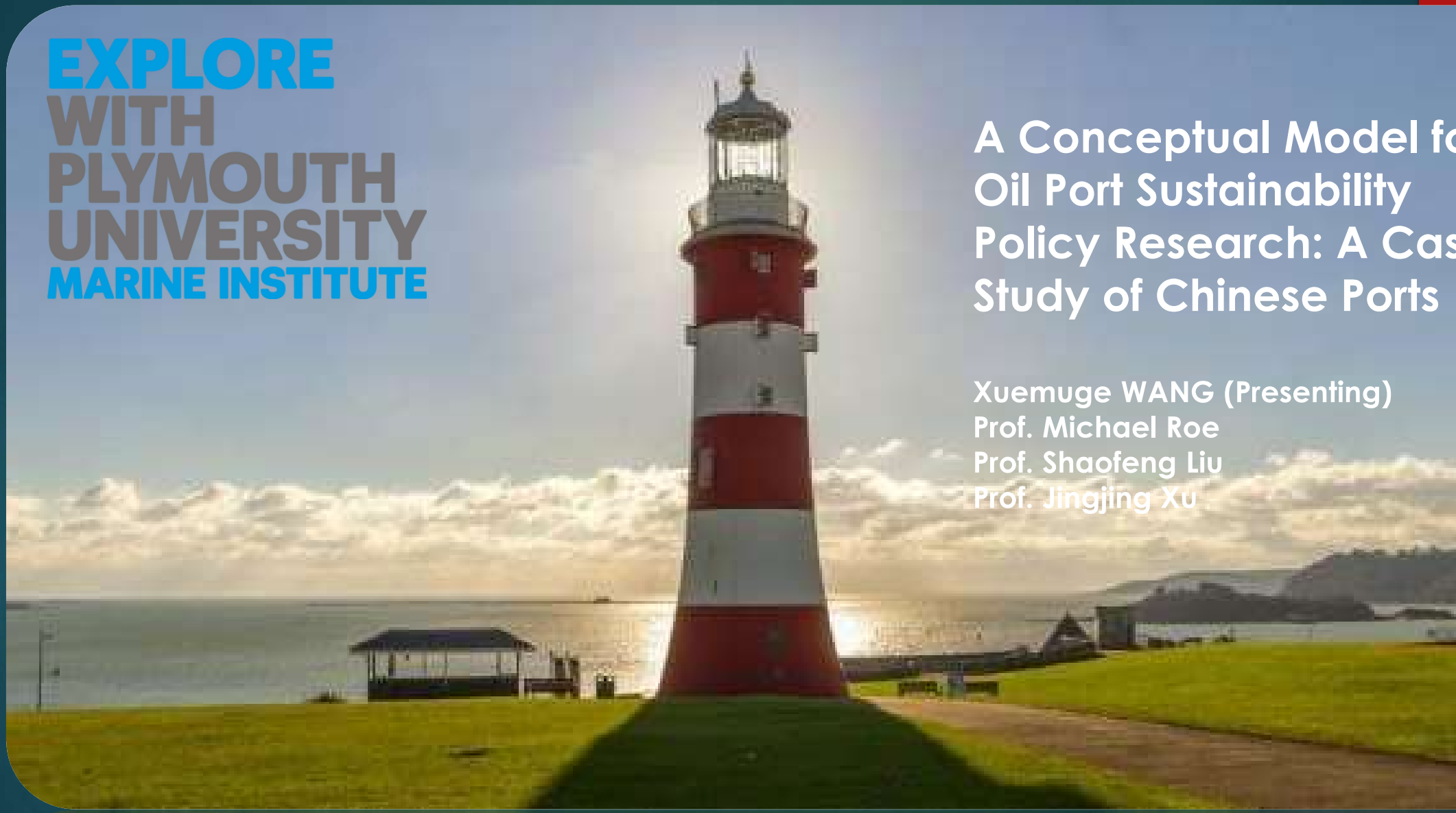

A Conceptual Model fo Oil Port Sustainability Policy Research: A Cas Study of Chinese Ports

Xuemuge WANG (Presenting)
Prof. Michael Roe
Prof. Shaofeng Liu
Prof. Jingjing Xu

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Agenda

- Background
- Research Question, Objectives, and Aim
- Approach: A systematic Literature Review and Policy Reading
- Findings (Conceptual Model)
- Research Methodologies to conduct Empirical Study
- Conclusions

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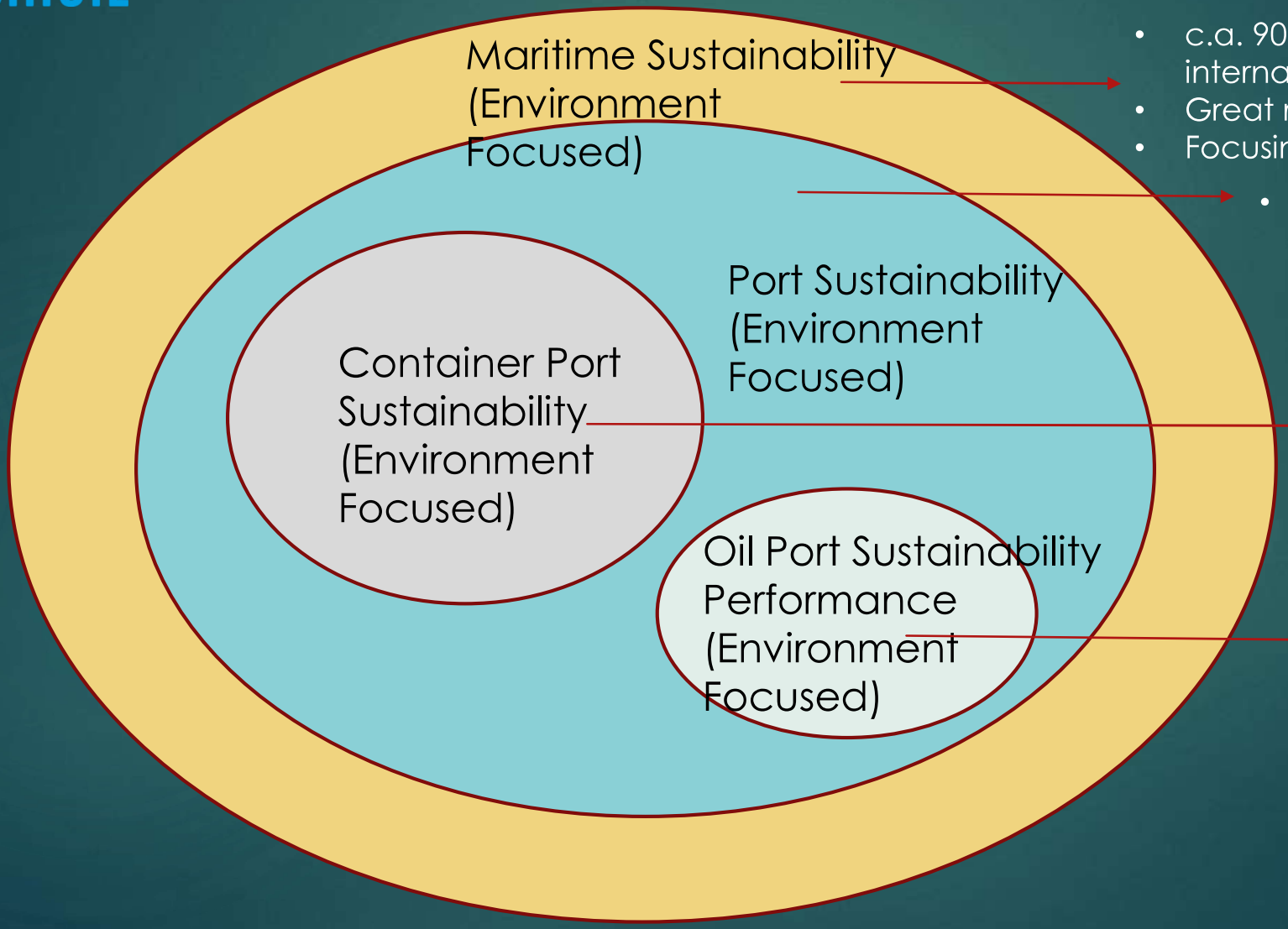
Background I. Scope and Focus



- c.a. 90% of world trade is carri international shipping
- Great responsibilities
- Focusing on ships and trading

- linkage between sea transportation may co environmental impac surrounding area (insi outside)

- Most focused type
- Enormous tra quantity and

- less researched
- more sensible

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Background II. Research Questi
Aim and Objectives

- Research Aim:

To develop a conceptual model for the Chinese oil port sustainability policy fram

- Research Question:

What are the potential measurement groups for the oil port sustainability policy framework?

- Research Objectives:

1. To define the definition of sustainability in terms of port management
2. To find out the relevant international, national and local policy frameworks
3. To identify potential indicator groups for Chinese oil port sustainability policy framework

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Approach: Systematic Literatur Review and Policy Reading I.

- Systematic Literature Review and Policy Reading as a part of the Resea

- How

  - Three Data Bases of: Google Scholar, China Stateoceanic Administratio Chinaports

  - Key-Word Coding

  - Exclusion Criteria

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Approach: Systematic Literature Review and Policy Reading III.

Type	Year	Author	Publication	Source
Journal	2006	E, Peris-Mora. And J, M, Diez Orejas. And A, Subirates. And S, Ibanez. And P, Alvarez	Development of a System of Indicators for Sustainable Port Management	Marine Pollution Bulletin, 50 1660
Journal	2014	L,M, Ascencio. And R, G, Gonzalez-Ramirez. And L, A, Bearzotti. And N, R, Smith. And J, F, Camacho-Vallejo	A Collaborative Supply Chain Management System for a Maritime Port Logistics Chain	Joutnal of Applied researcl Technology, Vol. 12, Issue 3
Handbook	2012	D, Andersson confirmed and J, Smith. in charge	Operating Regulations for the Oil Harbour (Port of Gothenburg)	Port of Gothenburg
Journal	2013	T, Lirn. And Y, J, Wu. And Y, J, Chen	Green Performance Criteria for Sustainable Ports in Asia	International Journal of Phy Distribution & Logistics Man
Journal	2014	V, Hiranandani	Sustainable Developmetn in the Maritime Industry: A Multi-Case Study of Seaports	WMU Journal of Maritme A Issue 1, pp. 127-172
Journal	2014	S, Jentoft. And M, Knol	Marine Spatial Planning: Risk or Opportunity for Fisheries in the North Sea?	Jentoft and Knol Maritime S

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Approach: Systematic Literatu Review and Policy Reading II

- Detailed Analysis of the literature on sustainability with the following research questions:

- For what purpose has the term 'sustainability' been used in the context of po management?

- What are the main relevant international, national, and local policies to port sustainability management?

- What are the main sustainability indicators

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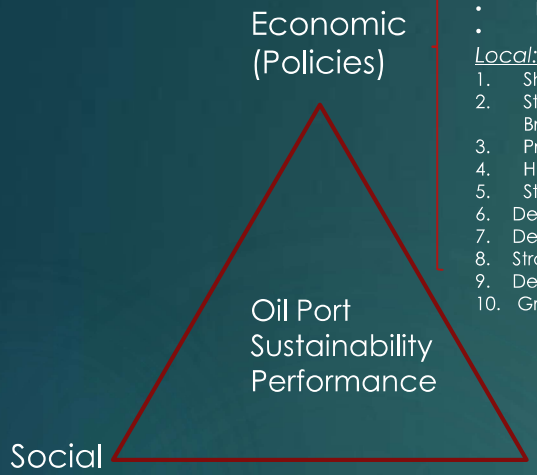
Approach: Systematic Literature Review and Policy Reading



National: .

1. OBOR
   - Innovation
   - Competence
   - Air, Road, and Sea Transportation Corporation
2. The 13th Five Year Plan
   - Innovation Ability
   - Surplus Production
   - Huge Accident Frequency Control
   - Boost Sustainability

Local:

1. Share transfer with the A. P. Moller Maersk
2. Strategic Corporation Contractus between Qingdao Port, China-Africa Development Fund Limited Company, China Development Bank Qingdao Branch
3. Providing SC finance services
4. Huaifang-Luzhong Lubei Oil Pipe and Tank Farm Project
5. Strategic Corporation Agreement between Qingdao Port, Cosco, and Constantze Port Port Authority
6. Development of Dongjiakou Oil Terminal
7. Development in Dongjiakou Are
8. Strategic Corporation Constractus between Qingdao Port and Vale. S.A
9. Development of the Fourth Generation Port
10. Granted to become super Port in the year 2020

Tools

International

1. ISO 14001 (EMS: for organizations)
2. Green Ports (the balance between environment and economic demand)
3. Ecoports (the effective environment port management) / GPAS
4. Global Reporting Initiative Standards
5. Carbon disclosure Project (framework used by 3,000 of the world's largest companies to report their greenhouse gas emissions and climate change strategies)
6. Greenhouse Gas Protocol
7. Environmental Ship Index (project from World Ports Climate Initiative)
8. Environment code (ESPO)
9. PERS standard (Port Environmental Review System
10. EMAS
11. INDAPORT

National

1. 2016 Guidance for the Oil and Gas Recycling at Wharf
2. National Administration of Environmental Monitoring
3. Special Maritime Environmental Forecast Service Certificate Management Approaches

Policies

International

1. MARPOL
2. London Convention
3. SOLAS
4. International Convention on Oil Pollution Preparedness, Response and Co-operation
5. International Convention for the Prevention of Pollution of the Sea by Oil, 1954 (OILPOL)
6. International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC 1969)
7. International Convention on Liability and Compensation for Damage in Connection with the Hazardous and Noxious Substances by Sea, 1996 (HNS Convention)
8. International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001
9. International Maritime Dangerous Goods Code (IMDG Code)

National

1. Marine Environment Protection Law of the People's Republic of China
2. Provision of the PR China on the Administration of Overseas Marine Science research
3. Regulations of the People's Republic of China Concerning Environmental Protection in Offshore Exploitation
4. Regulations of the People's Republic of China on the Control over Prevention of Pollution by Ve
5. Regulations on Prevention of Environment Pollution by Ship Scraping of the P.C.C
6. Regulations Concerning the Prevention and Cure of Pollution Damage of Marine Environment Project
7. Regulations of the People's Republic of China Governing Survey of Ships and Offshore Installati
8. Notice of the State Council on Issuing the Action Plan for Preventing and Treatment of Water P
9. PR China Port Law
10. Provision on the Port Planning and Management

Local

1. Shandong Province Huge Manufacturing Accident Potentiality Troubleshooting and Governan Approaches
2. Shandong Province Emergency Governance Approache
3. Explosion Area Safety Regulations
4. Dangerous Cargo at Port Governance Regulations
5. Tanker and Oil Terminal Oil Gas Poisoning Avoidance Regulations
6. Oil Terminal Security Techniques Requirement
7. Tankers and Oil Terminals Safety Operation Regulations
8. Tanker Field Fire Bank Design Regulations
9. Corrosion Prevention of Steel Oil Pipe Regulations
10. Port and Terminal Labour Regulations: Part 6 Oil Terminals
11. Port Oil Loading Arm Standards
12. Oil Spill Response Equipment Requirements at Oil Ports and Terminals
13. Bulk Liquid Dangerous Cargo Safety and Pollution Prevention Management System

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Approach: Gaps in Existing Literature V.

- few have covered oil ports
- Only focused on certain environmental or safety issues in oil ports
- No holistic sustainability performance examination

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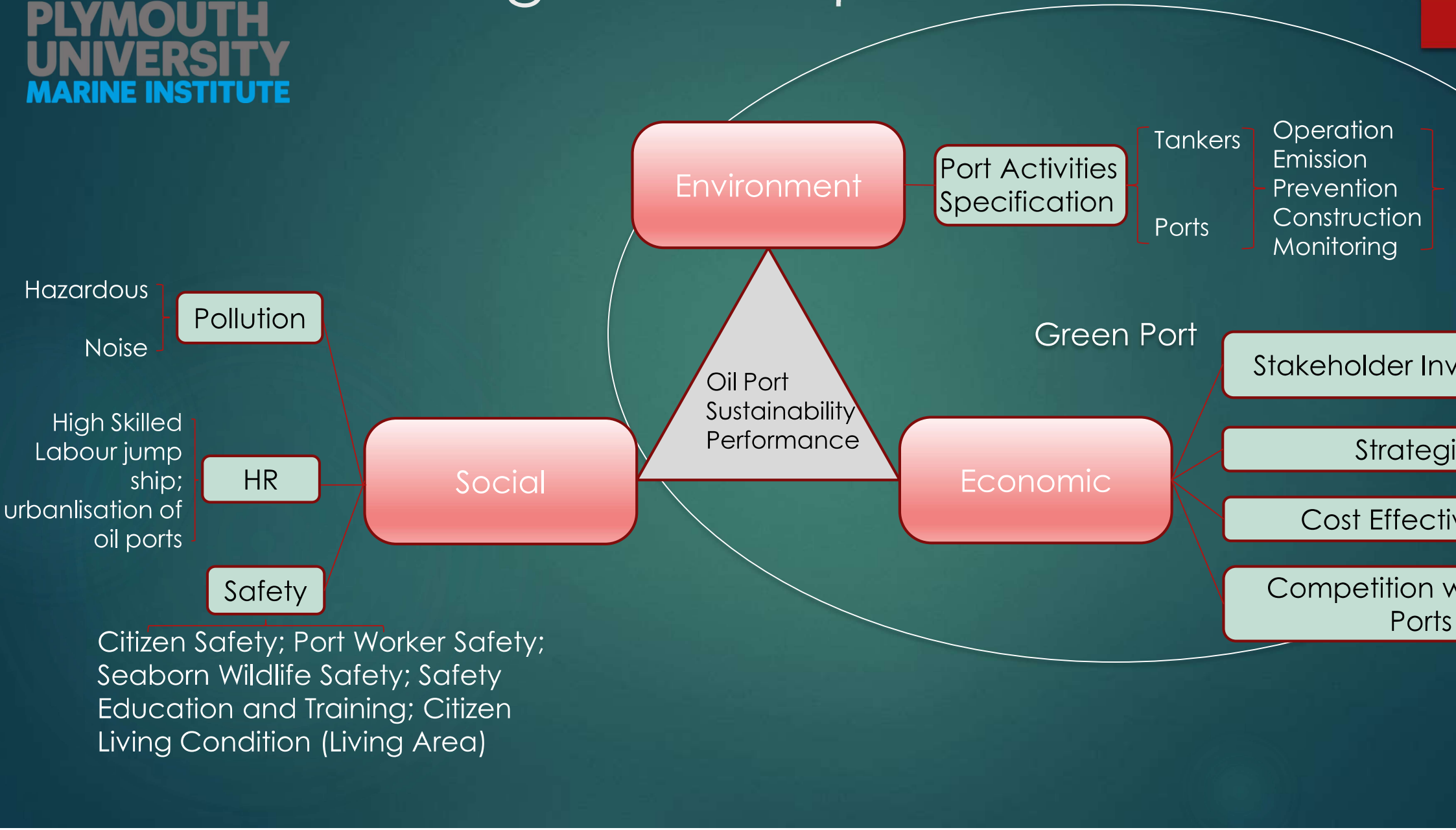
Findings: Conceptual Model



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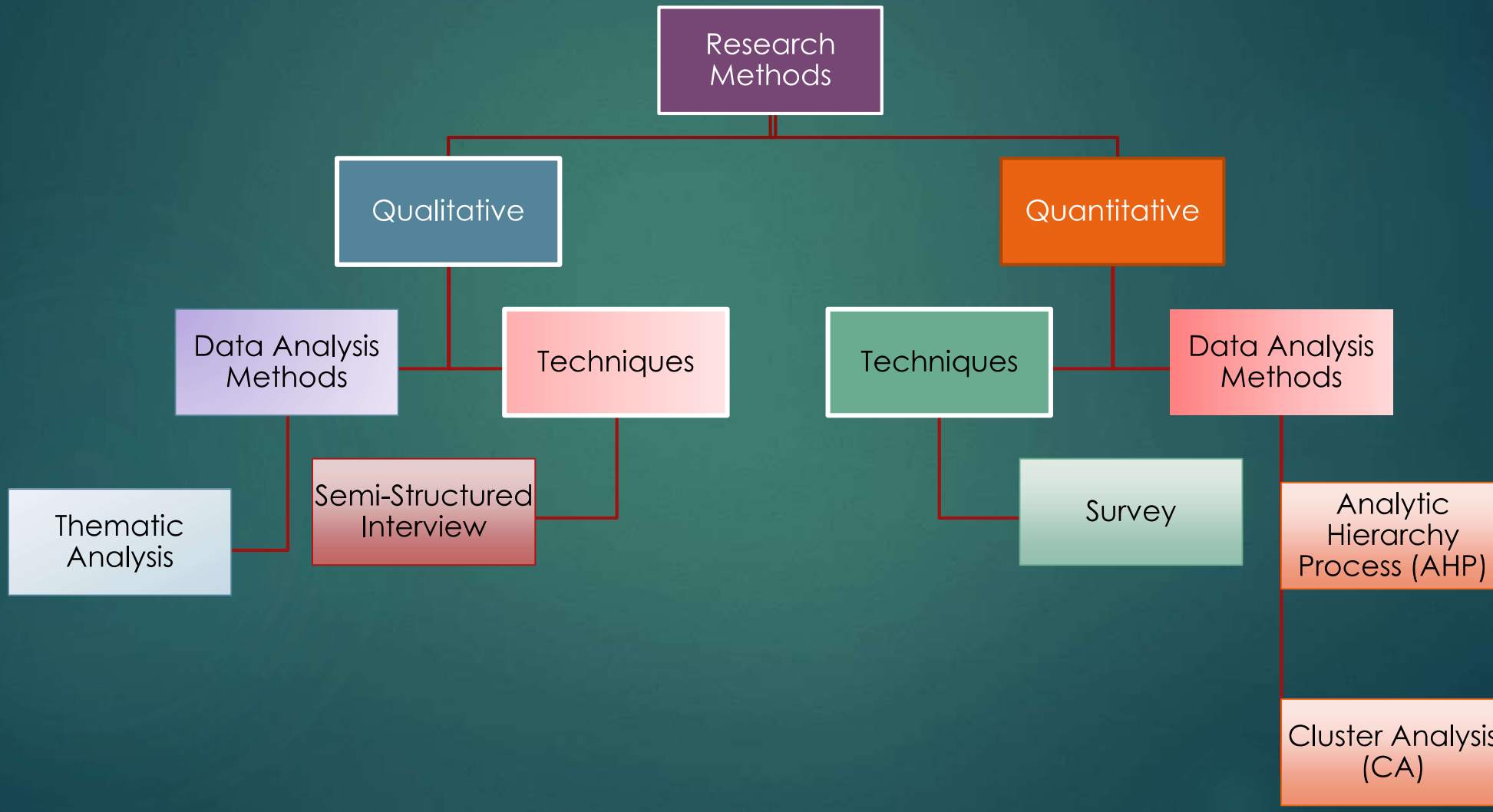
Research Methodologies to con
Empirical Study



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Conclusion

- Contributions

  - Specific Measures to assess Oil Port Sustainability

  - A holistic Oil Port Sustainability Framework

- Next Step

  - Empirical study via interviews and survey to collect data

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Thank you!