

# CTMTDS Newsletter Issue 14, August 2022

This month's newsletter focuses on [Translation Theme 4 - Support the Organisation](#).

## IN THE SPOTLIGHT

Congratulations to [Tim French](#) on his promotion to Associate Professor, [School of Physics, Maths and Computing](#), [Computer Science and Software Engineering](#) at UWA!

## Team News

New members joining the Centre in August include:

- [Manuel Cifuentes](#), the BHP representative on the [Strategic Risk and Reporting Board](#), and
- [Nick Ettlinger](#), who has joined Theme 2 to undertake a Masters research project with Ryan Leadbetter and [Aloke Phatak](#) at Curtin University.

We welcome back [Yingying Yang](#), who has returned from parental leave to continue her PhD research.

## THEME 4 - SUPPORT THE ORGANISATION

In the [February edition of the newsletter](#), we described how Theme 4 is supporting the implementation of data science innovations developed by the Centre into the workplace.

Lets check in again to see how Theme 4 has been working with our Centre's researchers and industry partners to:

1. identify critical factors that enhance or hinder the successful implementation of data science innovation, and
2. investigate the capabilities required for both individuals and organisations to drive data science innovation.

## Theme 4 Activities

### Data Fit Organisation

In [Newsletter Issue 9](#) we introduced the holistic data capability framework and tool to map, assess and improve data capability for all data roles within an organisation. The model, developed by [CORE Innovation Hub](#) and [Eden Li](#), is unique in integrating 'social' capital, or culture, with skills, technology, and behaviours.

Based on this research, [Eden Li](#) and [Zane Prickett](#) from Core Innovation Hub facilitated an engaging workshop, **Data Fitness for your Organisation**, at the [Data Science for Business 2022 Conference & Exhibition](#).

The two-day event brought together a diverse group of WA industry professionals to explore how AI, machine learning and advanced analytics can be used for business innovation and growth. Eden and Zane's workshop covered the foundations of a Data Fit Organisation (DFO) and shared the Data Workflow Method, which aims to improve data capability across organisations.

[Eden](#) and [Zane](#) introduced the ability to define, measure, and uplift data capability. They explored why data science must shift from being project-based to being fully integrated with workflows and value delivery. Their message is that 'Data Fitness' is critical to delivering value through data.

### Human Side of Data Science Innovations

[Eden Li's](#) research focuses on factors that enhance or hinder data science innovations. Her case study research uses examples from the data science projects carried out by the Centre's researchers and industry partners.

[Eden](#) recently submitted the outcomes of her research to [Technovation](#), an international journal of technical innovation, entrepreneurship and technology. The study highlights the criticality of creating an innovative capability for an organisation. She identifies that innovative ability is derived from the dynamic integration of evolving organisational strategies enabled by collaborative and engaged team members with relevant knowledge, skills and attributes.

We look forward to seeing her paper published soon.

[Theme 4](#) is also researching the perceptions of industry-focused PhD students about future work. The results of this project should contribute to a deeper understanding of university-industry collaborations, proactivity, and well-being of industry-based PhD students. The project is a pilot study that will establish the viability of exploring this psychological construct in a large-scale sample.



### Future activities associated with the DFO

- [Melinda Hodkiewicz](#) will present the DFO in September in a [webinar](#) organised by the [Alan Turing Institute](#),

- [Eden Li](#) has written a paper on the DFO and is in the process of submitting it for publication, and
- [Eden](#) and [CORE](#) will be presenting a paper on DFO at the [World Mining Congress, 2023](#).

## Leader data capability and team data usage - a prize winning study!

In [Newsletter Issue 9](#), we discussed [Eden's](#) mapping of the capabilities needed for maintenance supervisors to adopt and support their team's uptake of data science solutions. Her study identified that out of the [four types of capability conceptualised](#), foundational skills and integration skills were vital in improving data awareness and usage.

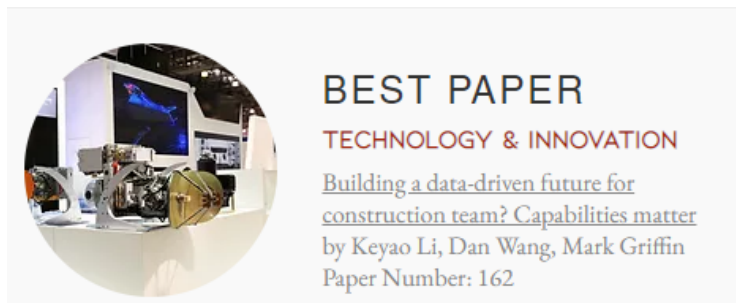
To enhance the understanding of the association between supervisor capability and team data usage Eden broadened her range of industries and roles to include construction project managers.

Construction project managers (CPMs) lead in creating innovative ways for successful project delivery. Thus, an increasing need to understand the capabilities of a CPM that are important for developing a data-driven team in which the potential of data is highly valued, and analytics are successfully leveraged to enhance project efficiency. Based on data collected in the construction industry, the top three CPMs capabilities which were strongly correlated to project team data usage were identified. They are:

1. Ensuring basic tasks are completed proficiently,
2. Keeping a problem-solving mindset, and
3. Maintaining a high ethical standard when capturing and using data.

Eden presented her research at the [World Building Congress 2022](#), and her paper, '[Building a data-driven future for construction teams. Capabilities matter](#)', won in two categories. Congratulations Eden!

- Best Paper in Technology & Innovation



- Best Paper in Challenges and Opportunities to the Use of Data in Construction



## Data Science for Reliability Engineers

In collaboration with [CORE Skills](#), [Melinda Hodkiewicz](#) and [Tyler Bikaun](#) developed a training program focused on applying data science and technical language processing techniques to maintenance work orders. The course provided participants with a toolkit to validate and optimise maintenance strategies and value for physical assets. The six-week program was devised for anyone responsible for driving reliable outcomes at industrial sites, specifically reliability engineers, maintenance managers and planners. If you would like to preview some of the materials for this course, please use the following [link](#).

During August, the Centre piloted the program with Roy Hill staff, and we look forward to summarising the training outcomes in the November newsletter.



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**Stay tuned for our next issue in September where we will cover:**

- Research Theme 3
- New publications
- Research updates

Do you have news to share?

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