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Programme of Study: MSc Computer Science - The University of Essex Online

Project Methodology

Subject: Impact of Cultural Differences on International Project Management

The Design & Development of a Predictive Model to determine the extent of Cultural Impact on International Project Management Success

Research Philosophy

I have chosen to implement my project's "Research Onion" methodology, specifically opting for the Pragmatism philosophy. Pragmatism is a research philosophy that emphasises using the best tools for investigation, constantly questioning and interpreting knowledge, and involving researcher involvement and subjectivity. It draws conclusions based on participants' responses and decisions (Phair & Warren, 2021). As Kaushik & Walsh (2019) highlight, Pragmatism refers to the philosophical assumptions that guide the researcher's actions and worldview.

Research Design

- **Empirical research:** Empirical research is based on observations and measuring phenomena directly through experiments. It involves gathering and analysing primary data and using a specific methodology, such as experiments or surveys. The research question will determine objectives, and the findings can be generalised to larger samples and other situations (Hess, 2024).

- **Mixed Method**: This research will employ both quantitative and qualitative methods, including online surveys, interviews, and case studies, to provide a comprehensive understanding of the research problem (Pregoner, 2024).

Data Collection

- **Method:** Online surveys and semi-structured interviews.
- **Participants:** 15-20 experienced international project managers.
- **Content type and data structure:**
    - Demographics, Likert-scale items on cultural factors and project outcomes, and multiple-choice questions (Farina et al., 2022).
    - Open-ended questions about experiences with cultural differences in project management (Stone, 2023).

Software Development Life Cycle (SDLC)

- **Agile Methodology:** Implement an iterative and incremental approach, break down development into sprints, and conduct regular stakeholder reviews and feedback sessions (Hinderks et al. 2022).

Artifact Creation

- **Python-based Cultural Impact Assessment Tool**
    - Design user interface and backend logic
    - Implement a mathematical model for predicting cultural impact
    - Develop data visualisation components
- **Comprehensive Research Report**
    - Compile findings from surveys, interviews, and case studies and develop best practices for managing cultural differences in international projects.

Risk Management

Risk management involves identifying data quality, bias, cultural factors, and ethical considerations (Laryeafio & Ogbewe, 2023). To mitigate these risks, robust data validation processes, diverse data sources, cross reference with existing literature, and a flexible model that adapts to different cultural contexts are essential (Thier et al. 2019).

Timeline and Milestones

- **Sprint 0: Project Initiation and Planning (2 weeks)**
  - Definition of the project scope and objectives
  - Set up project management tools
  - Create initial product backlog

- **Sprint 1: Research Phase (4 weeks)**
  - Begin literature review
  - Design initial survey
  - Identify potential interview candidates

- **Sprint 1 Review and Planning**
  - Evaluate progress on literature review and survey design
  - Plan adjustments for Sprint 2

- **Sprint 2: Data Collection Initiation (4 weeks)**
  - Complete literature review
  - Finalise and distribute the survey
  - Begin conducting interviews

- **Sprint 2 Review and Planning**
  - Analyse initial survey responses and interview data
  - Refine interview questions based on early insights
  - Plan for data analysis in Sprint 3

- **Sprint 3: Data Analysis and Model Conceptualisation (4 weeks)**
  - Continue data collection (surveys and interviews)
  - Begin data analysis
  - Conceptualise mathematical model for cultural impact assessment

- **Sprint 3 Review and Planning**
  - Review data analysis progress
  - Refine mathematical model concept
  - Plan for tool development in Sprint 4

- **Sprint 4: Tool Development Phase 1 (4 weeks)**
  - Start Python tool development (user interface and basic logic)
  - Continue data analysis
  - Begin drafting the research report

- **Sprint 4 Review and Planning**
  - Demo initial tool prototype
  - Gather feedback on tool design
  - Plan for tool enhancement in Sprint 5

- **Sprint 5: Tool Development Phase 2 (4 weeks)**
  - Implement mathematical model in Python tool
  - Develop data visualisation components
  - Continue writing research report

- **Sprint 5 Review and Planning**
  - Evaluate tool progress and gather feedback
  - Plan for testing and validation in Sprint 6

- **Sprint 6: Testing and Validation (4 weeks)**
  - Conduct user testing of the Python tool
  - Perform peer review process
  - Finalise research report

- **Sprint 6 Review and Planning**
  - Analyse user testing results
  - Plan for final refinements in Sprint 7

- **Sprint 7: Refinement and Documentation (2 weeks)**
  - Make final refinements to the Python tool
  - Complete all documentation
  - Prepare final project deliverables

- **Final Review and Project Closure (1 week)**
  - Conduct final project review
  - Present findings and tools to stakeholders
  - Close the project and plan for future evaluations

- **Research Phase (Months 1-3)**
  - Literature review
  - Survey design and distribution
  - Conduct interviews and case study analysis

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