University of Pretoria

Indicators of Academic and Mentee risks among new-first year university students: a cross-sectional study at a South African university.

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Department for Education Innovation

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Presentation outline

- Background/Introduction
- Aims
- Methodology
- Results
- Discussions
- Implications
- Conclusions

Background/Introduction

- Student success as a strategic goal
  - One of the strategic goals of the University is to increase the access, throughput and diversity of students, especially focussing on first-year student success.

The Traditional Enrollment Funnel

Aim

Make data driven decisions that are actionable to improve student success:

- Data mining practices

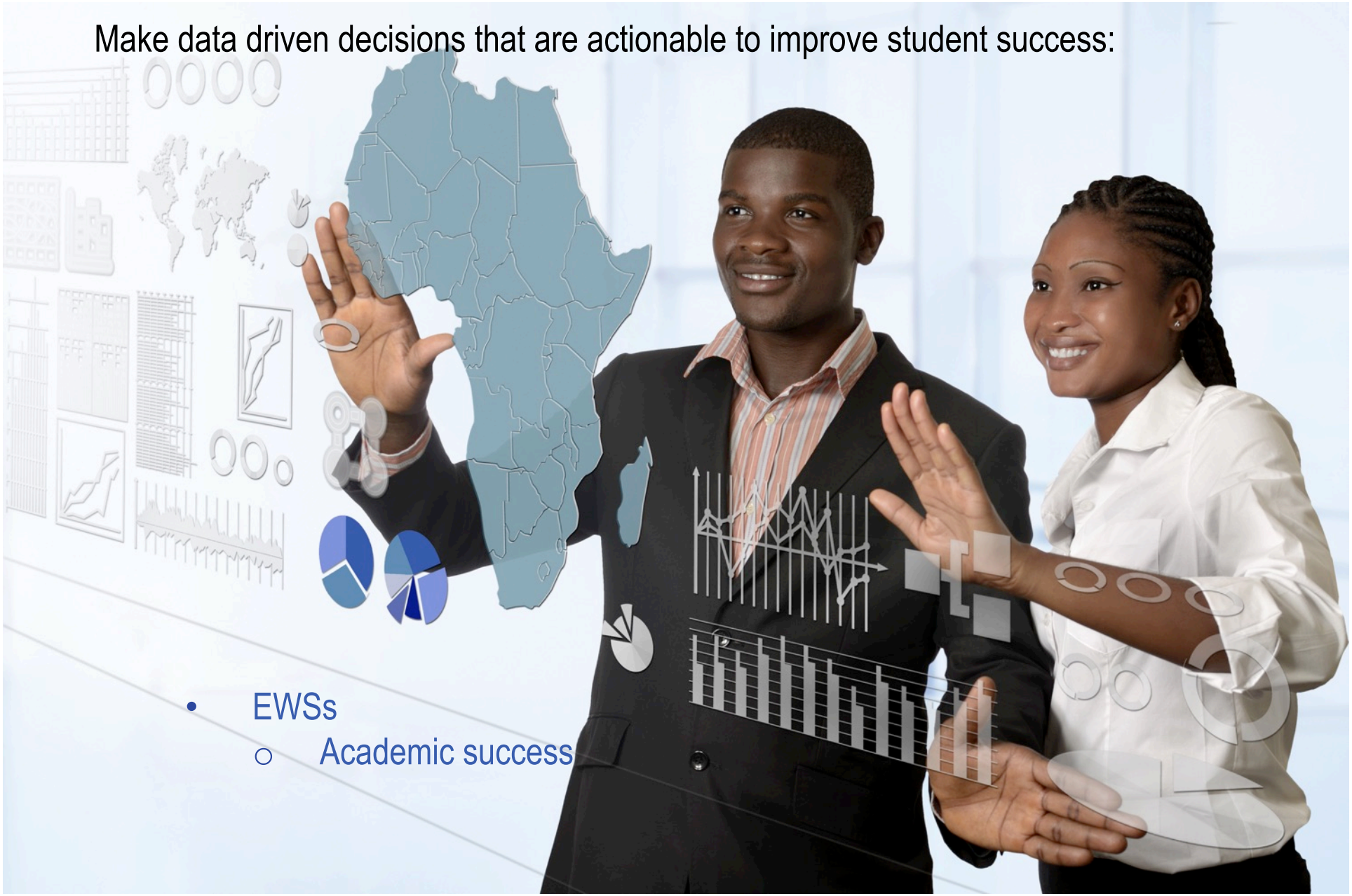
Aim

Make data driven decisions that are actionable to improve student success:

- Learner analytics

Aim

Make data driven decisions that are actionable to improve student success:



- EWSs
  - Academic success

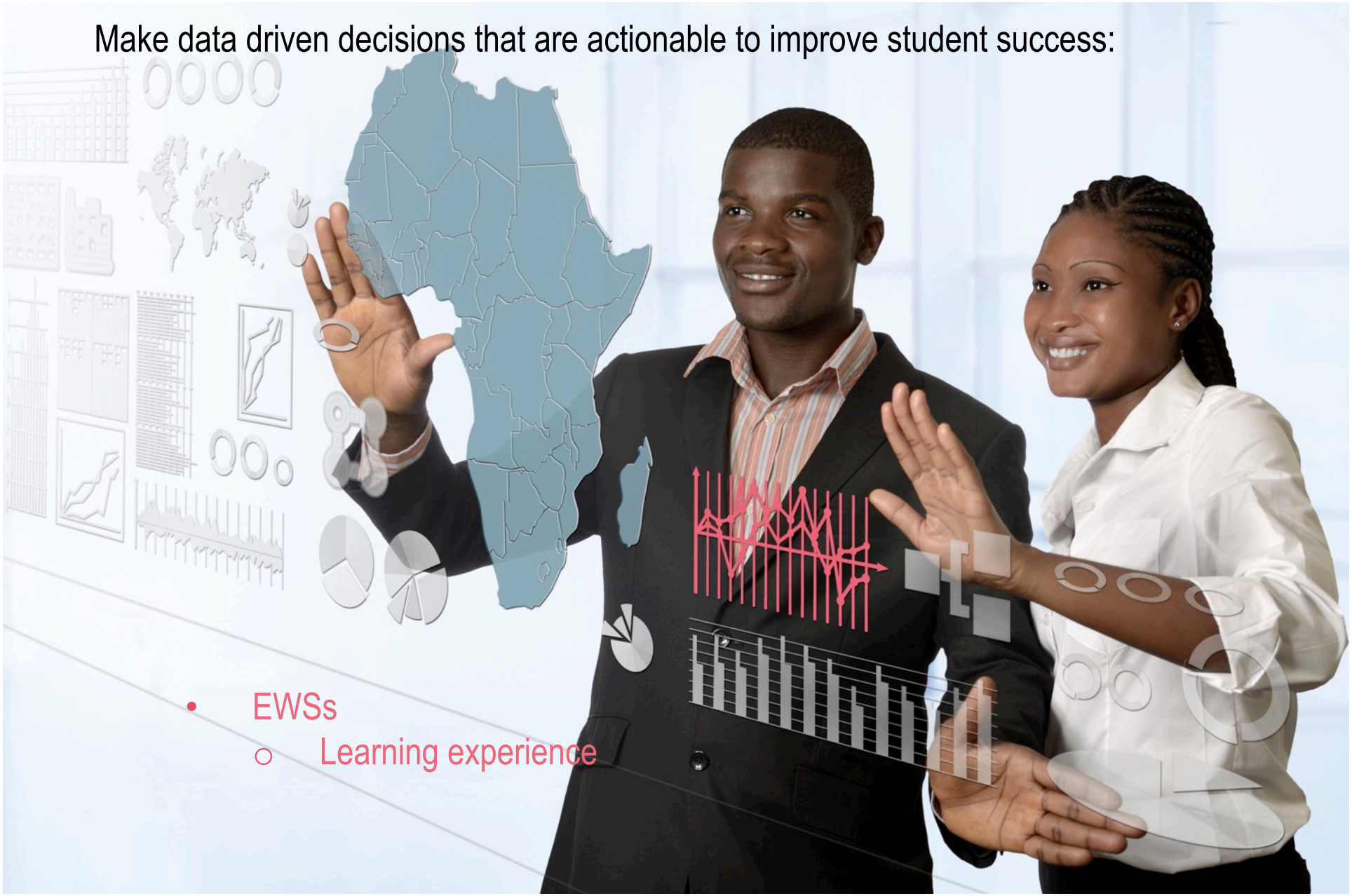
Aim

Make data driven decisions that are actionable to improve student success:

- EWSs
  - Retention/ persistence

Aim

Make data driven decisions that are actionable to improve student success:



- EWSs
  - Learning experience

Aim

Make data driven decisions that are actionable to improve student success:

- EWSs
  - Individual development

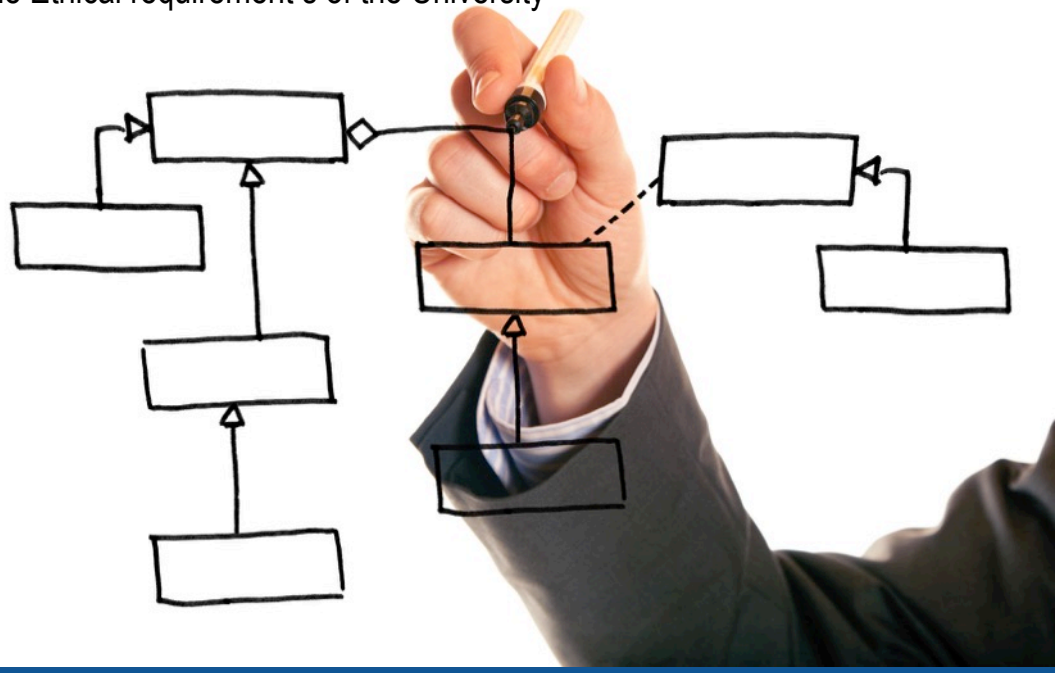
Aim

Make data driven decisions that are actionable to improve student success:

- Teaching & Learning

Methodology

- Study design
  - A cross-sectional study
- Data collection
  - Administered questionnaire completed by First year students in O-week
- Data management
  - Data captured using an optical scanner
  - Business Intelligence system exploratory analysis
  - Data stored for 15 years in accordance to the Ethical requirement s of the University
- Measures
  - Cognitive constructs
- Data analysis
  - Descriptive statistics
  - Binomial regression modelling
  - Pearson's Chi Square tests
- Statistical significance was read at a p-value of 0.05



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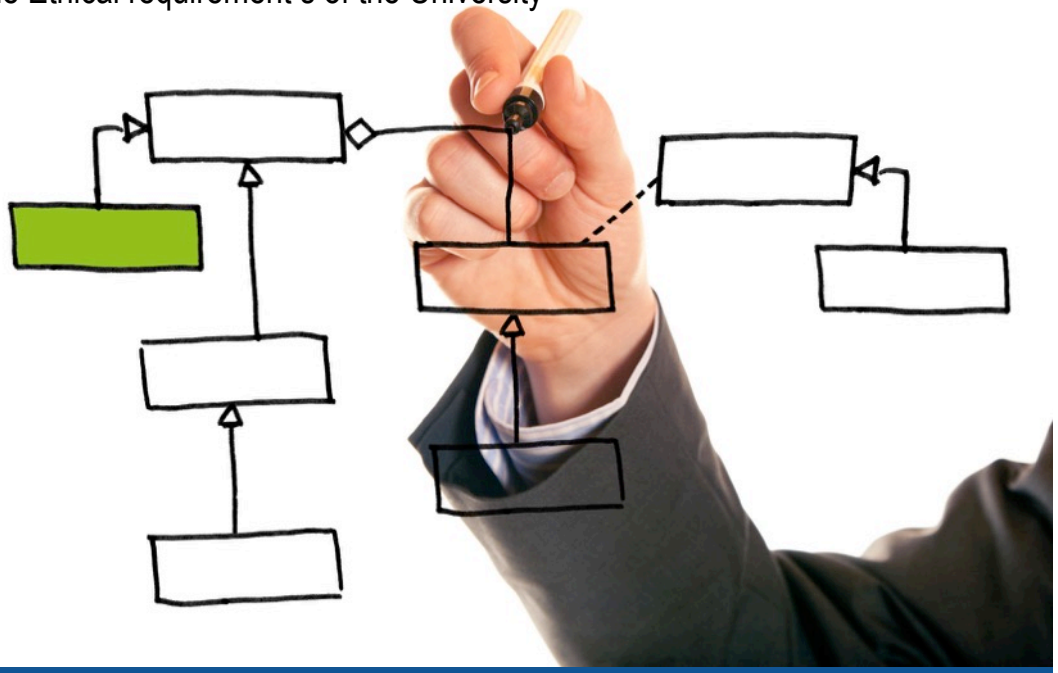

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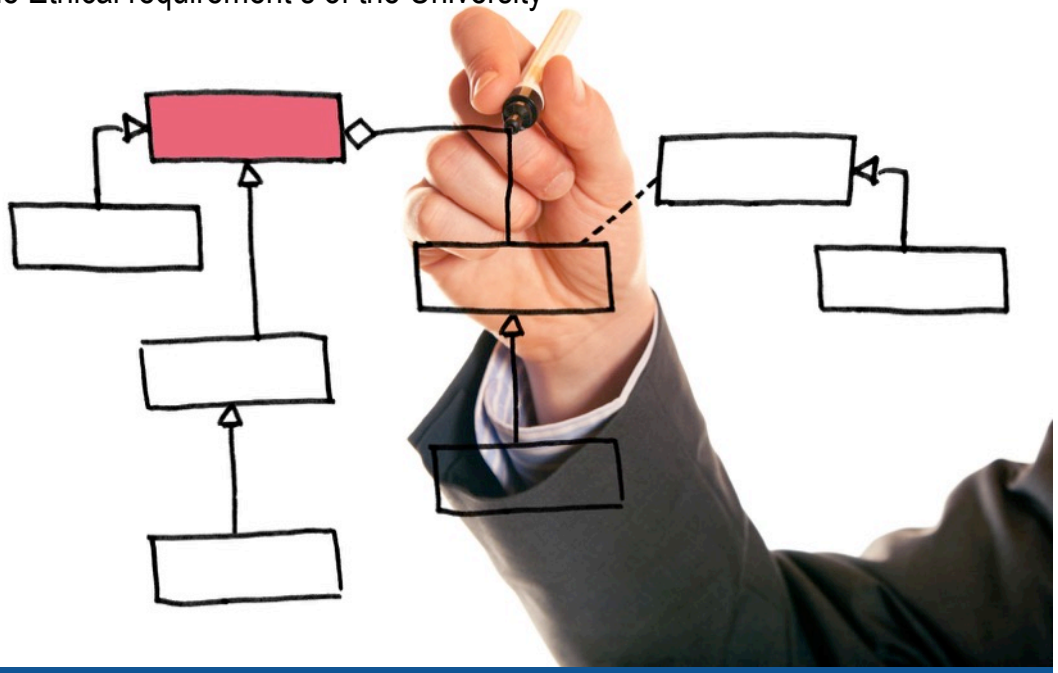

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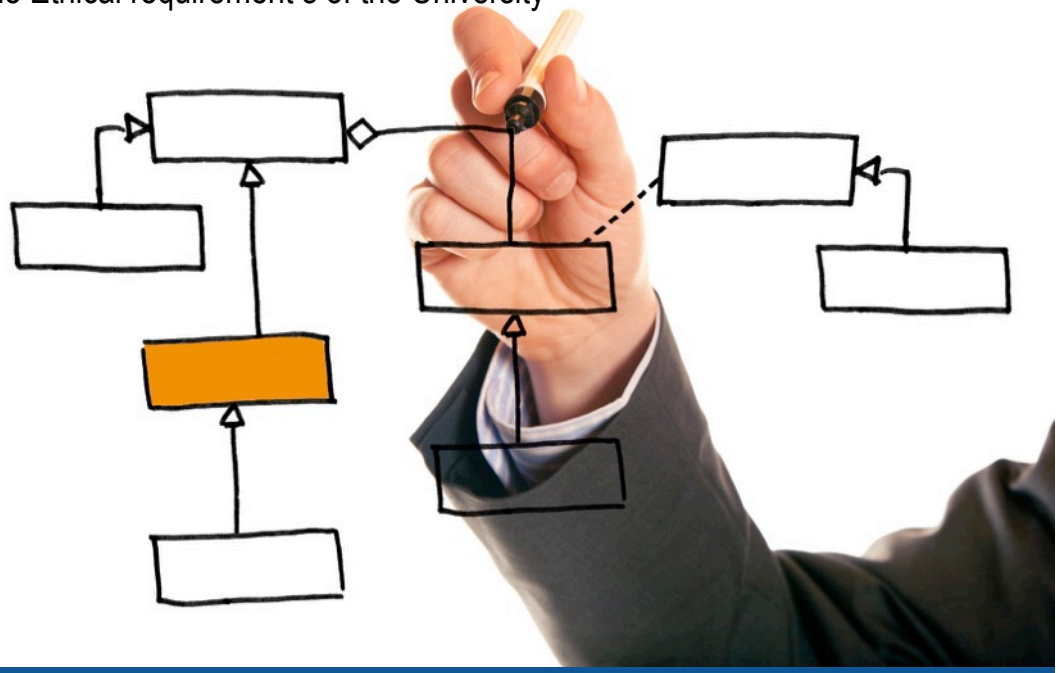

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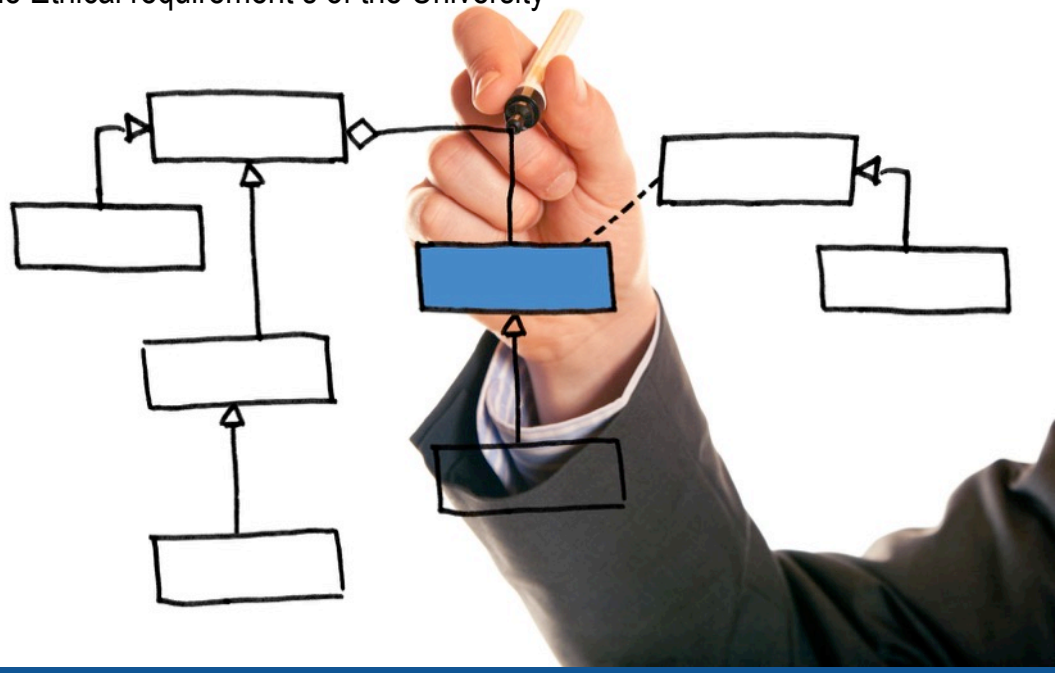

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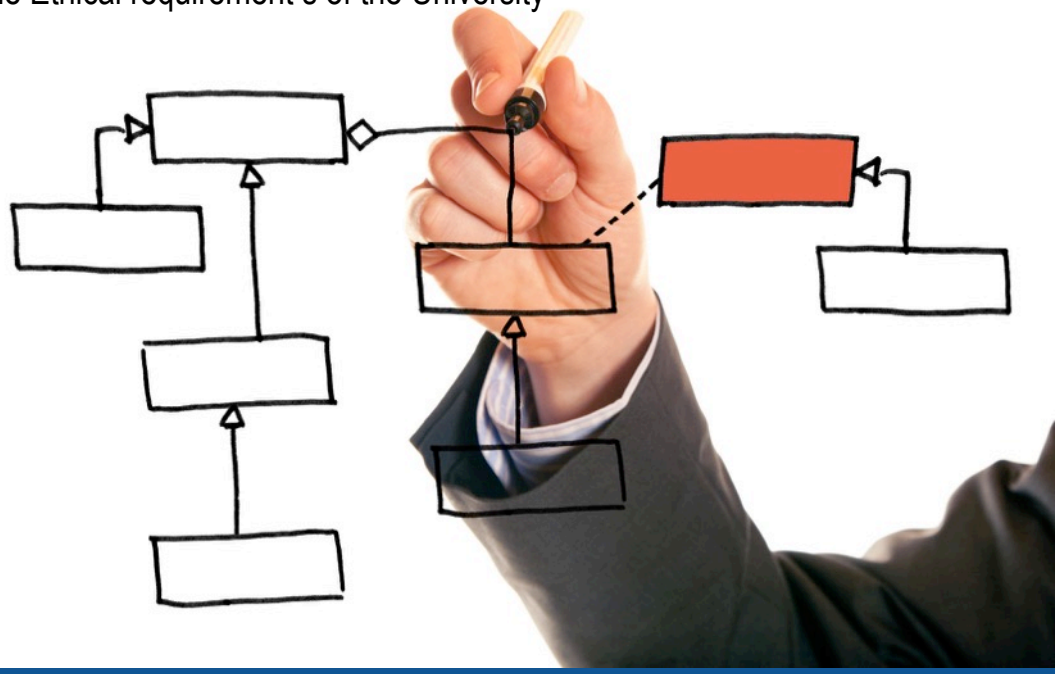

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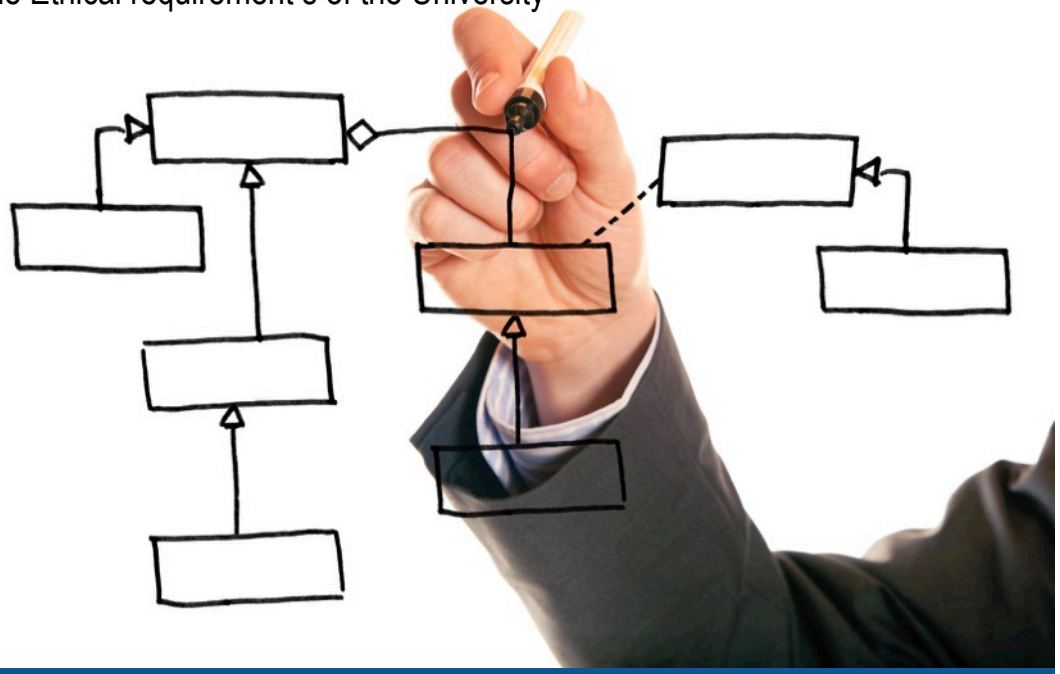

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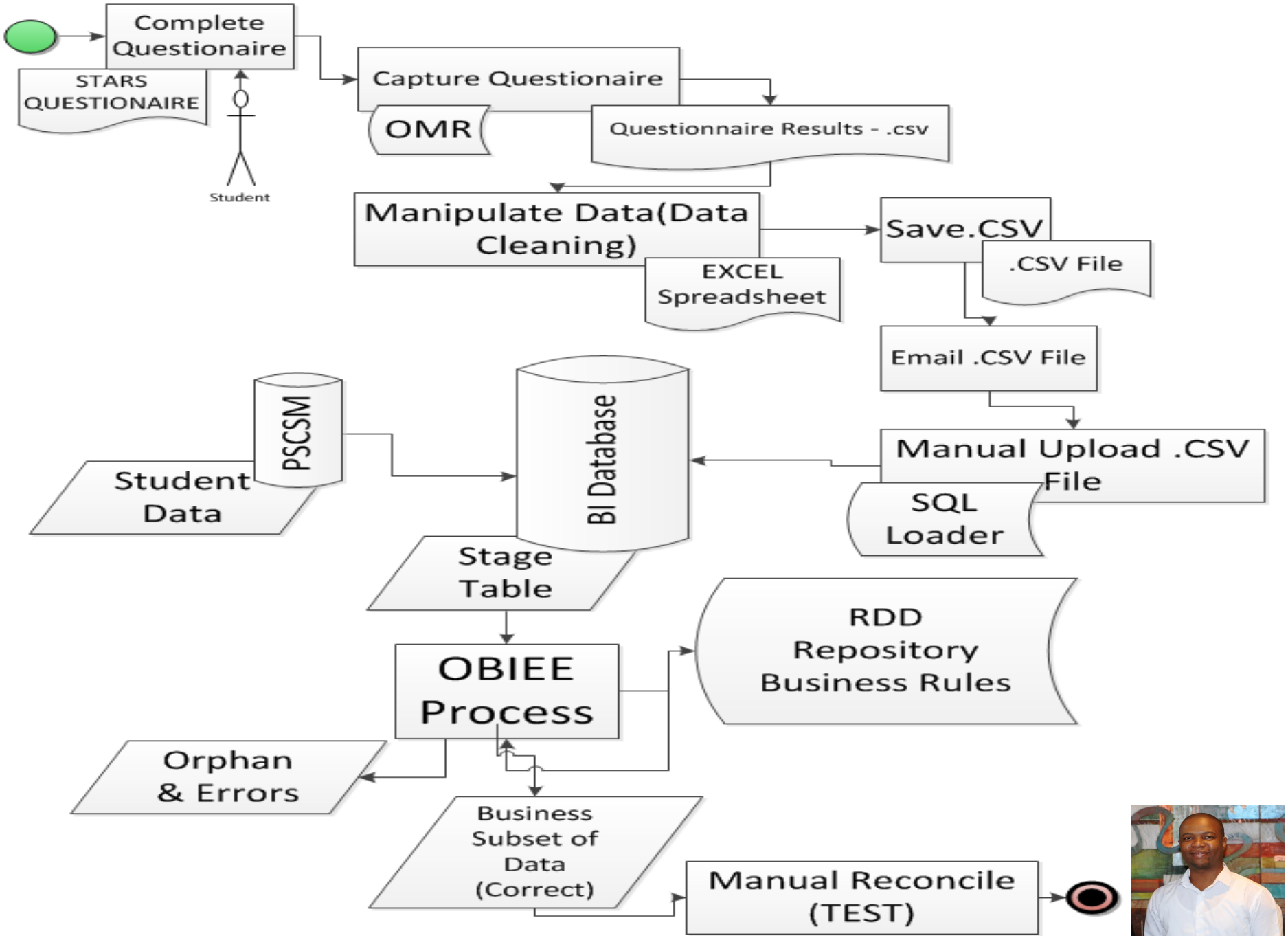
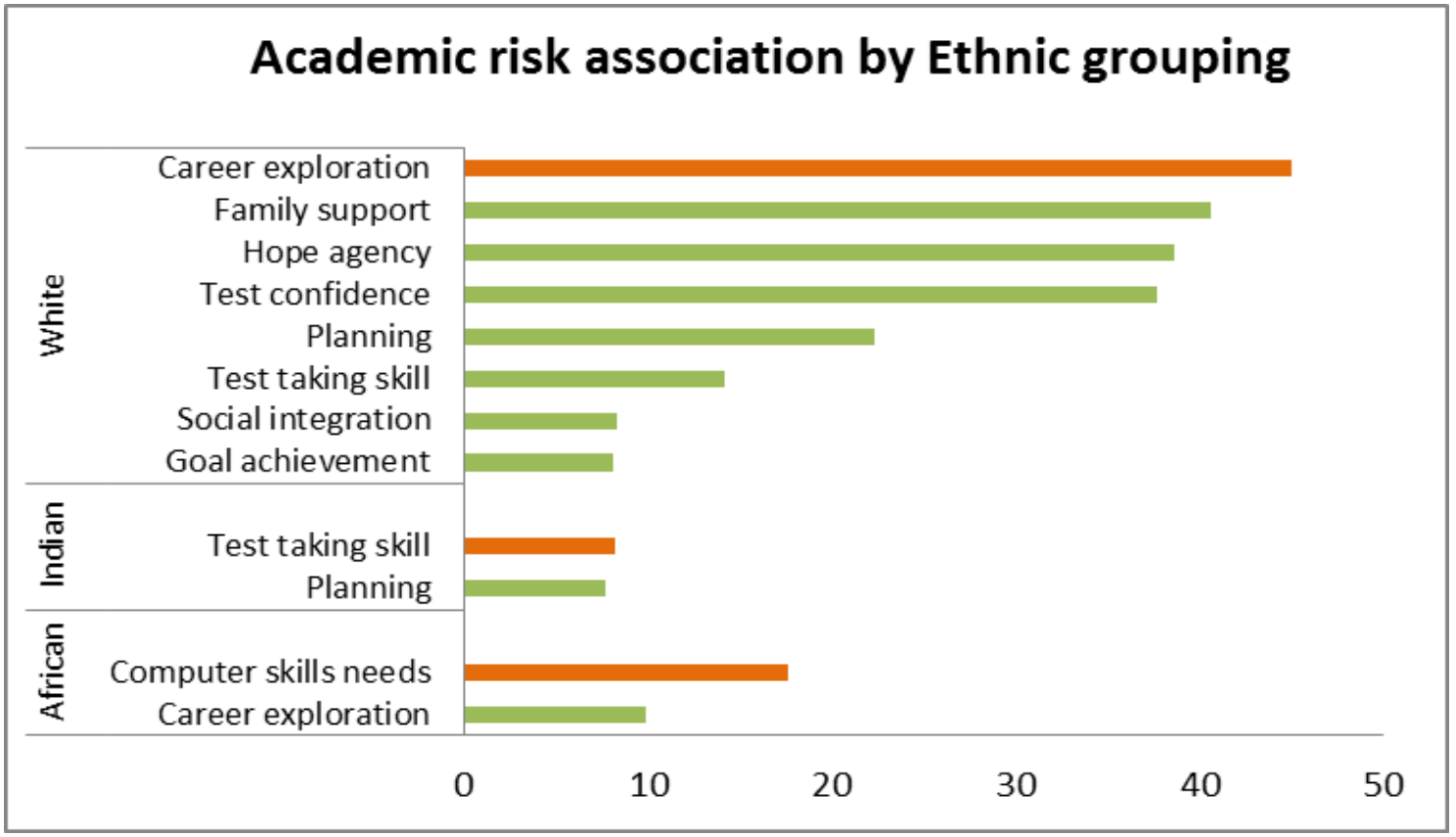


Results


Academic risk association by Ethnic grouping
White
Career exploration
Family support
Hope agency
Test confidence
Planning
Test taking skill
Social integration
Goal achievement
Indian
Test taking skill
Planning
African
Computer skills needs
Career exploration
0
10
20
30
40
50

Discussions

- Female academic risk:
  - Test taking skills

Dolly and Williams (1986) and Sweetnam (2002) have reported on how teaching test-taking skills resulted in improving student scores on examinations. Carraway (1987) reported that teaching test-taking skills decreased test anxiety and increased test scores.

  - Social integration

Mersha, Bishaw and Tegegnefactors. 2013. Factors that affect female students' academic performance are personal and the other problems are caused by the university environment. (If the social climate is not conducive for females, there is significant effect on academic performance).

  - Family support

The Harvard Family Research Project 2005:

Findings demonstrated differences in Gender in the effect of family support, demonstrating a particular need for female students. The perceived parental academic support significantly, but indirectly influenced achievement through academic behavior but only for female students.

Discussions

- Males academic risk
  - Test confidence
- Faculty academic risk
  - None-sciences: Social integration
  - Sciences faculties: Test skill and Goal orientation
- Female mentee risk
  - Financial support
  - Computer skills
  - Test confidence
  - Family support
- African student mentee risk
  - Financial support
  - Computer skills and Family support
- White students mentee risk
  - Test taking skills; Goal achievement; Reading skills

Summary of Key findings

Academic and Mentee risk are associated with a multiple of factors, and the factors differ in significance for different subpopulation.

Female students have different transitional needs than do male students, and there are also variations in academic and mentee risk by ethnic grouping.

The ability to study student risk factors at different level enable targeted interventions.

Understanding backgrounds: 1) Urban/rural, 2) First generation, 3) Financial aid need, 4) Ethnic difference and skills support needs will help Student Affairs departments and policy makers prepare policy and interventions that are effective to increase the throughput of institutions of higher learning.

Implications

- Data mining techniques allows pattern studies at different levels
  - Faculty level
  - Gender
  - Ethnicity
  - Combined subgrouping

- Interventions can be subject specific or population specific
  - Student identified by student number
  - Subpopulation meeting specific inclusion attributes/characteristics

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