

Dissertation Research Proposal

Ruth Lorensen

University of Wales Trinity Saint David

MBA Sustainability Leadership

January 22, 2025

1. Introduction: State your chosen topic title of the proposed research.

The proposed research is titled *"Biomimicry in Leadership: How Healthy Leadership Creates Healthy Business Ecosystems - Lessons from Keystone Species."* This study seeks to explore how biomimetic leadership, inspired by keystone species in nature, can influence and sustain healthy, adaptive, and resilient business ecosystems.

2. Expands on the title by providing the context of the research boundaries (what and where).

The proposed study will focus on leadership practices within sustainability-oriented organizations (e.g., certified B Corps, social enterprises, and multinational corporations with established sustainability agendas). The research will examine how leadership behaviors modeled after keystone species—organisms critical to ecosystem balance—can be translated into business practices that promote organizational health and resilience. Specifically, the geographical scope will include companies and sustainability-focused groups primarily in the USA and the UK to ensure diverse perspectives in complex business environments.

3. Provide a justification for your topic choice based on a small review of previous research in the topic area.

This study examines the under-explored application of biomimicry—particularly lessons from keystone species—to leadership and organizational health. Recognizing that healthy leadership is vital to organizational resilience, adaptability, and sustainability mirrors the critical influence keystone species exert on entire ecosystems.

While biomimicry has successfully guided innovation in fields like product design and architecture, its direct application to leadership—particularly linking leaders' well-being to organizational ecosystem outcomes—remains under-explored. Recent literature points out the need for:

1. Clear connections between leadership health and organizational health
2. Insights into how healthy leadership practices emerge and endure
3. Empirical data supporting the business case for linking leadership well-being to broader system resilience
4. Practical, nature-inspired frameworks that offer actionable models for businesses

By examining leadership through the lens of keystone species (which exert a disproportionate influence on their ecosystems), this research aims to propose tangible biomimetic strategies. These strategies can help leaders foster organizational resilience, sustainability, and overall health, bridging a gap in both theory and practice.

4. Define the concepts and theory (theories) that will inform your research.

The theoretical foundation of this research is built upon a multidisciplinary integration of concepts and theories that explore the intersection of natural ecosystems, leadership practices, and organizational sustainability.

1. Biomimicry: The practice of learning from and mimicking nature's forms, processes, and ecosystems to create more sustainable systems in business and leadership (Benyus, 1997).
2. Keystone Species: Species that have a disproportionately large effect on their environment relative to their abundance (Power et al., 1996).
3. Leadership Theories:

Transformational Leadership (Bass and Avolio, 1994): Leaders who inspire and motivate followers through vision, authenticity, and ethical considerations.

System Leadership (Senge, Hamilton, and Kania, 2015): Leadership approach emphasizing interconnectedness, collaboration, and stewardship in complex systems.

4. **Healthy Business Ecosystems:** Business ecosystems characterized by sustainable growth, ethical practices, resilience to change, and positive stakeholder relationships (Moore, 1993; Adner, 2017).

These concepts frame a theoretical lens for understanding how mimicking some keystone species' behaviors might enhance leadership effectiveness and foster healthy, sustainable business ecosystems.

5. Research Question

"How can leadership principles derived from keystone species behavior contribute to creating and maintaining healthy business ecosystems that drive sustainable business success?"

6. State the aims of research

The aim of this research is to investigate how biomimicry-inspired leadership, modeled on the behaviors of keystone species, fosters healthy business ecosystems and drives sustainable organizational success.

7. State the objectives of the research

The research objectives aim to provide a structured approach to investigating how ecological insights from keystone species can inform leadership practices, fostering healthier and more sustainable business ecosystems. The objectives are:

1. Identifying patterns of healthy behavior in keystone species that maintain ecosystem vitality and translating these insights into leadership contexts.
2. Examining the relationship between healthy business ecosystems and sustainable business success through empirical evidence.
3. Demonstrating how leadership health directly influences organizational ecosystem health.

4. Evaluating the reciprocal interdependence between leader well-being and system resilience.
5. Developing a biomimicry-based leadership framework, inspired by keystone species, to enhance leadership capacity and deliver sustainable value across organizational ecosystems.

8. State the primary research question(s)

The primary research questions are designed to explore the applicability of biomimicry in leadership, focusing on how the behaviors of keystone species can inform and enhance sustainable business practices. These questions are:

1. What specific leadership traits of keystone species are most relevant to organizational leadership?
2. How do these traits translate into actionable leadership practices within sustainability-oriented businesses?
3. In what ways can applying a biomimetic leadership framework improve organizational health, resilience, and sustainability?

9. Methodological approach: Identify the research approach and evaluate and justify the choice of research methods used for data collection and analysis and provides brief insight into the process of ethically securing the research.

This study will employ a mixed-methods research approach, integrating qualitative and quantitative methodologies to ensure a robust and multidimensional exploration of how keystone species' characteristics can inform leadership practices and organizational health. This approach is well-suited to capturing the complexity of the research topic by combining rich, context-specific insights with measurable, generalizable data.

Qualitative Approach: In-depth interviews and online focus groups will be conducted with sustainability leaders and organizational stakeholders. This method will capture nuanced

perceptions, experiences, and motivations, providing a deeper understanding of how biomimetic leadership principles resonate in practice.

Quantitative Approach: Surveys will be administered to measure leadership behaviors, organizational resilience, and sustainability outcomes. This will allow for the identification of patterns and correlations across a broader sample, providing statistical validation of the qualitative findings.

Ethical Considerations: The study will adhere to strict ethical standards. Participants will receive detailed information about the research purpose, methodology, and potential benefits. Informed consent will be obtained, and confidentiality and anonymity will be ensured to protect participants' identities and data. This ethical framework is designed to maintain trust, transparency, and the integrity of the research process.

10. Justify the research approach you will use to fulfil the research objectives/questions.

To fulfill the research objectives and questions, a triangulated, mixed-methods research approach will be employed. Triangulation, through the integration of multiple data sources—including interviews, focus groups, surveys, and potentially secondary organizational documents—will enhance the validity and reliability of findings by cross-verifying information and mitigating biases inherent in single-source methodologies.

Given the intricate nature of the research topic—exploring leadership dynamics in the context of sustainability and organizational culture—a mixed-methods approach is particularly well-suited. This methodology allows for the nuanced exploration of complex phenomena, combining the depth of qualitative insights with the breadth and generalizability of quantitative data. Such an approach ensures a comprehensive understanding of the interplay between leadership behaviors, organizational ecosystems, and sustainable practices.

11. Identify the research methods that you will use to gather the data (e.g. interviews / questionnaire etc.)

The research will employ a combination of qualitative and quantitative methods to gather data, ensuring a comprehensive exploration of the research questions:

- **Semi-Structured Interviews & Focus Groups:** In-depth interviews will be conducted with leadership teams, sustainability managers, and employees from 5–10 sustainability-oriented organizations. These methods will provide rich qualitative insights into leadership behaviors and organizational practices.
- **Surveys:** An online survey will be developed and distributed to collect quantitative data, focusing on leadership behaviors and sustainability performance indicators. This will allow for the identification of trends and patterns across a broader sample.
- **Observational and Archival Data (Optional):** Where available, organizational reports, CSR documentation, and recorded leadership training sessions will be reviewed. This data will serve as an additional source for triangulation, enriching the analysis and ensuring greater validity.

12. Explain the process involved in carrying out the research (sampling)

The research will employ a purposeful sampling approach to ensure the selection of organizations and participants most relevant to the study's objectives:

- **Sampling Method:** Organizations will be purposefully selected based on their recognized sustainability practices. Within these organizations, individuals in key leadership roles, including executives, middle managers, and sustainability personnel, will be targeted as they are most likely to provide valuable insights into leadership dynamics and sustainability initiatives.
- **Sample Size:** The study will aim to engage 15–20 participants for semi-structured interviews, organize two focus groups, and collect responses from 100–150 survey

participants across the selected organizations. This sampling strategy will balance depth and breadth, ensuring robust and representative data collection.

13. Explains the process by which the research is ethically secured (ethics practice and principles – i.e. consent form, anonymity etc)

The research will adhere to strict ethical practices:

- **Informed Consent:** Participants will receive a study overview and a consent form outlining their rights, including voluntary participation and the option to withdraw at any time.
- **Anonymity and Confidentiality:** Pseudonyms will protect identities, and data will be anonymized and securely stored, ensuring confidentiality and compliance with data protection standards.

14. Identify the methods of analysis of data and how the data will be presented.

The data will be analyzed and presented using the following methods:

- **Qualitative Data:** Thematic analysis (Braun and Clarke, 2006) will identify recurring themes from interviews and focus groups, providing rich, contextual insights.
- **Quantitative Data:** Statistical analysis, including descriptive statistics and correlation/regression techniques, will explore relationships between leadership behaviors and sustainability metrics.
- **Presentation:** Results will be presented through charts, tables, and narrative summaries, clearly linking findings to the literature and theoretical framework.

15. Gantt chart Report the main activities and each month's activity, state your intended submission date. Your end submission deadline is your end of registration date. You can submit earlier but that is the last date for submission of the main dissertation.

Month	Activity
1	Finalize proposal, obtain ethical approval
2	Literature review expansion, refine research instruments
3	Conduct pilot interviews/surveys
4	Main data collection (interviews, surveys)
5	Data analysis (qualitative coding, quantitative analysis)
6	Synthesize findings, begin drafting chapters
7	Refine chapters, finalize main dissertation
8	Proofreading, final edits
9	Dissertation submission (September 30, 2025)

16. Research Planning and Ethics: Prepare the ethics form – If you can not locate this in moodle, contact me and I will send you the form.

The research will follow institutional ethical guidelines:

- **Ethics Form:** The required institutional ethics form will be completed and submitted for approval.
- **Risk Mitigation:** As minimal risk to participants is anticipated, the primary focus will be on ensuring confidentiality and voluntary participation to uphold ethical standards.

17. References: Includes all references used in the proposal presented in the appropriate referencing style.

Adner, R. (2017). Ecosystem as Structure: An Actionable Construct for Strategy. *Journal of Management*, 43(1), pp.39–58. doi:<https://doi.org/10.1177/0149206316678451> [Accessed 1 Jan. 2025].

Bass, B.M. and Avolio, B.J. (1994). *Improving Organizational Effectiveness Through Transformational leadership*. Thousand Oaks, California: Sage.

Benyus, J. M. (1997). *Biomimicry: Innovation inspired by nature*. William Morrow.

Braun, V. and Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2), pp.77–101. doi:<https://doi.org/10.1191/1478088706qp063oa> [Accessed 15 Jan. 2025].

Capra, F., & Luisi, P. L. (2014). *The systems view of life: A unifying vision*. Cambridge University Press.

Moore, J. (1993). *Predators and Prey: A New Ecology of Competition*. [online] Harvard Business Review. Available at: <https://hbr.org/1993/05/predators-and-prey-a-new-ecology-of-competition> [Accessed 10 Dec. 2024].

Power, M.E., Tilman, D., Estes, J.A., Menge, B.A., Bond, W.J., Mills, L.S., Daily, G., Castilla, J.C., Lubchenco, J. and Paine, R.T. (1996). Challenges in the Quest for Keystones. *BioScience*, [online] 46(8), pp.609–620. doi:<https://doi.org/10.2307/1312990> [Accessed 12 Dec. 2024].

Senge, P.M. (1990). *The Fifth Discipline*. The Crown Publishing Group.

Senge, P., Hamilton, H. and Kania, J. (2014). The Dawn of System Leadership (SSIR).

[online] Ssir.org. Available at: https://ssir.org/articles/entry/the_dawn_of_system_leadership

[Accessed 2 Jan. 2025].