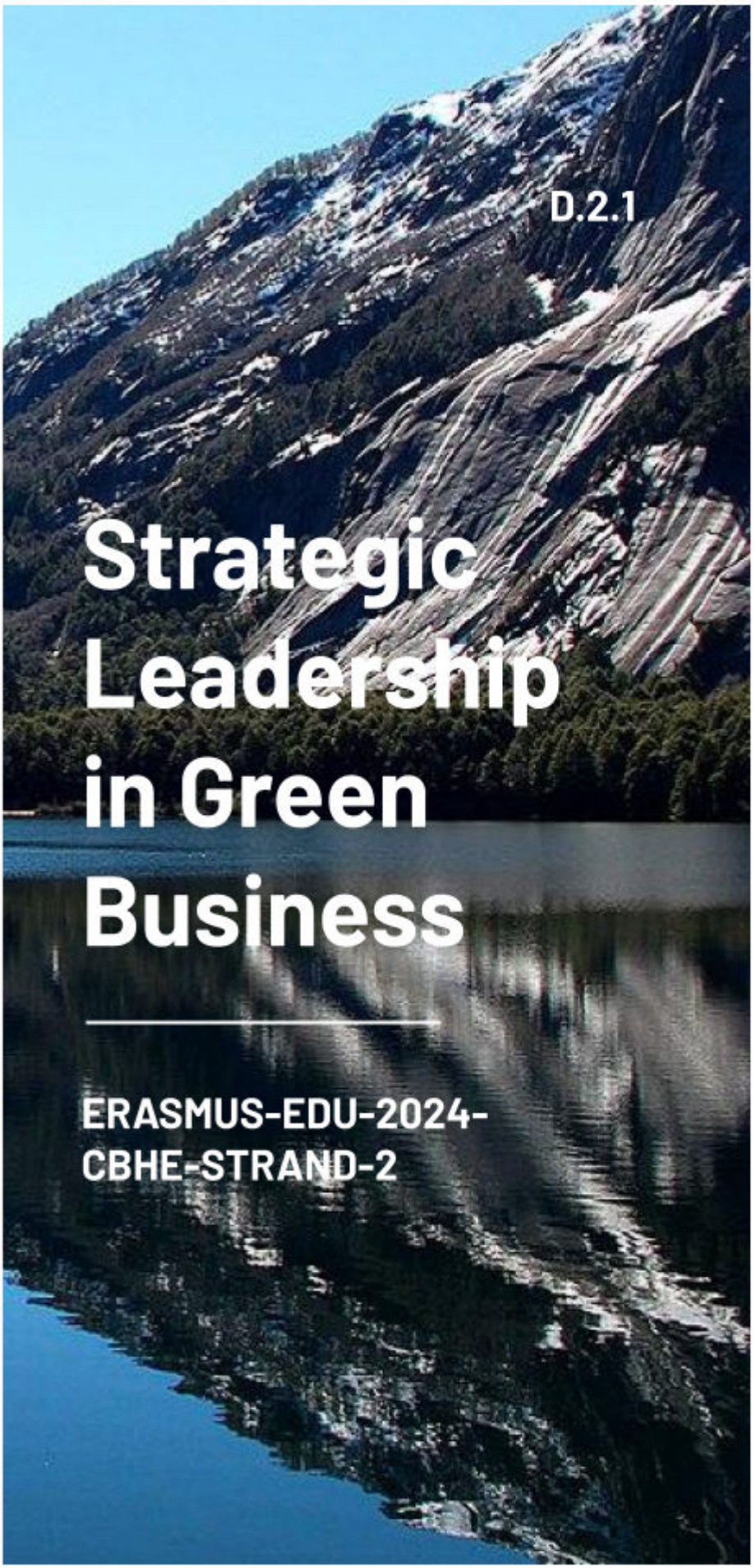

Compiled Report on the Needs Analysis for Argentina

P. Code: **101179307**

Co-funded by the European Union

Tabla de contenido

Technical References

Project Information

Strategic Leadership in Green Business (SLGB) was specifically designed to address regional needs, leveraging the opportunity to create a significant and sustainable impact in the region. The project involves collaboration and participation from multiple Latin American countries (Ecuador, Colombia, and Argentina) alongside three European countries (Spain, Sweden, and Finland) to develop a Strategic Leadership for Green Business program. The participating Latin American countries share similarities in terms of socio-economic and cultural contexts. The SLGB project aims to enhance specific knowledge and, consequently, the capacity of Latin American students to become effective leaders and entrepreneurs, tackling the challenging issues of sustainable prosperity in Latin America and the transition of productive sectors toward decarbonization, as part of the European Green Deal.

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Project Acronym	SLGB
Full Project Title	Strategic Leadership in Green Business
Call Identifier	ERASMUS-EDU-2024-CBHE
Topic	ERASMUS-EDU-2024-CBHE-STRAND-2
Type of Action	ERASMUS-LS
Duration (in months)	24
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Version History

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V.1.1	28.05.2025	UVA	UNSAM, UNS, WA	Revision
V.2	30.05.2025	UVA	UNSAM, UNS, WA	Final version

V.3	3.07.2025	UVA	UNSAM, UNS, WA	Final version. With corrections. Link to Spanish version added. Duplicate content in *Additional Perspectives from Different Groups* removed.

Deliverable Summary

This report is a compiled comprehensive report on the needs analysis for Argentina involving Universidad Nacional de San Martín (UNSAM) and Universidad Nacional del Sur (UNS). This report offers detailed insights gathered from students, professors, and industry experts regarding their needs for the SLGB program. It highlights the significant themes of competencies, skills, knowledge gaps, and expectations from data obtained from three groups. Based on these identified themes, this report offers recommendations for curriculum development, teaching methods, support mechanisms, and industry collaboration to ensure the success of the SLGB program.

Keywords

Need analysis; compiled report; UNSAM; UNS; Students; Professors; Industry experts

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List of acronyms

UNSAM	Universidad Nacional de San Martín/ National University of San Martín
UNS	Universidad Nacional del Sur/ National University of the South
SDGs	Sustainable development goals

Co-Funded by the European Union. The opinions and views expressed in this document are, however, those of the authors and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor the granting authority can be held responsible for them.

Introduction

This section provides the key findings of the survey conducted with students at two universities in Argentina. The two universities involved in conducting these surveys are the National University of San Martín (UNSAM) and the National University of the South (UNS). The scope of this analysis encompasses the student target group from Argentina. This group offers insights into their requirements and expectations for a Strategic Leadership in Green Business program. The analysis includes themes such as demographic background, perceptions of environmental problems, interest in green business, learning objectives, preferred course structure and content, skills improvement areas, and future expectations. By examining these themes for the students at UNSAM and UNS, this report identifies their perspectives and needs, which will inform the development of a comprehensive and effective Strategic Leadership in Green Business program.

To obtain these insights, a comprehensive methodological approach was adopted. Rather than relying solely on traditional focus groups, the research team chose to conduct an in-depth survey process complemented by meetings and collaborative sessions with professors and industry professionals. This decision was based on the need to collect a broader and more structured set of data, allowing for quantitative and qualitative analysis across a larger and more diverse sample.

The approach included team-based work sessions and direct interactions with participants, which allowed for a deeper understanding of individual and collective perspectives. This format enabled a richer collection of data than typical focus groups would have provided, ensuring that the findings were well-grounded and representative of the target populations. By analysing these themes across the three groups, this report aims to highlight both the commonalities and differences that will inform the design and development of the SLGB training programme.

Methodology

For the methodology, this report covers the structured questionnaires that were prepared for the target groups, i.e. students, professors, and industry experts. These questionnaires were developed to obtain detailed insights into several factors related to the SLGB program. The target groups for this analysis are as follows:

Students

The student questionnaire included questions on demographic information, current knowledge and skills, improvement areas, competencies and skills needed to succeed in a Strategic Leadership in Green Business program, expectations from the course regarding content and structure, course format and methods, challenges and needed support, complementary activities, and specialization preferences. The student survey was conducted with a sample size of 145 respondents from UNSAM and 22 respondents from UNS.

Professors

The professor questionnaire includes questions on competencies and skills needed from students to succeed in the Strategic Leadership in Green Business (SLGB) program, students' current knowledge and skills, improvement areas, integration and design of the course, and needed support to succeed in the program. The student survey was conducted with a sample size of 145 respondents from UNSAM and 22 respondents from UNS. The professor survey was conducted with a sample size of 57 respondents from UNSAM and 11 respondents from UNS.

Industry Experts

The industry expert questionnaire includes questions on industry challenges related to sustainable and green business, important values for business, competencies, and skills needed from students to succeed in the SLGB program, skill gaps and improvement areas required from students, course content and methods from an industry perspective.

The industry expert survey was conducted with a sample size of 22 respondents (UNSAM) and 0 respondents (UNS) from various industries operating in sectors such as commerce, energy, education, agribusiness, technology, health, and consulting

The data collected from these questionnaires were analyzed to identify common themes and specific needs across all three groups. This analysis forms the basis for the recommendations provided in this report.

Demographic Background of Participants

Demographic Backgrounds - Students

UNSAM – The sample consists of 145 respondents from UNSAM. The majority of respondents identify as women (54.8%), while 43.8% identify as men. A small minority chose not to specify their gender (1.4%), reflecting diversity in identities. This suggests the importance of considering inclusive approaches and diversity in future studies or related policies. The most represented age groups are 25-34 years (37.7%) and 18-24 years (32.2%), with a smaller representation from other age ranges.

The majority of respondents have an undergraduate level of education (45.89%), followed by secondary education (27.40%). This marked difference reflects a possible gender disparity in access to or participation in education in the context studied. The concentration at the same educational level suggests academic homogeneity, which could guide specific strategies according to profiles. Additionally, it invites exploring social or methodological factors that influence this distribution of a homogeneous demographic profile.

The two main areas of training/experience are "Engineering and Technology" (69.7%) and "Environmental Sciences or Sustainability" (13.8%). Other areas have a smaller representation. The predominant areas of training/experience are concentrated in Engineering and Technology, followed by Environmental Sciences, while other disciplines have moderate participation. The distribution reflects a diverse academic profile, but with clear thematic priorities, possibly linked to professional interests or institutional approaches. The lower representation of other disciplines suggests opportunities to broaden perspectives in future studies. This segmentation could influence methodological approaches or interpretations according to the formative biases of the sample.

Most respondents (37.7%) have no work experience in green businesses or sustainability, indicating that they are students or are just starting. 17.8% have less than 1 year of experience, while other levels of experience are in the minority. There is a lack of work experience in green businesses or sustainability, which suggests a predominantly academic profile or one in the initial stage of professional insertion. The low proportion with experience, even minimal, reflects an emerging job market or one with access barriers. This could indicate an opportunity to strengthen practical training and policies that encourage participation in the sector. It also highlights the need to address gaps between theoretical training and applicability in this sustainable field.

UNS - The sample consists of 22 respondents from UNS. The majority of respondents identify as women (68.2%), while 31.8% identify as men. This suggests the importance of considering inclusive approaches and diversity in future studies or related policies. The most represented age groups are 18-24

years (54.5%) and 25-34 years (40.9%), with a smaller representation from other age ranges.

The majority of respondents have an undergraduate level of education (45.45%), followed by secondary education (36.36%). This marked difference reflects a possible gender disparity in access to or participation in education in the context studied. The concentration at the same educational level suggests academic homogeneity, which could guide specific strategies according to profiles. Additionally, it invites exploring social or methodological factors that influence this distribution of a homogeneous demographic profile.

The main area of training/experience is "Environmental Sciences or Sustainability" (59.1%), followed by "Sciences (Biology, Chemistry, Physics)" (36.4%). Other areas have a smaller representation. The distribution reflects a diverse academic profile, but with clear thematic priorities, possibly linked to professional interests or institutional approaches. The lower representation of other disciplines suggests opportunities to broaden perspectives in future studies. This segmentation could influence methodological approaches or interpretations according to the formative biases of the sample.

Most respondents (81.8%) have no work experience in green businesses or sustainability, indicating that they are students or are just starting. 13.6% have less than 1 year of experience, while other levels of experience are in the minority. There is a lack of work experience in green businesses or sustainability, which suggests a predominantly academic profile or one in the initial stage of professional insertion. The low proportion with experience, even minimal, reflects an emerging job market or one with access barriers. This could indicate an opportunity to strengthen practical training and policies that encourage participation in the sector. It also highlights the need to address gaps between theoretical training and applicability in this sustainable field.

Table 1. Demographic Profile Comparison of UNSAM and UNS Students

Demographic Category	Category	UNSAM (%)	UNS (%)
Gender	Woman	54.8	68.2
	Man	43.8	31.8
	Non-binary/Prefer not to say	1.4	-

Age Range	18 - 24 years	32.2	54.5
	25 - 34 years	37.7	40.9
	35 years or more	30.1	4.5
Educational Level	University	45.89	45.45
	Secondary	27.40	36.36
	Other	-	
	Post graduate	4.79	-
	In progress	0.68	4.55
	Tertiary/Technical	3.42	9.09
		-	-
Area of Training or Academic Experience	Environmental Science	13.8	59.1
	Sciences (Biology, Chemistry, Physics)	2.8	36.4
	Economics, Finance, and Business	1.4	-
	Engineering and Technology	69.7	-
	Other	8.3	4.5
Work Experience in Green Businesses or Sustainability	None, I am a student or I am starting	37.7	81.8

	Less than 1 year	17.8	13.6
	1 - 3 years	19.9	4.5
	4 years and more	24.6	-

Demographic Backgrounds – Professors

UNSAM - This report analyzes the results of surveys conducted with 57 representatives from various sectors at UNSAM. The sample is diverse in terms of gender, age, and educational level, representing different degrees of professional experience and involvement in green leadership.

Gender Distribution: The gender distribution among the respondents shows that 50.9% identify as male and 49.1% as female. This nearly equal distribution suggests a balanced representation of genders in the study.

Age Range: The age distribution indicates that the majority of respondents are 55 years or more (49.1%), followed by those in the 45-54 years range (28.1%), 35-44 years (17.5%), and 25-34 years (5.3%). This suggests a higher representation of older age groups within the sample.

Educational Level: Regarding educational level, 36.8% of respondents have completed a doctorate or post-doctorate, 26.3% have a master's or completed postgraduate degree, 22.8% have a bachelor's or university degree, and 14% have an incomplete doctorate or post-doctorate. This reflects a highly educated sample, with a significant proportion holding advanced degrees.

Years of Professional Experience: The majority of respondents (93%) have more than 10 years of professional experience, while a small minority (3.5%) have 7-10 years of experience. This indicates that the sample consists predominantly of highly experienced professionals.

Experience in Implementing Green Leadership: In terms of experience in implementing green leadership, 33.4% of respondents have experience, 29.8% have no experience, 22.8% are interested in gaining experience, and 14% have some experience. This shows a diverse range of experience levels in green leadership, with a significant proportion having practical experience.

UNS - This report analyzes the results of surveys conducted with 11 representatives from various sectors at UNS. The sample is diverse in terms of gender, age, and educational level, representing different degrees of professional experience and involvement in green leadership.

Gender Distribution: The gender distribution among the respondents shows that 63.6% identify as female and 36.4% as male. This suggests a higher representation of women in the study.

Age Range: The age distribution indicates that the majority of respondents are in the 35-44 years range (36.4%) and 45-54 years range (36.4%), followed by those 55 years or more (27.3%). This suggests a balanced representation of middle-aged and older age groups within the sample.

Educational Level: Regarding educational level, 100% of respondents have completed a doctorate or post-doctorate. This reflects a highly educated sample, with all respondents holding advanced degrees.

Years of Professional Experience: The majority of respondents (81.8%) have more than 10 years of professional experience, while 18.2% have 7-10 years of experience. This indicates that the sample consists predominantly of highly experienced professionals.

Experience in Implementing Green Leadership: In terms of experience in implementing green leadership, 54.5% of respondents have no experience, 18.2% are interested in gaining experience, 18.2% have experience, and 9.1% have some experience. This shows a diverse range of experience levels in green leadership, with a significant proportion having no practical experience.

Table 2. Demographic Profile Comparison of UNSAM and UNS Professors

Demographic Category	Category	UNSAM (%)	UNS (%)
Gender	Male	50.9	36.4
	Female	49.1	63.6
Age Range	25 - 34 years	5.3	-
	35 - 44 years	17.5	36.4
	45 - 54 years	28.1	36.4
	55 years or more	49.1	27.3

Educational Level	Bachelor's/University Degree	22.8	
	Master's or Completed Postgraduate	26.3	
	Incomplete Doctorate or Post-doctorate	14	
	Completed Doctorate or Post-doctorate	36.8	100
Years of Professional Experience	No responce	3.5	
	4-6 years		
	7-10 years	3.5	18.2
	More than 10 years	93	81.8
Experience in Implementing Green Leadership	No, I have no experience	29.8	54.5
	I'm interested in gaining experience	22.8	18.2
	I have some experience	14	9.1
	Yes, I have experience	33.4	18.2

Demographic Backgrounds – Industry Experts

UNSAM - This report analyzes the results of 22 surveys applied to representatives of various industries focused on green business and sustainability. The gender distribution of the 22 respondents showed a majority of women, with 63.6% identifying as female and 36.4% identifying as male. There were no responses identifying as non-binary or preferring not to say, potentially indicating a binary preference in responses. This distribution highlights a possible skew towards female participation within this survey's context. The age distribution among the 22 respondents showed a notable concentration in the middle-aged brackets. The

45-54 years and 35-44 years age ranges each represented 31.8% of respondents, forming the largest groups. Following closely, 27.3% were aged 55 and over, while 9.1% were in the 25-34 age group. There were no respondents aged 18-24. This indicates a sample primarily composed of mid-career professionals, which may correlate with the experience and involvement in sustainability practices within their respective industries. Regarding educational level, the survey revealed a highly educated respondent pool. The majority, 63.6%, held a completed master's or postgraduate degree. Additionally, 13.6% reported having completed doctoral or postdoctoral degrees. Only 9.1% indicated having a completed or incomplete bachelor's degree each. This data suggests that the respondents typically possess advanced educational backgrounds, likely reflecting the complexity and specialization of the green business and sustainability field. The most represented academic background among the 22 respondents was Engineering and Technology, accounting for 36.4%. Environmental Sciences and Sustainability followed with 22.7%, and Natural Sciences (Biology, Chemistry, Physics, etc.) represented 18.2%. Social Sciences and Humanities, and Economics, Finance, and Business each constituted 9.1%. This distribution indicates a strong technical and scientific foundation among the respondents, aligning with the practical and research-oriented nature of green business and sustainability initiatives.

UNS - It is important to note that while the project involved collaboration with UNS university, those partners were unable to collect industry data. Therefore, this report is solely based on the 22 responses received through UNSAM's survey.

Table 3. Demographic Profile Comparison of UNSAM and UNS Industry

Demographic Category	Category	UNSAM (%)	UNS (%)
Gender	Male	50	-
	Female	50	-
Age Range	25 - 34 years	50	-
	35 - 44 years	23.3	-
	45 - 54 years	10	-
	55 years or more	8	-

Educational Level	Secondary	10	-
	Incomplete University Degree	10	-
	Bachelor's/University Degree	-	-
	Master's or Completed Postgraduate	33.3	-
	Doctorate (Completed/Incomplete)	-	-

Findings

This section combines the findings from both universities (UNSAM and UNS) surveyed and insights from industry experts operating in different sectors. It offers a comprehensive analysis, and the survey data collected from students, professors, and industry experts revealed common and relevant themes.

Common Themes Emerged from all Groups

Current Knowledge and Skills

Students reported varying levels of knowledge in green business and sustainability. The majority of students expressed that they possess either basic or no knowledge in these areas. Students expressed interest in enhancing their understanding of sustainable business models, leadership, and the circular economy. This reflects an awareness among students about the importance of these fields for their potential careers and their desire to address existing knowledge gaps.

The professors critically assessed the students' existing knowledge and competencies. They highlighted that students generally lack knowledge of conceptualizing green businesses and sustainable business models. In addition, they stressed that students lack an overall understanding of the circular economy and the support ecosystem for green businesses. This assessment suggests that potential courses should strengthen the foundations of these concepts and

practical applications, and offer insights regarding financing resources and the support ecosystem.

Both students and professors agreed with the existing lack of understanding and knowledge in green business and sustainability. The professors, however, more strongly emphasized the need to fill the gaps in students' understanding, particularly in the practical application of concepts. This difference in perspective may be due to professors' higher expertise and awareness of the skills required for success in the field. In comparison, students appear to be less critical of their skills and competencies for strategic leadership in the green business program.

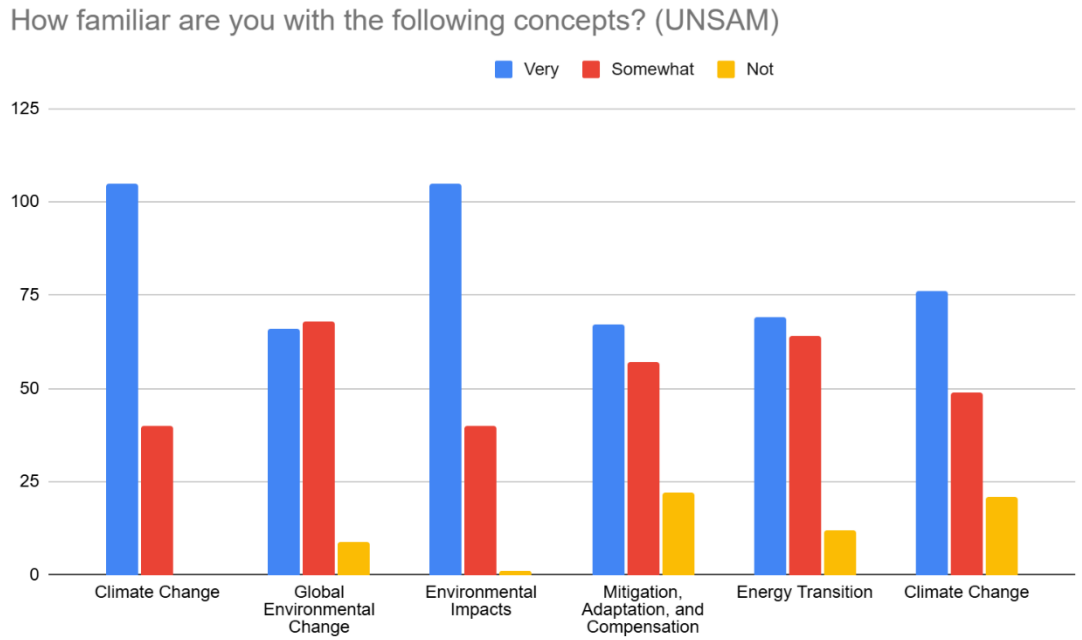

Figure 1. This analysis provides insights into the UNSAM students' understanding of key environmental concepts.

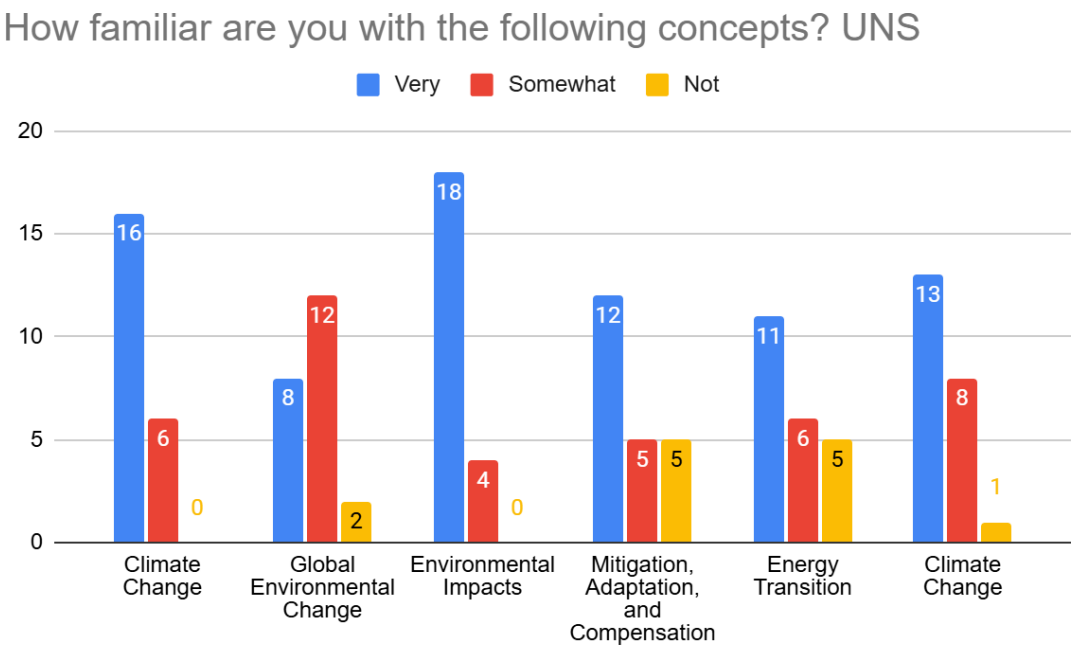

Figure 2. This analysis provides insights into the UNS students' understanding of key environmental concepts.

- Both UNSAM and UNS students show high familiarity with Climate Change and Environmental Impacts.
- There is moderate familiarity with Global Environmental Change, Mitigation, Adaptation, Compensation, and Energy Transition in both groups.
- A small proportion of students in both groups reported no familiarity with some concepts, indicating areas for further education and awareness.

Key Improvement Areas in the Skills and Competencies of Students

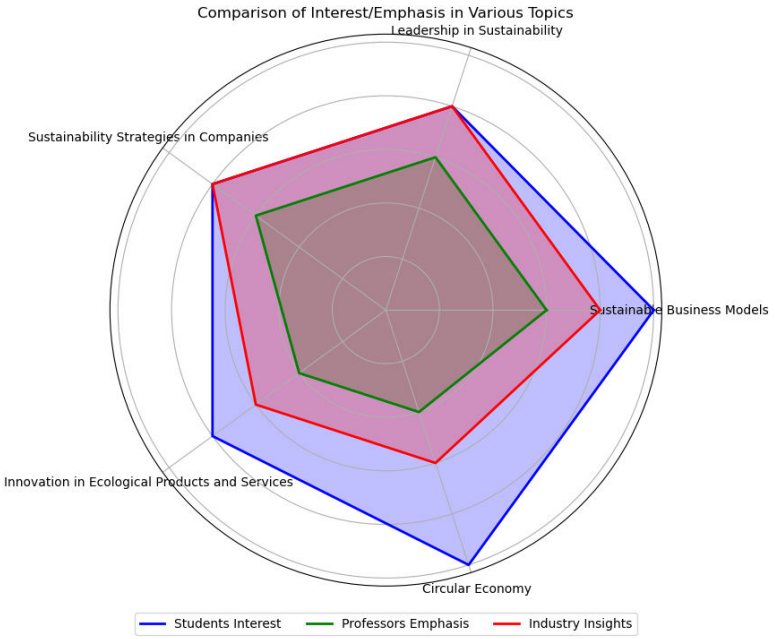

Chart 1: This radar chart visualizes the level of interest and emphasis on various sustainability-related topics among students, professors, and industry representatives. The topics include Sustainable Business Models, Leadership in Sustainability, Sustainability Strategies in Companies, Innovation in Ecological Products and Services, and Circular Economy.

The questionnaires for students, professors, and industry experts addressed areas for improvement. Each group provided insights into the areas where students need to improve to meet the demands of an SLGB program and the industry.

Students highlighted areas for improvement in their knowledge and skills. They showed interest in improving their skills and knowledge in the following topics: sustainable business models, leadership in sustainability, sustainability strategies in companies, and innovation in ecological products and services. They also showed a strong interest in enhancing their abilities related to the circular economy. Their emphasis on the practical and strategic aspects of SLGB indicates that they know the essential competencies required for success in the field and are eager to refine these skills.

In addition, professors have highlighted areas of improvement, stressing the need to develop critical and systemic thinking, change management and innovation, and entrepreneurial skills. They have emphasized the lack of understanding regarding sustainable business models. They have stressed the need to develop a comprehensive and detailed understanding of sustainable business models and more practical implications of these concepts. Furthermore, professors identified gaps such as limited exposure to real-world industry problems, difficulty applying theoretical knowledge, and limited understanding of sustainable business models.

Furthermore, industry representatives offered insights into the areas where students need to develop their knowledge. They stressed the need for strategic thinking and leadership, ability to develop innovative business models, knowledge of circular economy and climate change, and skills in sustainable project management. Industry experts also emphasized the importance of integrating sustainable practices. They highlighted significant gaps in current graduate training, especially in practical experience, environmental policy, and innovation.

Several common themes emerged while comparing these findings. Students, professors, and industry experts agree on enhancing the understanding of sustainable business models and leadership. Industry experts and professors have highlighted the necessity for innovation and practical skills, while students emphasized specific knowledge areas like sustainable business models and innovation in ecological products and services. These differences in priorities reflect the changing focus of each group, with students prioritizing immediate learning needs, while industry experts and professors highlight comprehensive competencies required for success in the field.

Competencies and Skills Needed

The findings demonstrate that all three groups (i.e., students, professors, and industry experts) identified skills gaps in developing strategic leadership in green business.

The skill gap is evident from the fact that the majority of the students indicate they have "zero or fundamental knowledge" and skills in green business and sustainable entrepreneurship. However, it is also encouraging to see that most students are willing to enhance their skills in "sustainable business models," "sustainability leadership," "sustainability strategies in companies," and "innovation in ecological products and services." Similarly, students have shown interest in the circular economy and innovation, reflecting a modern view of sustainability. Most students rated "leadership competencies," "innovation and creativity," and "acting for sustainability" as essential competencies for a strategic leadership program in green business. Findings indicate that the program must prioritize "training for basic knowledge," ensuring that all participants reach a solid knowledge base before addressing advanced or specialized topics. The high valuation of these areas underscores the need for programs that "integrate training in strategic decision-making, critical and systemic thinking," and "practical application of sustainable principles." This perception reinforces the importance of "aligning curriculum design" with these key competencies, linking theory, real projects, and multidisciplinary collaboration to close educational and operational gaps.

Professors highlight skills and knowledge gaps hindering SLGB. These gaps are a "lack of understanding of sustainable business models," "limited exposure to real-world industry problems," and "difficulty applying theoretical knowledge." These findings imply the critical prioritization of the conceptual training of green businesses and sustainable models. The gap in knowledge about the support ecosystem underscores the disconnection between academic training and real implementation networks, limiting the operability of projects. These gaps reflect the need for more holistic curricula that link theory, applied tools, and access to strategic networks to bridge the gap between education and sustainable action.

Industry experts highlight that the most critical competencies for graduate students are to "develop strategic thinking and leadership skills," "ability to develop innovative business models," "knowledge of circular economy and climate change," and "skills in sustainable project management." It is implied that competencies for leading in green business prioritize strategic and leadership capabilities, which are fundamental for driving sustainable visions. Technical knowledge in the circular economy and climate change emerges as a pillar for addressing environmental challenges, while project management skills stand out as practical tools for materializing initiatives. The lower relevance assigned to other competencies suggests a focus on managerial skills and specialized knowledge rather than on complementary operational or technological aspects.

We found several commonalities and differences in the responses of the three groups. Notably, students, professors, and industry experts agree on the importance of "innovation," "leadership," and "strategic thinking" in SLGB. These competencies are essential for success in the SLGB program and for addressing the complex challenges of sustainable business. However, there are also notable differences in their perspectives. Students and professors both emphasize the need for "practical skills" and the "application of knowledge." At the same time, "industry experts emphasize specific technical knowledge," such as the circular economy and climate change. This difference in focus reflects the varying

priorities of each group, with students and professors "prioritizing practical application" and industry experts emphasizing "specialized knowledge."

Preferred Course Content and Methods

We gathered perspectives from students, professors, and industry experts regarding the most suitable methodologies, relevant content, and pedagogical approaches for the future curriculum of the Strategic Leadership in Green Business course. Each group contributed insights into their expectations and recommendations for the course content and teaching methods.

Students' Perspectives

Students expressed a strong preference for a practical approach that incorporates real-world applications and project-based learning. When asked about their expectations for the content and structure of the course, their top preferences included:

- **Practical approach with applications to real cases (77.9%)**
- **Interaction with experts and industry professionals (53.8%)**
- **Work on applied projects (47.6%)**
- **Networking and collaboration opportunities (47.6%)**

This indicates a desire for a balance between theoretical understanding and practical application. Students want to see how the concepts they learn are applied in real-world scenarios. There is also a significant emphasis on networking and interaction with professionals, suggesting a desire for real-world connections and guidance.

Regarding course format, students favored:

- **Practical workshops and teamwork (72.2%)**
- **Online courses with schedule flexibility (61.8%)**
- **Expert conferences and mentoring (55.6%)**
- **Theoretical classes with case studies (52.8%)**

This shows a clear preference for interactive and collaborative formats, with a focus on hands-on learning. The desire for online flexibility also indicates a need for adaptability in course delivery.

In terms of learning methods, students strongly favored **project and problem-based learning (91.7%)**, followed by **methodological classes that include games (33.3%)** and **self-directed learning (19.4%)**. This highlights the preference for active and engaging methods over traditional lecture-based learning.

Regarding resources and support, students preferred **internship opportunities (75%), mentoring with industry leaders (64.3%), interactive materials (54.3%), and access to professional networks and networking (51.4%)**. These preferences reinforce the desire for practical experience and professional connections.

Professors' Perspectives

Professors also emphasized the importance of practical and applied methods. They particularly valued:

- **Project-based learning (67.3%)**
- **Real case studies (70.9%)**
- **Collaborative work (58.2%)**
- **Mentoring with experts (54.5%)**

This aligns with the students' preferences and underscores the importance of moving beyond purely theoretical instruction.

Professors also highlighted key gaps observed in students, such as:

- **Limited exposure to real-world industry problems**
- **Difficulty applying theoretical knowledge**
- **Limited understanding of sustainable business models**

These observations support the emphasis on practical learning approaches to bridge these gaps.

Industry Experts' Perspectives

Industry experts also favored a practical, hands-on approach, emphasizing:

- **Internships**
- **Mentoring**
- **Collaboration with industry professionals**

They stressed the need to align course content with industry needs and to equip students with the skills to navigate the complex landscape of strategic leadership in green business. They also emphasized the importance of **joint research on sustainable technologies (68.2%), innovation projects in the circular economy (63.6%) and development of training programs in green business (54.5%)**.

Common Themes and Overall Recommendations

All three groups—students, professors, and industry experts—favor a practical and hands-on approach to learning. Students and professors value flexibility and a combination of theoretical and practical methods, while industry experts emphasize the significance of real-world applications and collaborations.

Key recommendations for the course include:

- **Prioritize project and problem-based learning:** This approach is highly favored by all groups and allows for practical application of knowledge.
- **Incorporate real case studies and workshops:** These methods provide context and allow students to engage with real-world challenges.
- **Facilitate interaction with industry experts:** Mentoring, guest lectures, and networking events can provide valuable insights and connections.
- **Offer internship opportunities:** Practical experience is crucial for developing the necessary skills for green business leadership.

- **Provide online flexibility:** Offering online options or hybrid formats can cater to diverse student needs and schedules.
- **Balance theory with practice:** While practical application is crucial, a solid theoretical foundation is also necessary.
- **Focus on collaboration:** Teamwork and collaborative projects can enhance learning and develop valuable soft skills.

By incorporating these elements, the Strategic Leadership in Green Business course can effectively prepare students to meet the demands of the industry and become successful leaders in sustainability.

Additional Insights from Different Groups

Students' Perspectives

Expectations from the Course

The findings emphasize the high expectations students have for the content and structure of the course. They aim for *practical knowledge applied to real cases*, *interaction with experts and industry professionals*, and *working on applied projects*. Students seek a balance between theoretical fundamentals and practical applications. They desire an educational experience that provides them with a solid foundation and prepares them with practical competencies to address real-world challenges. Students value learning methods that are active and participatory, such as *practical workshops and teamwork* and *project and problem-based learning*. They also appreciate *online courses with schedule flexibility* and *expert conferences and mentoring*.

Challenges and Needed Support

Students anticipate challenges in applying green business principles due to a lack of technical knowledge and experience. They need substantial support, including *internship opportunities*, *mentoring with industry leaders*, and *access to professional networks and networking*. Students believe that practical experiences and guidance from experts are essential for bridging the gap between theory and practice. They also express the need for *interactive materials* to enhance their learning experience.

Willingness to Participate in Complementary Activities

There is a significant interest in the program's complementary activities. Students are highly interested in *internships or practices in sustainable companies*, *mentoring with experts*, *networking events*, and *innovation competitions*. These activities are seen as valuable opportunities to gain practical experience, build professional networks, and apply knowledge in real-world contexts. This enthusiasm reflects their commitment to applied learning and their desire to connect theoretical understanding with tangible practical opportunities.

Specialization Preferences

Students' preferences for specialization in green business are diverse. Key areas of interest include *sustainable business models*, *leadership in sustainability*, *sustainability strategies in companies*, and *innovation in ecological products and services*. They also show interest in the *circular economy*. These preferences highlight the need for the program to offer comprehensive and updated thematic content, covering various aspects of the green business sector and allowing students to focus on areas that align with their interests and career goals.

Professors' Perspectives

Key Competencies Identified

Professors highlighted fundamental competencies for a training program, including *critical and systemic thinking*, *change management and innovation*, *entrepreneurial skills*, and *effective communication and ethical decision-making*. These competencies are seen as essential for students to succeed in the field of strategic leadership for green business.

Gaps Observed in Students

Professors identified the main weaknesses in students, such as *limited exposure to real-world industry problems*, *difficulty applying theoretical knowledge*, and *limited understanding of sustainable business models*. These gaps suggest the need for practical and applied learning approaches in the program.

Recommended Teaching Approaches

Faculty members particularly value *project-based learning*, *real-world case studies*, and *collaborative learning*. They believe these methods will effectively bridge the gap between theory and practice and prepare students for real-world challenges.

Industry Experts' Perspectives

Key Competencies Identified

Industry experts highlight critical competencies for graduate students, including *developing strategic thinking and leadership skills*, *ability to develop innovative business models*, *knowledge of circular economy and climate change*, and *skills in sustainable project management*. These competencies are crucial for graduates to drive innovation and sustainability in their respective fields.

Willingness to Participate

Industry experts are willing to collaborate with universities through *mentoring students*, *hosting students for sustainability internships*, and *participating as sector leaders in networking events*. They also show interest in *joint research on sustainable technologies*, *innovation projects in the circular economy*, and *development of training programs in green business*.

Recommendations for Training Programs

Recommendations from industry experts include offering a flexible, practical, multidisciplinary approach aligned with real-world industrial challenges. They suggest a mix of theory, practice, and expert interaction, with a preference for hybrid (online/offline) formats.

Conclusion: Understanding Needs and Expectations

Analysing the collected data from students, professors, and industry experts has provided a comprehensive understanding of the needs, expectations, and challenges related to training programs in green business and sustainable leadership. This report indicates that students highly value practical approaches with applications to real-world cases, interaction with experts, and work on applied projects. They highlight the importance of competencies in sustainable business models, leadership in sustainability, and innovation in ecological products and services.

Professors emphasize critical and systemic thinking, innovation in sustainable business models, and change management as crucial competencies. They stress the need for students to gain exposure to real-world industry problems and to bridge the gap between theoretical knowledge and practical application. Industry experts focus on strategic thinking and leadership, knowledge of the circular economy and climate change, and the ability to develop innovative business models. They value competencies in sustainable project management and highlight the importance of practical experience.

The findings also reveal important gaps in students' current knowledge and skills, predominantly in the conception of green businesses, understanding of sustainable business models, and practical application of theoretical knowledge. Both students and professors identify the necessity for basic knowledge in green business and sustainability, while industry experts emphasize the importance of specialized knowledge and practical skills.

In addition, this report highlights the importance of practical experiences, such as internships and mentorship, and the need for a strong support mechanism, including access to professional networks, interactive educational materials, and real-world industry challenges. The insights from all groups underscore the need

for training programs that balance theoretical foundations with practical applications, foster critical thinking, and provide opportunities for real-world engagement and professional development.

Recommendations

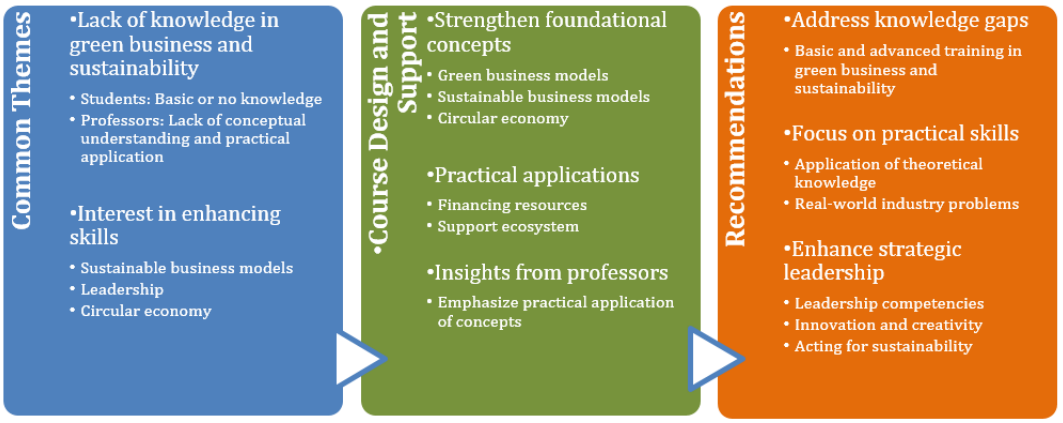

Figure 3. summarizes the findings from the needs analysis for the Strategic Leadership in Green Business (SLGB) program. It highlights three key areas

Curriculum Development

Based on the findings from the surveys of students and professors from UNS and UNSAM, as well as industry experts, it is clear that the curriculum for a Strategic Leadership in Green Business (SLGB) program must be comprehensive and well-rounded to address the diverse needs and expectations of these stakeholders. The curriculum should integrate both theoretical and practical components, ensuring that students gain a solid foundation in sustainable business principles while also developing the skills needed to apply these concepts in real-world scenarios.

Key Topics to be Included:

Key topics that must be included in the curriculum are:

- ***Sustainable and Green Business Models:*** A thorough understanding of various sustainable business models is crucial. This includes not only the theoretical aspects but also practical applications. Students need to learn how to develop and implement these models effectively.
- ***Leadership in Sustainability:*** The development of leadership skills is essential. The curriculum should include components focused on ethical

decision-making, communication of vision, and acting for sustainability. This includes both personal leadership and the ability to lead organizations towards sustainability.

- ***Circular Economy:*** Given the high interest and perceived knowledge gaps in this area, the circular economy should be a core component. This includes waste utilization, resource efficiency, and designing for circularity.
- ***Innovation in Ecological Products and Services:*** Emphasis on innovation is critical. The curriculum should cover the development of new sustainable technologies, green products, and services. This also includes understanding the market for these innovations and how to bring them to scale.
- ***Sustainable Finance:*** Knowledge of sustainable finance, including funding sources, investment in sustainable projects, and financial models for green businesses, is important for the viability of green initiatives.
- ***Environmental Regulations and Policies:*** Students need to understand the regulatory framework for green businesses. This includes national and international policies, environmental laws, and compliance requirements.

Interdisciplinary Learning:

The curriculum should also emphasize interdisciplinary learning, incorporating perspectives from various academic disciplines such as:

- ***Engineering and Technology:*** Technical knowledge for developing sustainable solutions and implementing green technologies.
- ***Social Sciences:*** Understanding social impacts, community engagement, and ethical considerations.
- ***Economics, Finance, and Business:*** Financial models, market analysis, and business strategies for sustainability.
- ***Environmental Sciences:*** Scientific understanding of environmental issues, climate change, and biodiversity.

This approach will provide students with a holistic understanding of sustainability and green business and enable them to address challenges from multiple angles.

Adaptability and Practical Focus:

The curriculum should be adaptable to local and global needs, reflecting the diverse contexts in which students will operate. This adaptability can be achieved by including:

- ***Case Studies:*** Real-world case studies from different regions and industries.
- ***Practical Projects:*** Applied projects where students can work on actual challenges faced by companies.
- ***Internships and Mentoring:*** Opportunities for internships in sustainable companies and mentoring from industry experts.
- ***Workshops and Teamwork:*** Practical workshops and collaborative projects to develop teamwork skills.

These components will allow students to learn from a wide range of experiences and best practices and ensure that the curriculum is relevant and applicable.

Other Recommendations:

- ***Progressive Difficulty Structure*:** A modular structure that allows starting with basic concepts and advancing towards more complex applications, targeting an intermediate level overall.
- ***Flexible Course Formats*:** Options for online learning with schedule flexibility, as well as in-person workshops and seminars.
- ***Interactive Learning Methods*:** Project-based learning, problem-based learning, and even gamification to enhance engagement.
- ***Support Resources*:** Access to professional networks, interactive digital materials, and funding information.
- ***Industry Collaboration*:** Encouraging and facilitating collaboration with industries for research, projects, and internships.

By integrating these recommendations, the SLGB program can effectively prepare students to navigate the complex landscape of green business and to lead initiatives that drive environmental and social impact.

Teaching Methods

Effective teaching methods are crucial for the success of a Strategic Leadership in Green Business (SLGB) program. The findings from the surveys of students and

professors from UNS and UNSAM, as well as industry experts, indicate a strong preference for *active and participatory learning methods*. These methods engage students in practical problem-solving and encourage them to apply their knowledge in real-world contexts.

Project-Based Learning: Project-based learning is highly valued by students, professors, and industry experts. It allows students to work on real projects, develop practical skills, and gain hands-on experience in sustainable business practices. Specifically, **91.7% of students** expressed a preference for project and problem-based learning, which stands out as the most favored method. Professors also emphasized project-based learning as highly effective. Industry experts favor practical experience and internships, aligning with this hands-on approach.

Collaborative Learning and Teamwork: Collaborative learning and teamwork are essential components of the teaching methods. These approaches foster a sense of community and encourage students to learn from each other, share ideas, and collaborate on projects. **72.2% of students** preferred practical workshops and teamwork. Professors also valued collaborative work (58.2%). This highlights the importance of creating learning environments where students can work together and learn from each other's experiences.

Real-Case Studies: Real-case studies are strongly preferred by all groups. Students value practical knowledge applied to real cases (77.9%), and professors also emphasize the importance of real case studies (70.9%). This method helps students connect theoretical knowledge with practical application and understand the complexities of real-world scenarios.

Mentoring by Industry Experts: Mentoring by industry experts can further enhance the learning experience by providing students with guidance and insights from professionals who have practical experience in the field. **53.8% of students** expected interaction with experts and industry professionals, and **64.3% favored mentoring with industry leaders**. Professors also valued mentoring with experts (54.5%). This indicates a strong desire for real-world connections and practical guidance from those working in the sector.

Flexibility in Course Formats: Flexibility in course formats is another important aspect of the teaching methods. **61.8% of students preferred online courses with schedule flexibility**. This format accommodates different learning styles and allows students to balance their studies with other commitments. Combining this with **practical workshops** caters to diverse learning needs. The integration of both online and in-person components, or hybrid formats, is recommended.

Gamification and Methodological Classes that Include Games: **33.3% of students** favored methodological classes that include games. While not as highly ranked as project-based learning, gamification can increase motivation and engagement by making learning more interactive and enjoyable. Professors gave moderate attention to simulations and gaming, but it's still seen as a useful method.

Internship Opportunities: **75% of students** favor internship opportunities. This emphasizes the desire for practical experience and real-world application of knowledge, bridging the gap between theory and practice. Professors and industry experts also endorse internships as a critical element.

Additional Resources: Access to professional networks and interactive digital materials were also identified as valuable resources, supporting active learning and professional development.

In summary, the data suggests a strong preference for active learning methodologies that combine theory with practice. Implementing project-based learning, collaborative work, real-case studies, expert mentorship, flexible course formats (including online and hybrid options), and internship opportunities will significantly enhance the SLGB program's effectiveness and student satisfaction.

Support Mechanisms

Offering specialization options within the SLGB program can cater to diverse student interests and career aspirations.

Areas of Interest:

- **Students** indicated strong interest in areas such as:
  - Renewable Energy
  - Circular Economy
  - Agroecology and Sustainable Production
  - Green Technology
  - Business Sustainability Strategies
  - Innovation in Ecological Products and Services
- **Industry Experts** highlighted the need for competencies in:
  - Strategic Thinking and Leadership
  - Knowledge of Circular Economy and Climate Change
  - Development of Innovative Business Models
  - Sustainable Project Management

Integration into Curriculum:

- Specialization options can be integrated through:
  - **Elective Courses:** Focused courses on specific topics.
  - **Workshops:** Practical workshops to develop specific skills.

    - **Projects:** Projects that delve into specialized areas.
- For example, courses on agroecology can cover sustainable agricultural practices, while courses on renewable energy can explore the development and implementation of clean energy technologies.

Conclusion: Recommendations for Curriculum Development

The recommendations for the SLGB program, based on findings from students, professors, and industry experts, emphasize:

- **Robust Support Mechanisms:** Internships, mentorship, access to professional networks, interactive educational materials, and tutoring.
- **Active Industry Collaboration:** Mentoring, internships, innovation projects, guest lectures, and real-case studies.
- **Diverse Specialization Options:** Tailored training in specific fields, such as renewable energy, circular economy, and agroecology.

These elements are essential for creating a well-rounded and effective program that meets the needs of all stakeholders and prepares graduates for leadership roles in sustainable and green business. By integrating these recommendations, the SLGB program can provide students with the knowledge, skills, and experience needed to drive positive environmental and social impact and succeed in the complex landscape of green business.

Appendix

Appendix 1 – Questionnaire for Students

1. Gender How do you identify?
2. What age range are you in?
3. Educational Level What is your highest level of education attained?
4. Area of training or academic experience In what area do you have training or experience? (Select the one most relevant to you)
5. Work Experience What is your level of work experience in areas related to green business or sustainability?
6. Have you had access to help for entrepreneurs?
7. What are your learning objectives for the Strategic Leadership in Green Business program?
8. What are your current knowledge and skills in areas related to green business and sustainable entrepreneurship? (1 = None, 5 = Expert)
9. What do you hope to get out of the course?
10. In which of the following areas would you like to improve your knowledge or skills?
    a. Sustainable Business Models
    b. Environmental Policies and Regulations
    c. Sustainable Finance and Impact Investment
    d. Sustainability Strategies in Companies
    e. Change Management in Organizations
    f. Innovation in Eco-friendly Products and Services
    g. Application of Circular Economy
    h. Leadership in Sustainability
    i. I Don't Feel I Have Significant Deficiencies
    j. Circular Economy
    k. Entrepreneurship Support Ecosystem
11. What are your expectations regarding the content and structure of the Strategic Leadership in Green Business course?
12. What course format and structure would you prefer? Examples of options:
    a. Theoretical Classes with Case Studies
    b. Practical Workshops and Teamwork
    c. Expert Lectures and Mentorship
    d. Online Courses with Flexible Schedules
    e. Webinars
    f. Podcasts
    g. Sharing Group Experiences
13. What are your preferred learning methods? Examples of options:
    a. Theoretical Classes with Case Studies
    b. Methodological Classes Including: Gamification
    c. Self-directed Learning
14. What are your career aspirations related to green business?
15. What challenges do you think you might face when applying green business principles in your field?

16. What Would support and resources be most helpful to you in this program? Examples Options:
    a. Theoretical Classes with Case Studies
    b. Access to Professional Networks and Networking Events
    c. Interactive Educational Materials
    d. Internship or Applied Project Opportunities
    e. Networking Forums for Investors
    f. Hackathons
    g. Accreditation with Other Advanced Training Programs

17. How important do you consider the following competencies for success in the Strategic Leadership in Green Business program?
    a. Systems Thinking
    b. Change Management
    c. Circular Economy
    d. Leadership Skills
    e. Ethical Decision Making
    f. Innovation and Creativity
    g. Development of Sustainable Business Models
    h. Incorporating Sustainability Values
    i. Embracing Complexity in Sustainability
    j. Imagining Sustainable Futures
    k. Acting for Sustainability
18. How willing would you be to participate in complementary activities within the program?
    a. Mentorship with Industry Experts
    b. Internships or Placements in Sustainable Companies
    c. Networking Events with Industry Leaders
    d. Competitions in Sustainability Innovation
    e. Hackathons or Environmental Impact Challenges
19. Sector in which you work or want to work If you work or plan to work in the green business sector, in which field would you like to specialize?
    a. Mentorship with Industry Experts
    b. Internships or Placements in Sustainable Companies
    c. Networking Events with Industry Leaders
    d. Competitions in Sustainability Innovation
    e. Hackathons or Environmental Impact Challenges

Appendix 2 – Questionnaire for Professors

1. Gender How do you identify?
2. What age range are you in?

3. How many years of professional experience do you have?
4. Educational Level What is your highest level of education attained?
5. Have you previously given training in sustainability and/or entrepreneurship?
6. *Have your students demanded content related to sustainability and/or entrepreneurship in the past?*
7. Have your students come to you in the past for business advice?
8. Do you have experience in implementing Green Business Models?
9. What are the key competencies and skills that students need to succeed in the Strategic Leadership in Green Business program? (Select up to 3 options)
    a. Critical and Systems Thinking
    b. Change Management and Leadership
    c. Innovation and Design of Sustainable Business Models
    d. Skills in Circular Economy
    e. Logical and Computational Reasoning
    f. Research and Experimentation Skills
    g. IT Tools Management
    h. Data-driven Decision Making
10. What are the main gaps in knowledge and skills that you have identified in students regarding green business and sustainable entrepreneurship?
11. What level of difficulty do you consider most appropriate for the different modules of the Strategic Leadership in Green Business program, taking into account that the profile of the students is senior undergraduate and/or graduate students?
12. What specific topics do you think should be included in the Strategic Leadership in Green Business program to prepare students in this field?
13. What pedagogical approaches would be most effective for teaching the program? (Select up to 3 options)
    a. Project-based Learning
    b. Case Studies of Real Companies
    c. Simulations and Role-playing Games
    d. Collaborative Learning and Teamwork
    e. Mentorships with Industry Experts
    f. Gamification
14. What resources and support would be most beneficial to students? (Select up to 3 options)
    a. Individual or Group Tutoring
    b. Access to Industry Contact Networks
    c. Interactive Digital Materials
    d. Internship or Professional Practice Programs
    e. Working with Real Industry Challenges
    f. Videos
15. What is your area of academic training?
16. In what area of knowledge do you have academic experience?
17. How can the Strategic Leadership in Green Business program be effectively integrated into existing curricula?

Appendix 3 – Questionnaire for Industry Experts

1. Gender How do you identify?
2. What age range are you in?
3. Educational Level What is your highest level of education attained?

4. Have you worked with technology companies before to market products or services (startups)?
    a. If you answered **yes** to the previous question, how would you describe your experience working with startups?
5. Do you measure carbon emissions in your company?
6. Does your company currently collaborate with universities on innovation or research projects?
7. What sustainability actions does your company currently carry out? *(Select all that apply)*
8. What are the main current challenges in the green business sector?
9. What obstacles does your industry face in becoming more sustainable?
10. What values do you consider most important to your business, ordered from most to least important?
    a. Integrity
    b. Innovation
    c. Sustainability
    d. Quality
    e. Transparency
    f. Social Responsibility
    g. Customer Orientation
    h. Teamwork
    i. Efficiency
    j. Respect
11. What skills do you consider essential for graduates seeking to lead the field of green business?
12. Does your organization value sustainability more than profits, or is it the other way around?
13. What are the main shortcomings in the training of current graduates in relation to green business?
14. What are the emerging trends in the sector that should be addressed in the course?
15. What role can graduates play in driving innovation and sustainability in their company or sector?
16. Are there specific projects or collaborations that could be developed between the University and industry in this field?
17. *How willing would you be to participate in complementary activities within the training program?*
18. **Area of training or academic experience** In what area do you have training or experience? (Select the one most relevant to you)
    a. Sciences (Biology, Chemistry, Physics, etc.)
    b. Engineering and Technology
    c. Economics, Finance, and Business
    d. Environmental or Sustainability Sciences
    e. Social Sciences and Humanities
19. Sector of your industry?

What are your recommendations for the design of the green business program?