Talent Discovery for Cyber Security: an organisational approach

Authors: Marcelo Fontenele and Lily Sun
Contact: m.fontenele@pgr.reading.ac.uk

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Agenda

• Introduction
• Background and Related Work
• Proposed Approach
• Expected Implications and Contributions
• Summary
Introduction

- Field of Cyber Security (CS)

- Joint effort (Klimburg, 2012)
- Dynamic threats and complex environment
- Talents with the right skills are critical (Caldwell, 2013)
- Initiatives focused on developing capabilities

Aim

- To propose a preliminary approach to improve the discovery of talents for cyber security
Background and Related Work

(Gallardo-Gallardo et al., 2013)
Background and Related Work (Cont.)

Talent lifecycle (interaction stages)

- Identify
- Select
- Develop
- Evaluate
- Retain
- Organisation

Talent management (TM)

- Proper allocation
- Innate
- Commitment
- Capability

People

Knowledge about people

what

Talent

how to manage

Schiemann, 2014

Gallardo-Gallardo et al., 2013

(Gallardo-Gallardo et al., 2013)

(Schiemann, 2014)
Background and Related Work (Cont.)

- Unitarist x pluralist approach (Thunnissen, 2013)
  - Interaction ➔ knowledge
- Partnerships as organisations (Harris, 2011)
- Knowledge management (KM) required for talents
  - Traditional TM helps retaining people, not their skills
  - Acquiring tacit knowledge (Alavi and Leidner, 2001)
Background and Related Work (Cont.)

• Knowledge management
  – Processes of creating, storing, retrieving, transferring and applying knowledge (Alavi & Leidner, 2001)

  – Semiotic-based ontology (Liu, 2000)
    • Integrates semantic units
    • Represents agents and their behaviours (constraints)

  – Profiling techniques

  – Analytic techniques
    • Analytic Hierarchy Process (AHP) (Saaty, 1977)
    • Data Envelopment Analysis (DEA) (Cook & Seiford, 2009)

Community of practice
  • Borderless interaction
  • People with similar interests
Proposed Approach

Community of practice

Identify
Select
Develop
Evaluate
Retain
Proposed Approach
Proposed Approach

Profile
- Certification
- Skills
- Personal information

Profiling
- Structures information used as criteria for discovering talents in CS

Organisational semiotics
- Conceptualising talent practices within CS domain

Talent discovery

Analytical techniques
- Support decision making and optimising search results
- Process information for talent discovery in CS
Expected Implications and Contributions

• Value to research field
  – Seamless TM practices for cyber security
  – Robust process
  – Holistic view of CS
  – Semantic integration of feedbacks ➔ Self-evolving and self-managing

• Value to industry
  – Improve quality of CS (Service consuming organisation)
  – Extend talent pool (Service consuming organisation)
  – Increasing engagement opportunities (citizen)
  – Improving knowledge processes in CS
Summary

• Challenging needs in CS
• TM + KM
• State-of-the-art research
  – Information provision
  – Decision support
• My proposal
  – Support integration of talent practices for CS
  – Focus on talent selection in CS
Thank you for your attention!

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