2015 to provide Singaporeans with the opportunities to develop their fullest potential throughout their life, regardless of their starting point. The SkillsFuture is anchored by four key thrusts, namely:

a. Helping individuals make well-informed choices in education, training and careers;

b. Developing an integrated, high-quality system of education and training that responds to constantly evolving industry needs;

c. Promoting employer recognition and career development based on skills and mastery; and

d. Fostering a culture that supports and celebrates lifelong learning.

To realise the SkillsFuture key thrusts requires evidence-informed policies and development of best-in-class practices which are underpinned by high quality, reliable, and responsive workforce development research. Unlike the quantity and quality of research efforts and capabilities in other areas, workforce development research activities in Singapore are at the infancy stage.
To proliferate research relevant to realize the SkillsFuture key thrusts, we have therefore set up a national-level research fund. Called the Workforce Development Applied Research Fund (WDARF), the fund will:

a. Allow for expansion of our research scope and capability in the three research thrusts presented in following chapter to meet our policy development and programme design needs; and

b. Provide funds for competitive bidding to allow research institutions and individuals to further contribute to our research.

To be considered for funding through the WDARF, researchers’ proposed projects must be in at least one of the three key research thrusts articulated in this document.
Research Focus

Research Thrust A

**Enabling and Sustaining Economic Performance through Workforce Development and Skills**

This research thrust aims to generate insights and provide recommendations for sustaining Singapore’s competitive advantage in the global economy through workforce development and skills. Research should be directed at examining skills strategies and utilisation, nature of jobs and employment arrangements, returns and other benefits of Continuing Education and Training (CET) investments, and the impact of skills on workplace outcomes (e.g. productivity, innovation, learning, skills retention) and business performance.

**Broad research question:**

What is the role of workforce development and skills in enabling and sustaining economic vibrancy and growth in Singapore?

**Areas of focus:**

i. Skills strategies and utilisation

ii. Returns on investment to workforce development and skills – individual, organization, society

**Research questions may include but are not limited to the following:**

1. What are the skill trends in the short, medium and long-term?

2. How are talent and skills strategy(ies) understood and deployed in organisations?

3. How are the following supported and what other ways can they be supported:
   a. Recognition of skills;
   b. Assessment of skills and workplace performance?

4. Who are the CET stakeholders in workforce skills development and what are their respective roles?
5. What are the drivers and implications of job re-design and its relationship to skills?

6. How ready is the workplace to cater to an ageing workforce?

7. What implications do the emergence of a lean workforce have on skills?

8. How do we define and measure training outcomes?

9. What are the returns on skills investment to individuals, enterprises and society?

10. What is the relationship between on-the-job training and workplace performance?

11. What is the impact of funding schemes on encouraging skills upgrading, improving career options and raising earning potential?
Research Thrust B

Shaping Employment and Continuing Education and Training (CET) Decisions of All Stakeholders

This research thrust aims to support the formulation and implementation of policies, strategies and initiatives by identifying the key factors influencing career, employment and CET decisions, including the understanding of cognition, emotion and behaviours of all stakeholders concerned (i.e. individuals, employers, career facilitators, policy-makers). Research should include exploration of various approaches and tools (e.g. behavioural insights, financial and non-financial incentives) that could be used to guide locals towards better employment outcomes and improved career resilience.

Broad research question:
How can we support all stakeholders concerned to make better employment and CET decisions?

Areas of focus:
i. Employment facilitation and career guidance
ii. Work and job design
iii. Lifelong learning culture
iv. Incentive/ intervention design

Research questions may include but are not limited to the following:
1. Career expectations and career decision making
   a. What are the factors that influence career expectations and career decisions (e.g. past experience and valuing of skills and abilities, class, gender, life-stage, race, age, lifestyle choices, motivation, channels of information)?
   b. What would encourage or prevent the employed and the unemployed from considering skills upgrading/courses as a way to boost their employability?
   c. What kind of programmes/schemes are most appropriate to help the employed and the unemployed in their career decision making and employment changing efforts?
d. How are individuals’ career expectation and career decision shaped and how do they change over an individual’s life stages?

e. How does the current boundaryless career rhetoric affect an individual’s career expectation and decision making?

f. What is the short term to long run impact of professional career facilitators in supporting individuals’ career navigation and decision-making (i.e. longitudinal study)?

2. Understanding the unemployed

a. What are the common archetypes of the unemployed?

b. What is the recovery process following job loss and does it vary according to the different archetypes? What are the strengths and abilities of each archetypes?

c. What are the characteristics of the long-term unemployed (LTU) in Singapore and what are the key contributing factors?

3. Building a career-resilient workforce

a. What can be defined as a career-resilient workforce?

b. What enhances and constrains career resilience and how can it support an individual’s career development?

c. How do individuals develop career resilience? What are the strategies for fostering individual ownership of career planning and job search?

d. How can specific workforce segments (e.g. older workers, professionals, managers and executives (PMEs), unemployed, long-term unemployed and under-employed) be made more career resilient?

e. What role does employment facilitation play in building a career-resilient workforce?

f. What is the business case for employers to embrace multi-skilling and cross-deployment to help develop career resilience in their staff?

4. Strengthening the inclusiveness of our local workforce in the face of disruptive change

a. How to better identify the key barriers to employment for persons with disabilities (PWDs) and rank-and-file/ low wage/ low educated workers?

b. How to better understand the job readiness needs of PWDs?
c. What types of support would employers require to hire workers with special needs?

d. How to encourage employers to create a more supportive workplace environment for hiring of PWDs?

5. Employers' recruitment needs and strategies
   a. What are the key indicators used by employers for assessing potential job candidates (e.g. soft/hard skills, work experience, paper qualifications)?
   b. What are employers’ attitudes towards hiring the vulnerable workforce segments (e.g. older workers, PWDs)?
   c. What are the recruitment approaches and channels that employers use to hire workers? How can they improve their approaches to produce the best job fit?
   d. What is the impact of wage subsidy on employer’s decision to hire and retain workers?

6. Career facilitation services
   a. How can we enable job seekers to use self-help tools effectively to support their career development?
   b. What is the impact of training subsidy on individuals’ commitment to learning and eventual placement in job?
   c. What is the impact of wage subsidy on individuals' placement, retention and job motivation outcomes?
   d. How will labour market trends (e.g. gig economy and emerging growth sector) affect employment facilitation and career guidance strategies?

7. Pre-Employment Education and Training (PET) upgraders (referring to students who seek to continue upgrading before starting full time employment) and their decision making process
   a. Who are the PET upgraders?
   b. Where are they upgrading from?
   c. When do they make their upgrading decisions?
   d. What are their mental models when deciding to upgrade?
   e. What factors influence their choice of PET upgrade?
   f. Who influence their decision-making?
g. Who finance their PET upgrade?

h. What channels do they get their information to shape their decisions?

i. What are employers’ perceptions of PET upgraders?

j. How do employers’ recruitment criteria affect PET upgraders?

k. How does PET upgrading decision affects graduate employment outcome?

8. How can trade associations and chambers (TACs) play a larger role as intermediaries in fostering a quality CET system/ high-skills ecosystem?

9. How can the features of work and job be designed to facilitate/ optimise the match between skills and aspirations of individuals and the work/ job demand?

10. How can workers be better equipped with skills and experience to new jobs and next careers?

11. What are the factors that encourage the development of a lifelong learning culture? How do we engender and sustain a lifelong learning culture?

12. To what extent do our current incentives and interventions (i.e. course fee funding and salary support) encourage a lifelong learning culture?

13. What are the ways to motivate and influence individuals to take ownership of learning, skills acquisition and employment in a sustainable manner?

14. Productivity and lean manpower schemes and initiatives
   a. Why, when and how do companies make use of productivity and lean manpower schemes and initiatives?
   b. How do productivity and lean manpower schemes and initiatives shape companies’ HR practices?
   c. How can the interventions result in lasting behavioural change beyond the duration of the intervention?

15. What is the extent of individuals’ and employers’ reliance on incentives/interventions for CET and employment facilitation?
Research Thrust C

**Developing Effective and Impactful Approaches in Learning, Technology and Pedagogy to Enhance Continuing Education and Training (CET)**

This research thrust focuses on enhancing the effectiveness and impact of learning approaches, via technology, pedagogy and innovations, as well as corresponding policy and practice considerations to achieve the desired CET outcomes. These approaches should take into account the varying needs and differences of adult learners including the aspects of accessibility, adaptability and appropriateness.

**Broad research question:**

What are the ways to ensure and enhance the accessibility, adaptability and appropriateness of learning, through technology, pedagogy and innovations for effective and impactful learning and employability outcomes?

**Areas of focus:**

i. Blended and E-learning  
ii. Adult learning  
iii. Workplace learning  
iv. Adult educator professional development

**Research questions may include but are not limited to the following:**

1. How do blended learning improve adult learning outcomes?  
2. What are the learning needs and strategies of different groups (e.g. sectors, occupations, age, qualification backgrounds, etc.)?  
3. What is the learning efficacy of training programmes and interventions?  
4. What is the impact of government support for self-directed learning on the business models of training providers and individual learning behaviour?  
5. What are the successful partnership models or best practices between learners, employers, training organisations and public agencies to enhance learning?  
6. How can workplaces be transformed for effective workplace learning?  
7. Recognising learning in, at and through work
a. How do companies and individual value learning in, at and through work?
b. How does learning innovation/technology transform workplace learning to support virtual workplace learning?

8. What kind of outcomes on-the-job training could yield in comparison with other structured training?

9. What professional development and support do adult educators need in order to adopt innovations in learning, technology, and pedagogy in their teaching practices?

10. What support (infrastructure or skills) do Adult Educators need to cope with increasing demand for quality CET?