COLLEGE OF ARTS, HUMANITIES & SOCIAL SCIENCES
THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

Preferences and Decision Making in Multiagency Projects

Cassandra Martin, Psychology; Dr. Kristin Weger, Psychology

Background

Preference Formation
- Individual preferences formed with heuristics based on context and risk
- Groups adapt to peer influence

(Bixter, Trimber, & Luhmann, 2017); (Kornhauser, 2003)

Decision Making
- Focus on maximum utility with minimum consequences
- Polarization to avoid cognitive dissonance

(Aramovich & Larson, 2013); (Bhatia, 2018)

Large Scale Product Design
- Synthesis of cultural identities creates brand identity
- Information sharing crucial for success

(MacDonald, Clarke, & Huang, 2018)

Hypotheses and Design

The study addressed how preferences are formed within groups in large scale product design teams.

H_1: Agency preferences will differ	H_2: Government → reliability and availability	H_3: Academia → efficacy, robustness, and resilience	H_4: Industry → profitability, efficiency, and maintainability

- 3x1 Between Subject (Government, Academia, and Industry)
- N = 265 UAH undergraduate psychology and engineering students
- Qualtrics Survey Platform with Randomizer, Adapted PERVAL Questionnaire
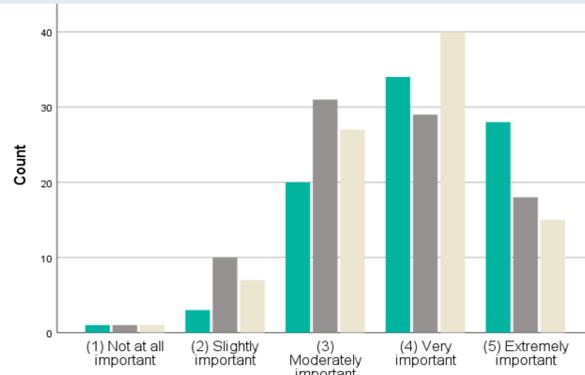
Key Findings
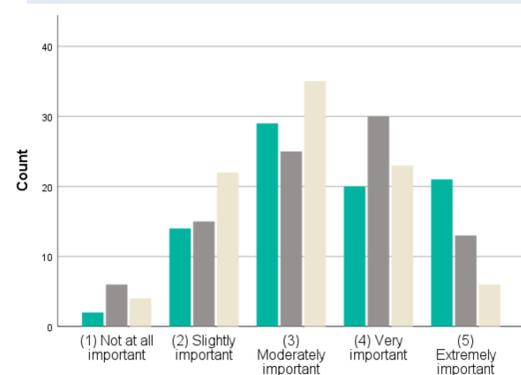
Rank of importance, from 1 (not important at all) to 5 (extremely important)

"Profitability would be important to the specific part of the system I am working on."

X^2(2, N = 265) = 7.79, p = .020, Government and Industry (p = .019)

Government: (M = 3.51, SD = 1.10)
Academia: (M = 3.33, SD = 1.13)
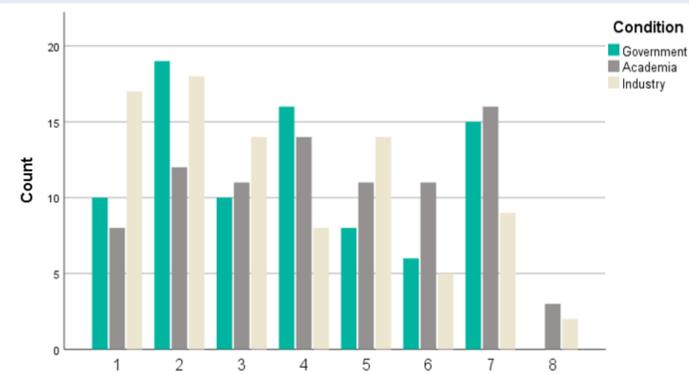Industry: (M = 3.06, SD = .976)

Rank of importance, from 1 (not important at all) to 5 (extremely important)

"The overall system's cost would be important to me."

X^2(2, N = 265) = 9.024, p = .011), Government and Academia (p = .013)

Government: (M = 3.99, SD = .901)
Academia: (M = 3.60, SD = .974)
Industry: (M = 3.68, SD = .885)

Rank of importance, from 1 (most important) to 8 (least important)

"Please rank EFFICIENCY as according to the importance you feel it would have."

X^2(2, N = 265) = 7.93, p = .019, Academia and Industry (p = .016)

Government: (M = 3.85, SD = 2.03)
Academia: (M = 4.40, SD = 2.07)
Industry: (M = 3.52, SD = 2.06)

Discussion and Future Research

Theoretical Value
- Understand preferences as balances between stakeholder needs
- Encourages attention to values of individuals and groups

Practical Applications
- Multiagency organizations becoming more popular
- Insight into how to address complex work goals

Limitations
- Non-workplace environment
- Hypothetical questions for complex situations
- Complexity of attributes

Future Research
- Global scale and international teams to adapt for cross-national values
- Further research will include actual workplace environments with NASA engineers

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