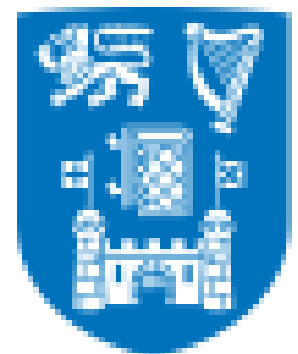# Intelligent Work: An Ethical Response
(Joan Cahill, Yufei Huang & Stephen Ralph)

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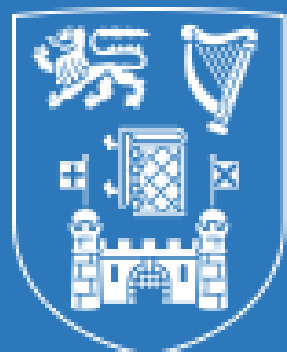The University of Dublin

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Presentation Overview

Intelligent Work: An Ethical Response

Robotic Process Automation | Business Process Automation I Performance & Health Monitoring in Work

- Introduction
- About Intelligent Work Project
- Healthy work
- Human factors & ethical problem
- High level concept
- Ethical Principles for Smart Work
- Conclusions
- Question
- Contact details

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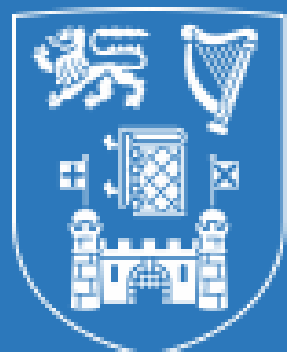Coláiste na Tríonóide, Baile Átha Cliath
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Introduction

- **Dr Joan Cahill,** Centre for Innovative Human Systems (CIHS)
- School of Psychology, Trinity College Dublin
- Human Factors, Ethics & Behaviour Science
- Aviation, Healthcare, Road Transport, Financial Services
- Human Factors & Ethics Canvas (HFEC)

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About Project

Intelligent Work
(Enterprise Ireland: Innovation Partnership)

Trinity School of Psychology: Dr Joan Cahill
Trinity Business School: Prof Yufei Huang

Product Manager: Stephen Ralph
Head of Engineering: Aidan Dillon
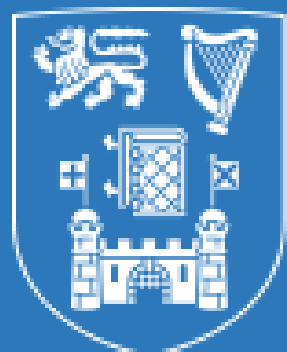
Healthy Work

− Healthy work is not just the avoidance of harmful work practices (working overtime/long hours, continually high stress situations)

− It the creation of positive wellbeing within workplaces and workforces

1. Physical, social and psychological/emotional health

2. Working practices, working environment and work culture

3. How work fits to a persons individual circumstances

Technology has a role (AI, ML etc)

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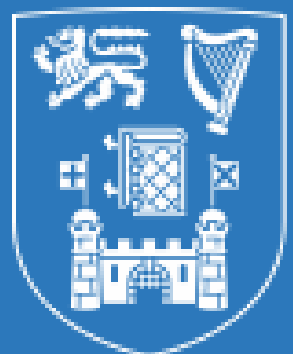
Relevant Areas...& Definitions

Human Factors

– The practice of designing products, systems, or processes to take proper account of the interaction between them and the people who use them (ISO 6385)
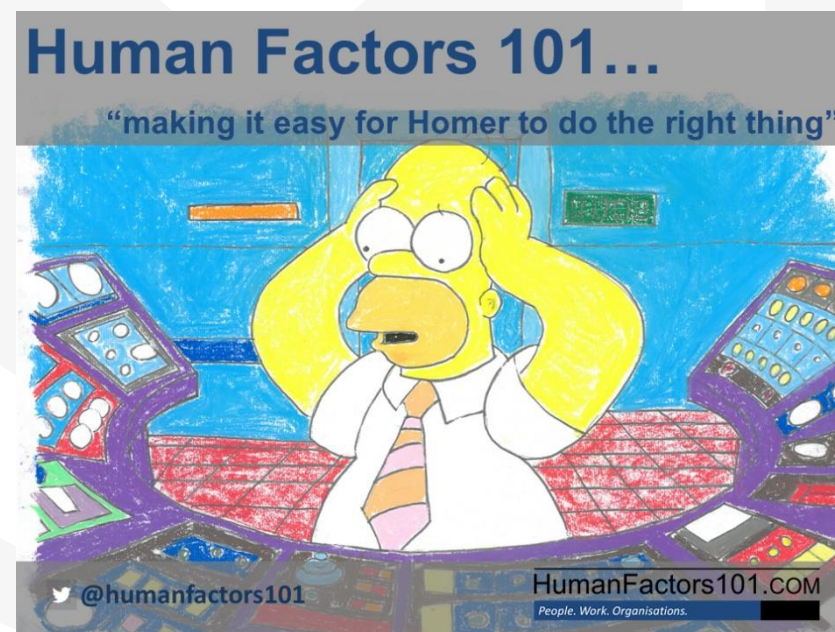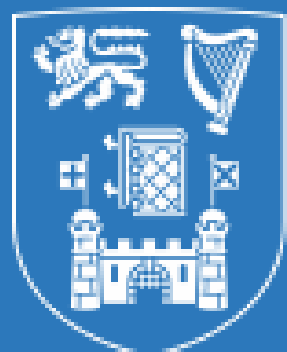

Ethics

– Ethics concerns the moral principles that govern a person's behavior or how an activity is conducted (OED, 2019).
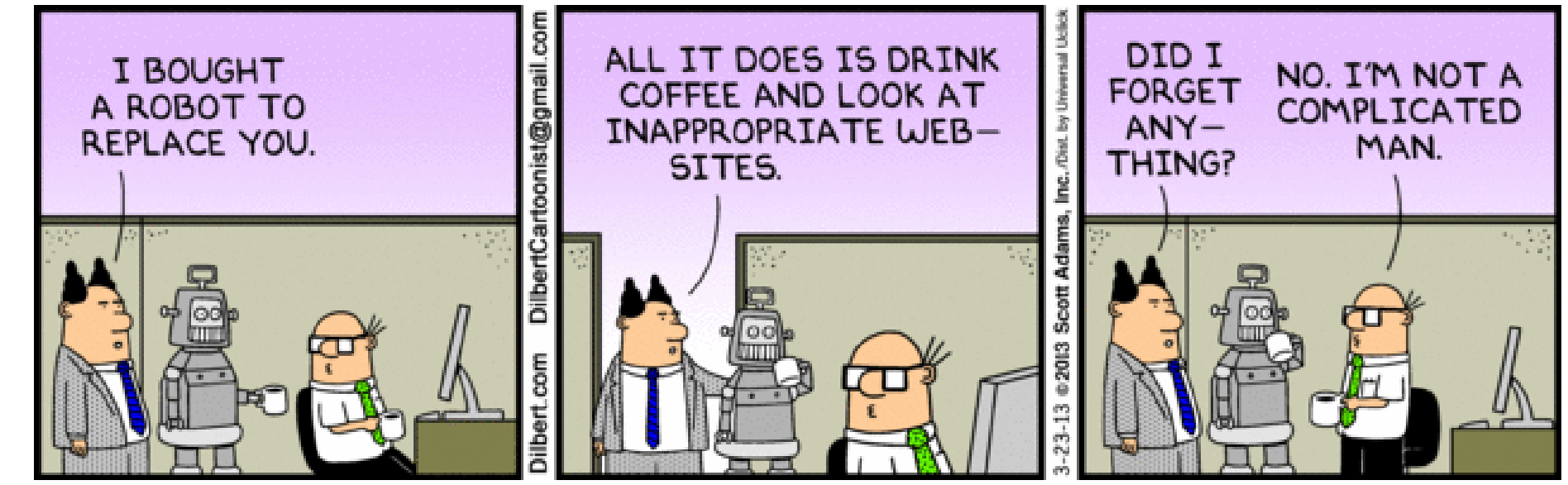

Behaviour Science

- **Human behaviour is determined by a complex interrelationship of many different factors** (including personal, environmental, and psychological factors).

- **Behaviour models** focus on understanding the psychological factors that explain or predict a specific behaviour

- **Models of behaviour change** seek to explain the factors that contribute to behaviour change and/or how to change behaviour.
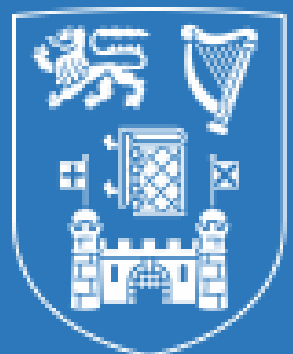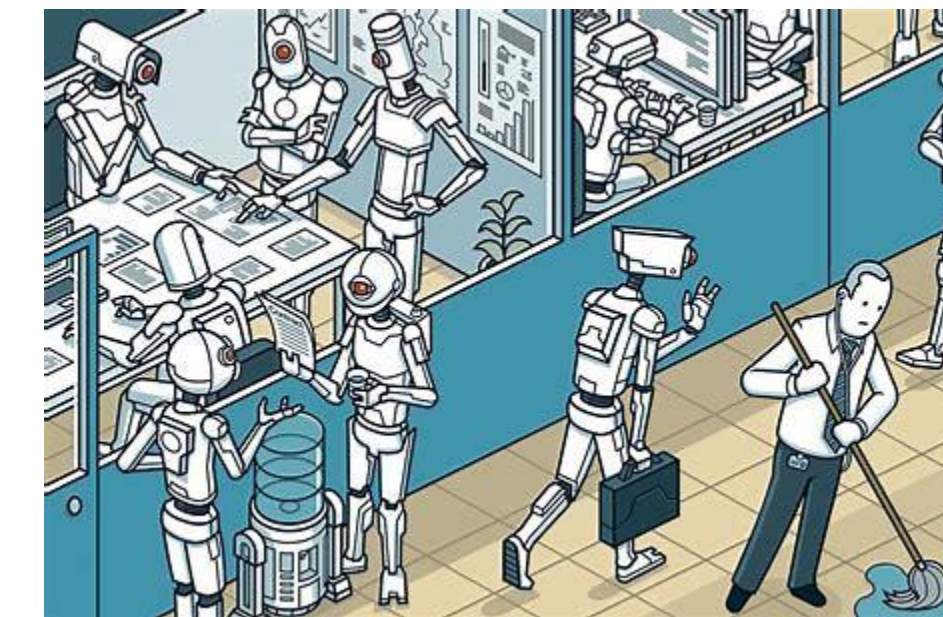
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Human Factors & Ethical Problem

– Advances in RPA (AI + ML)

– Advances in worker performance and health monitoring

– Little attention to issues around **human role in the system, worker wellbeing, ethical issues & adoption barriers**

– Ethically responsible solutions

– Link between performance management, health & safety (wellbeing protections), operations management and data analytics
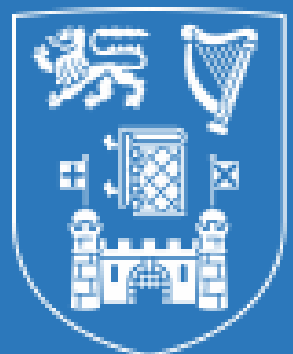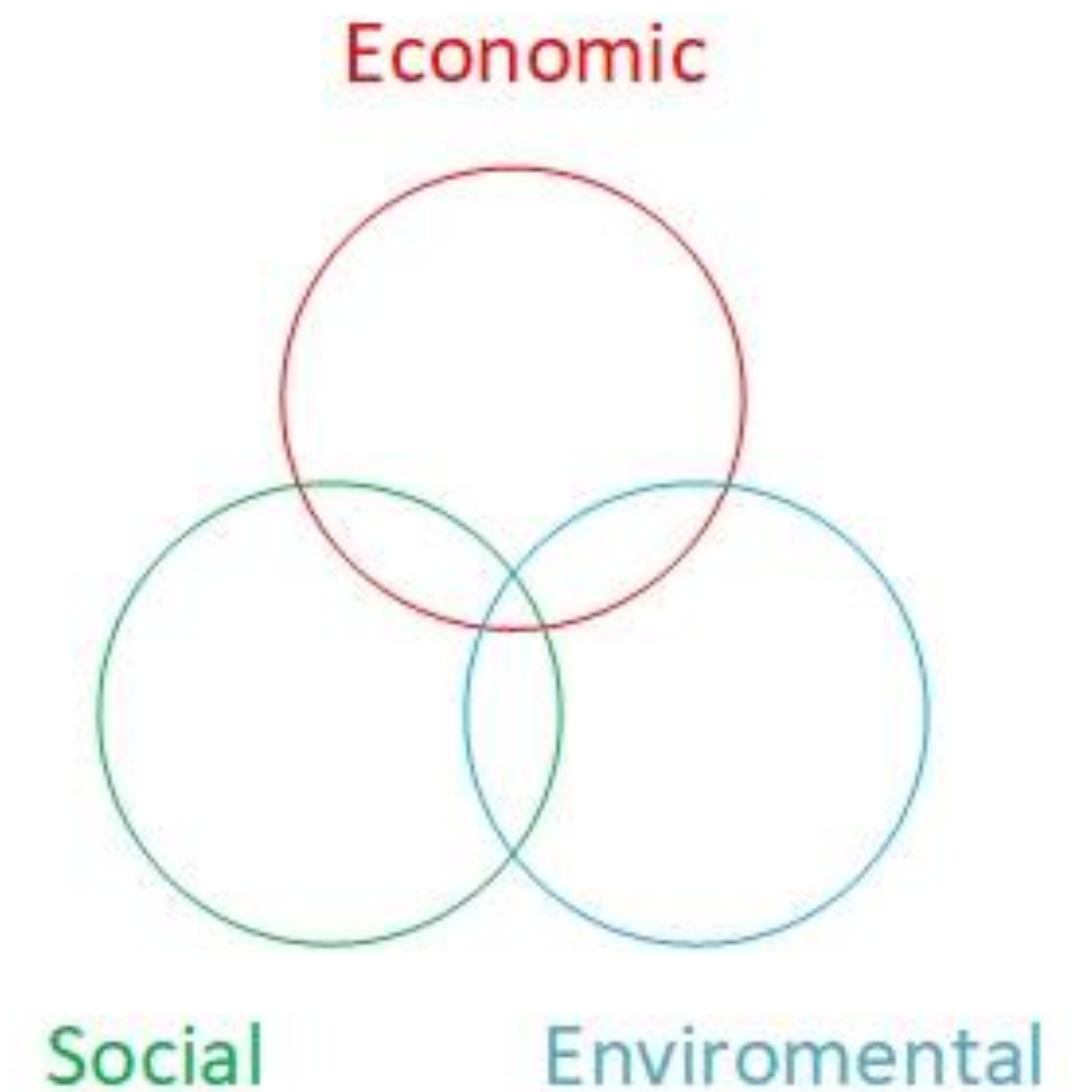
– **Human/ethics case and business case**

Dilbert (Robots in the Workplace)

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Vision

- **Balance score card linked to TBL**

- **Beyond focus on productivity and efficiency – also, healthy, safe and ethical**

- Integrative corporate, business process management/RPA & workplace health management strategy

- Org level, work process level, functional level (employee contribution) & customer level

  - Integration of soft and hard factors management (i.e. interrelations between human-related factors and economic success)

  - Map relationship between org strategic goals, work management, employee wellbeing & customer satisfaction

  - Link economic benefits, process and RPA changes & workforce behaviour changes (intelligent work & RPA) & customer experience

Economic

Social   Enviromental

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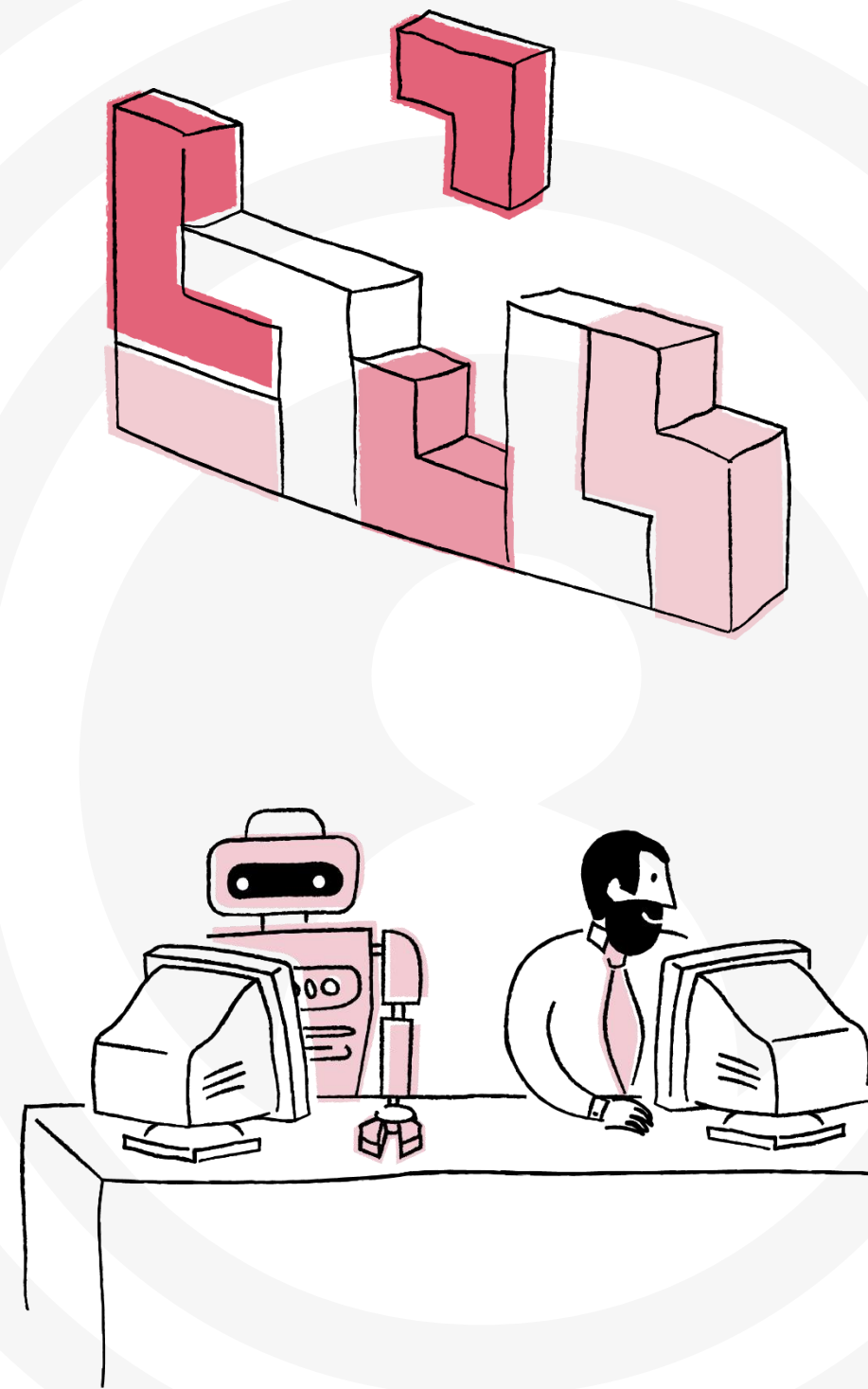Coláiste na Tríonóide, Baile Átha Cliath
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High Level Intelligent Work (IW) Concept

1. **Right Work, Right Person, Right Time (work from anywhere/remote….)**

2. **An Efficient Blended Workforce**

3. **Worker, Team & Customer is Augmented..**

4. **Team Leaders are Proactive Not Reactive**

5. **Healthy People & Teams (Productive, Motivated & Engaged…)**

6. **Happy Customers**

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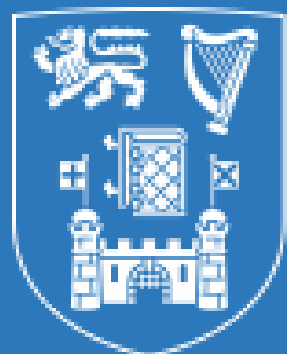PROCESS
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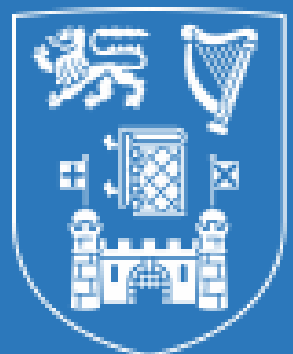
High Level Intelligent Work Concept

– Changing role of

- Worker (agency, flexibility, information support)

- Team supervisor (coach)

- Operations manager (balance health/safety/productivity)

– Enabling remote and intelligent collaboration across all actors – employees in organisation, 3rd party, customer

– Healthy work concept is embedded in how work is planned, assigned, supervised, undertaken, and measured – not something that happens in parallel to work (weaknesses and failures of org wellness in initiatives)

– Work, performance and health outcomes embedded in work design and management, and visible to all (with relevant permissions/consents)

– **Self management/assessment (worker)**

– **Worker in control of monitoring** (not controlled and/or objectified by performance and health monitoring technologies)

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High Level Intelligent Work Concept

Analyze & Learn

Plan & Forecast

Monitor & Control

People & Teams

Right Work Right Person Right Time

Allocate & Distribute

Categorization & Prioritization

Processes & Workflows

Deadlines & SLA's

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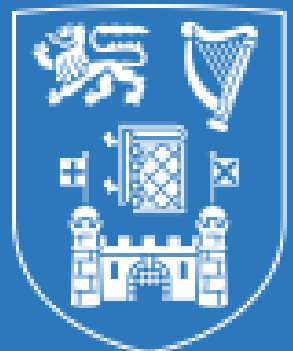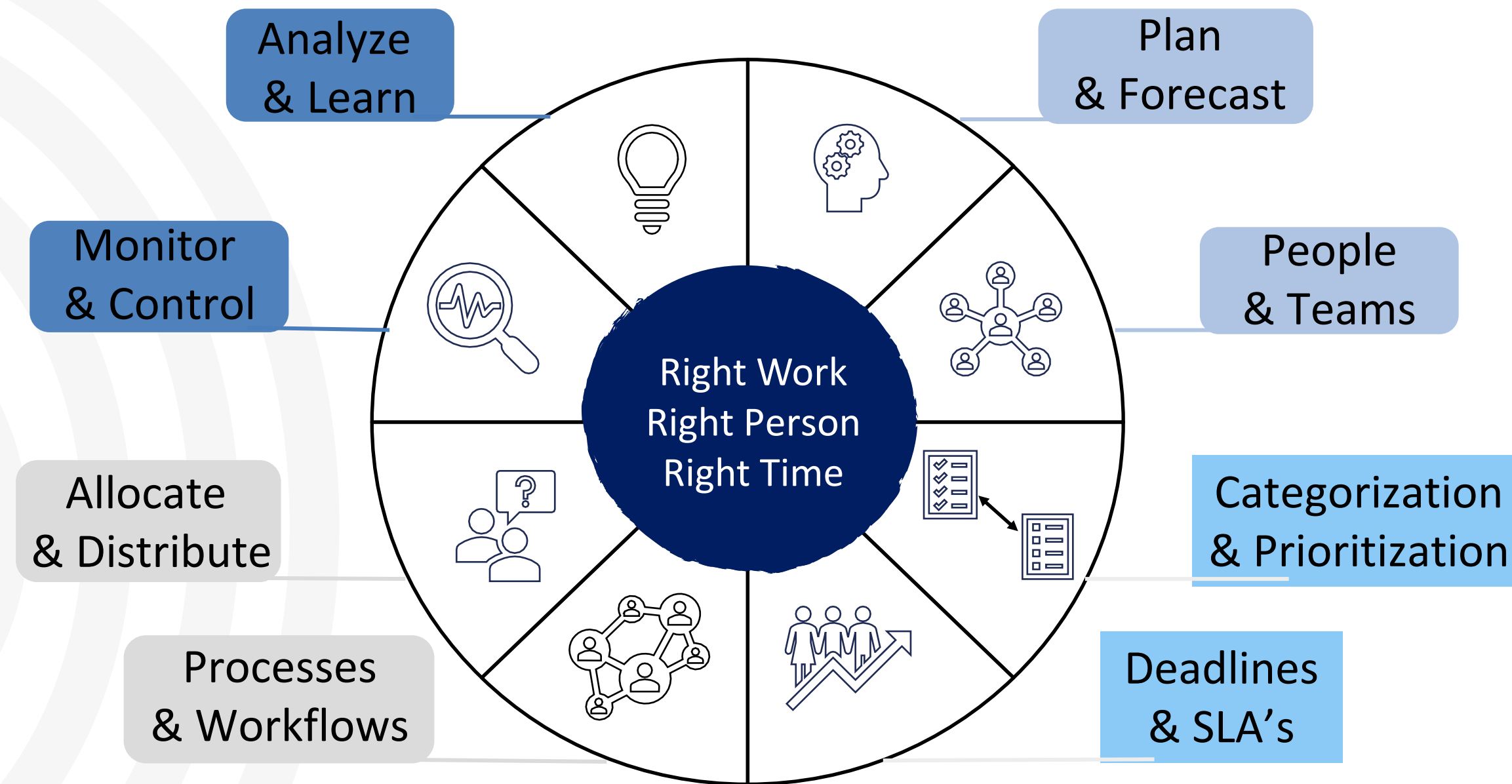
Performance Levels, Success Criteria & Outcomes

ORGANISATION

- Profit and turnover
- Productivity
- Efficiency
- Regulatory compliance (costs of breaches)
- Quality of work produced
- Health performance
    - Absenteeism (cost of sick leave)
    - Staff retention (cost of training)
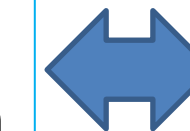- Accident/Errors/Malpractice (& Costs)

WORK & BUSINESS PROCESS

- Productivity
- Efficiency
- Quality of work produced
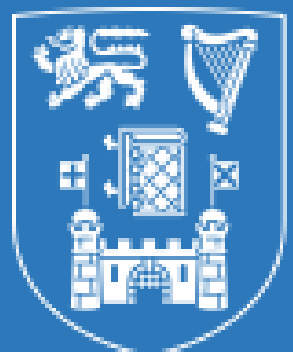- Teamwork and social cohesion

WORKER LEVEL

- Wellbeing in work
    - Workload
    - Fatigue
    - Burnout
    - Engagement/motivation
    - Professional fulfilment
    - Psychological wellbeing in work
    - Trust
- Job satisfaction
- Errors
- Accidents

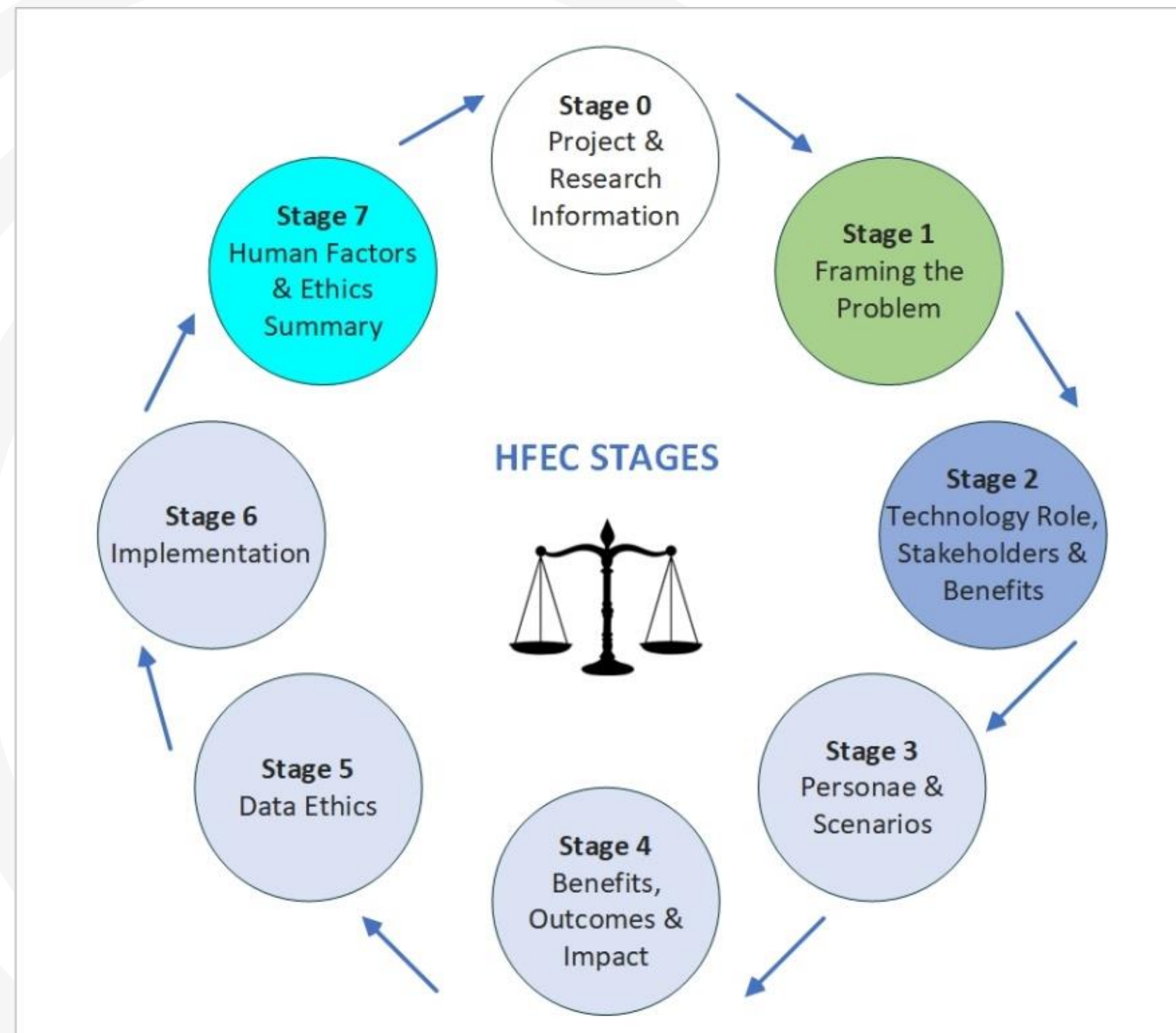**CUSTOMER LEVEL**

- No of customers
- Growth – no of new customers
- Customer attrition
- Satisfaction
- Perception of brand

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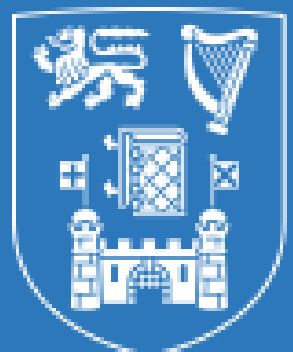
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Human Factors & Ethics Canvas (HFEC) & IW Concept
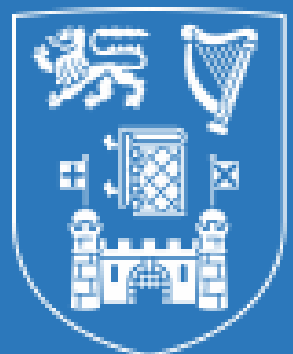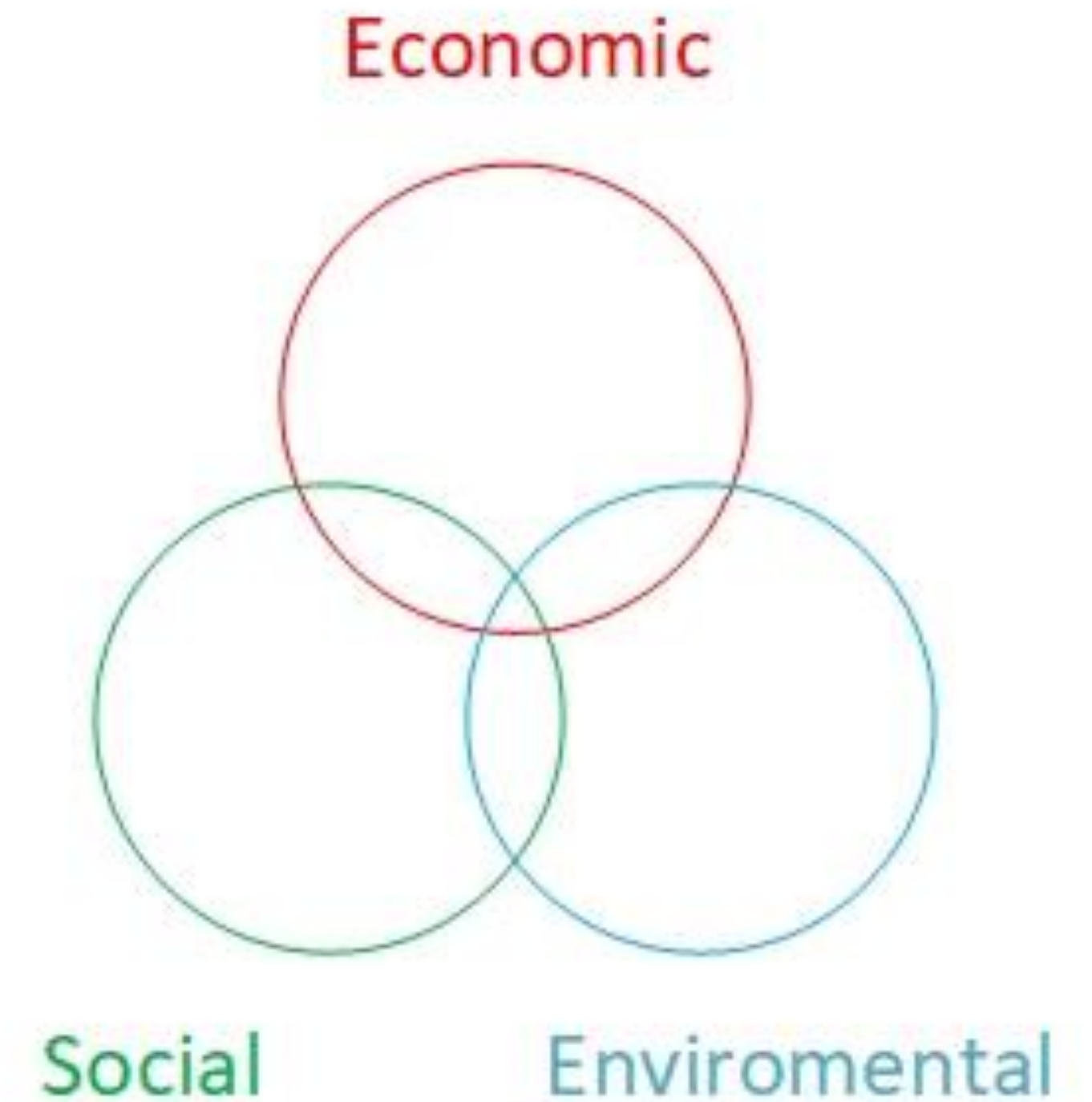

Assessment of Impact

1. Positive impacts
2. Negative impacts
3. Specific psychosocial impacts
4. Specific environmental impacts
5. Unintended consequences and unknown impacts

– Cahill, J. (2019). Human factors research methodologies and the specification of a Human Factors & Ethics canvas. White Paper. Centre for Innovative Human Systems, School of Psychology, Trinity College Dublin. https://www.tcd.ie/cihs/projects/hfaecanvas.php

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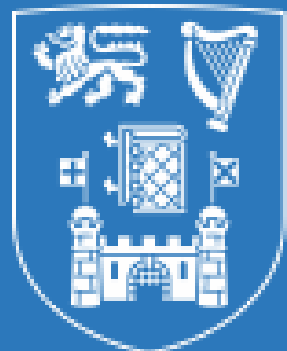
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Ethical Principles

- Human activity should not compromise the long-term balance between the economic, environmental and social pillars (triple bottom line)

- Enterprise, worker and society – stakeholders (**tripartite labour collaboration**)

- Social justice as the basic premise for the quality of employment and quality of life

- Workers has human beings and more than commodities/resources – rights based approach

- Workplace and worker wellness

- Monitoring – self guided, consent, protection of personal sphere, autonomy

- Avoidance of WRS, worker isolation..

- Pursuit of growth and development (career, personal, team)

Economic

Social   Enviromental

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Conclusions

- **Innovative and ethical 'intelligent work' models and systems**
- Use of Human Factors & Ethics Canvas (HFEC)
- Beyond focus on productivity and efficiency – also, healthy, safe and ethical
- Augment the worker and the team (includes human workers, technical agents and customer)
- Self management/assessment (worker)
  - Motivate and incentivize an employee to do their best work
  - Self-monitoring in work (as opposed to big brother/being monitored)
  - Work performance and health data used by individual to self-regulate own work and improve performance
  - Consent, privacy, autonomy
- Integration of performance monitoring, operations management, self management & risk/safety
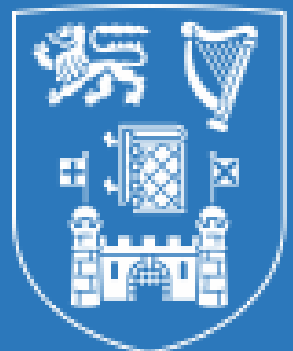
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Thanks & Questions

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https://www.zarion.com/

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