Competences for Sustainable Entrepreneurship in Tourism University Students: A Case Study from a Mexican University Context

Abstract
The work analysed the entrepreneurial skills of tourism students to improve their self-employment opportunities and contribute to the sustainable recovery of the sector. The approach was qualitative, and the data collection was the focus group. The sample consisted of 48 tourism students about to graduate from a Mexican public university. The analysis of information was according to five competencies: a) knowing, b) knowing how to do, c) knowing how to be, d) wanting to do, and: e) doing. They are being able to do. The results show that the family and educational institutions play an essential role in the comprehensive training of the students; they provide the motivation and training necessary to possess the skills that allow for managing and reducing social and environmental problems. The entrepreneurial spirit among students is closely related to acquiring abilities before, during, and after their time at the university.
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1. Introduction

Tourism is an economic sector that urgently needs to recover after the crisis caused by COVID-19. In addition, the economic recession that is plaguing the world due to the Russia-Ukraine war and the policies adopted by various countries have limited the recovery of employment and accelerated inactivity in the labor market (International Labor Organization [ILO], 2023); therefore, sustainable enterprises have been considered as an alternative to reestablish the sector and improve management models in tourism companies (Martínez-Rubio et al., 2021, p. 84).

Scheyvens et al. (2016: 371) pointed out the vital participation of the private sector in influencing the progress of the Sustainable Development Goals (SDGs), where the knowledge, efficiency, skills, and resources of organizations are potent factors that determine their achievement and compliance. The innovative potential of entrepreneurship helps the tourism sector to adapt to the changes that require the involvement of professionals with skills that provide solutions to the problems presented in their fields of action (Nahum et al., 2021, p. 80).

Goal eight of the SDGs mentions the need for inclusive and sustainable economic growth to drive progress, create decent jobs, and improve living standards (UN, 2023). Many entrepreneurs adopt social or environmental business models that add economic value to their businesses (Wigger & Shepherd, 2019, p. 31).

Entrepreneurship from a sustainable perspective is conceived as the individual's ability of individuals to create or discover business opportunities that, in addition to generating economic income, take into account environmental and social objectives (Schaltegger & Wagner, 2011, p. 222; Terán-Yepez & Guerrero-Mora, 2020, p. 16); that with the fulfillment of their business ideas, they can intervene with innovation, reducing the impacts that conventional business models do not integrate (Gregory & Holzman, 2021, p. 9). Entrepreneurship depends to a large extent on the characteristics and personality of the individual, and psychological aspects and other professional factors come into play (Cottafava et al., 2019, p. 521; DiVito & Ingen-Housz, 2021, p. 1057); they include qualities of responsibility and innovation to provide new ways of working tourism, improving the quality of life of communities (Schaltegger & Wagner, 2011, p. 237).

New forms of learning around sustainable entrepreneurship, where the formal academic elements combine with informal factors, are experienced in the work activity. Torres et al. (2018, p. 905) reveal the relevance of hybrid educational models and relationships that allow students to develop entrepreneurial skills in social and sustainable order. Salvioni et al. (2017, p. 27) state that educational institutions represent a crucial aspect of achieving projects with a sustainable orientation; they strive to promote business schemes that simultaneously solve economic, social, and ecological needs.

As mentioned above, the need for research is to determine the extent to which public university students prepare to start a business when they graduate, given the post-pandemic conditions and shortage of jobs.

According to Lacap et al. (2018: 329), universities in developing countries have a relevant role as leaders of innovation and social entrepreneurship in communities, as they are the ones who have the intellectual capital, technical and material resources to enable students to become creators of sustainable enterprises. The universities have the elements to develop entrepreneurial intentions in students through their organizational structures, teaching

methodologies, linking and extension activities (Altinay et al., 2016, p. 417; Butkouskaya et al., 2020, p. 15; Daniel et al. al., 2017, p. 65).

Other investigations have identified adjacent factors as motivators of entrepreneurship among students, those related to lack of employment (Akinwale et al., 2019, p. 14), family support and entrepreneurial experience (Campopiano et al., 2016, p. 1136), and even sociocultural factors and support from the public sector, where government programs or population acceptance of local businesses integrate (Fu et al., 2019, p. 12).

However, there are other explanations for the entrepreneurial intentions of tourism students, who give up on starting a sustainable business due to certain constraints. Among the most important are financial factors, the lack of new technological developments and access to better education, and other elements such as the few activities offered in universities on sustainable entrepreneurship and insufficient government policies (Butkouskaya et al., 2020, p. 15).

2. Literature review
2.1. Entrepreneurship
The origins of the venture were in 1755 when Richard Cantillon mentioned it in the field of economics; the idea seems to have been forgotten and reappeared around 1860, cited in neoclassical economics (Terán-Yépez & Guerrero-Mora, 2020, p. 16). According to Schumpeter (1935), the entrepreneur's function is to revolutionize the production pattern by exploiting an investment; he states that creating new companies as a factor of economic development depends on the entrepreneur (innovator). Sustainable entrepreneurship is a vital and innovative factor for developing projects, products, processes, and services, and sustainability must be part of the culture of entrepreneurship (Benavides et al., 2021, p. 122). Individual entrepreneurship is a personal attitude typical of innovative and creative people, enthusiastic and with high performance and proactivity in any environment and circumstance (Pérez et al., 2016, p. 93).

The UNWTO indicates the need for a more sustainable, inclusive, and digital sector and that COVID-19 has caused a change in consumer habits and preferences, that somebody must use entrepreneurship oriented towards local values and creation. Decent work for all people, especially for young people, women, and the most vulnerable groups, could be an opportunity to recover tourism, according to objective 12 of production and responsible consumption (Díez, 2020). It is a fact that entrepreneurship turns out to be a necessary process in the economy of a country; its importance lies in the ability to provide jobs based on the idea of an entrepreneur; for this reason, research in the field of entrepreneurship destine to prop up the improvement in procedures always depending on the real needs of the entrepreneur.

2.2. Sustainable Skills
The Organization for Economic Cooperation and Development (OECD, 2002, p. 4) defines competencies as *the ability to respond to demands or carry out tasks successfully and consistently with cognitive and not cognitive dimensions*. The OECD Skills Strategy (2017:5) defines them as *the knowledge, skills, and abilities that enable individuals to perform an activity or task adequately and systematically and that can be acquired and developed through learning.* In the field of education, we speak of generic and specific competencies; the former are those that the student acquires in the first periods of a university degree; specific competencies are those obtained at levels where there is a specialization in learning, which will help them to enter the world of work successfully and their practice will ensure their acquisition (Pesantez et al., 2021, p. 410). The acquisition of competencies in individuals allows them to develop all their talents to influence the improvement of economic, political, technological, and educational systems, building more inclusive and cohesive societies and recovering the labor market (OECD, 2019).

Kummitha and Kummitha (2021:9) mention that acquiring business skills and abilities from a sustainable perspective leads the subject to express intentions of starting a business for social welfare. There is a need to generate transformative skills that enable university students to solve complex and uncertain situations, break out of the conventional, and achieve sustainable change. These skills require working individually and collectively, envisioning collaborative networks for communities and organizations for a common benefit (Caniglia et al., 2021, p. 100).

According to Ploum et al. (2017, p, 132), they identify seven competencies that support most of the observed works: a) Systemic thinking competence; b) acceptance of interdisciplinary diversity and competence; c) prospective thinking competence; d) regulatory competence; e) power of action; f) interpersonal competition; and g) strategic management competence.

Since competencies are part of professional learning and performance, academic institutions consider general and specific knowledge as knowledge, the ability to internalize this knowledge as knowledge, technical skills as part of knowledge, the attitudes that place them within knowledge, and the social skills of knowledge together; all this knowledge combine in knowledge, skills, abilities, attitudes and values (Rodríguez, 2007, p. 145).

To achieve good professional performance by future sustainable entrepreneurs, Cejas et al. (2019:8) points out three pillars: knowing-knowing, knowing-doing, and knowing-being. To achieve this knowledge, it is appropriate that the student is clear about their goals in terms of relevance, clarity, and the possibility of being evaluated in their personal, professional, and social life. It is necessary to distinguish which are the specific competencies of the tourism profession and which are the generic competencies that will implement their knowledge, values, abilities, and skills to perform in the field of sustainability (Pesantez et al., 2021, p. 410).

3. Methodology

The research shows the entrepreneurial intention as well as the skills acquired by tourism students from a sustainable perspective, oriented with the qualitative approach and inductive thinking; the focus group was a technique for collecting information; an interactive discussion on the topic took place among a group of selected students guided by two moderators. This procedure helped to understand and explain students' knowledge skills which influence their entrepreneurial intention (Rabiee, 2004, p. 660).

The focus group was designed from the social constructionist perspective (Ryan et al., 2014, p. 328), where tacit knowledge is generated, maintained, and changed through the social participation of ideas, opinions, beliefs, experiences, and actions. The literature reviewed determined students' skills in sustainable entrepreneurship and their intention to start a business under that scheme. The criteria for inclusion of participants were that they were students in the last two terms of the Bachelor of Tourism and that the student agreed to participate in the group actively.

The sample was purposive, not representative of a specific population, and according to the criteria for forming groups (Thomas et al., 1995, p. 219), six focus groups were integrated with eight participants in each one, and the duration of the activity was one to two hours. Before starting, a brief description of the purpose and structure of the discussion guaranteed anonymity and academic use of the information collected. The members of each group agreed to record the activity.

The participation of 48 university students between 21 and 26 years old ($\bar{x}$= 22.99; SD= 1.44) enrolled in the last two periods of the Degree in Tourism; 35 members were women (75%) and 12 men (25%), in this profession the female sex predominates (Peñaloza et al., 2021, p. 21). The competencies that students should have were according to the proposal of Pesantez et al. (2021, p. 410) and Useche et al. (2019:175): knowing, knowing-doing, knowing-being, wanting-to-do and being able-to-do. The presentation and explanation,

prepared in advance, included the same questions used in the organized focus groups. Some questions used assessment instruments, such as entrepreneurial intention, expectations at the end of their career, disciplinary knowledge, and sustainable skills. The facilitators allowed time for group members to explain their ideas on the topics that generated the most participation.

Some participants were more enthusiastic than others about sharing their experiences. Members knew each other, were empathetic to each other's opinions, and presented their perspectives without confronting each other. In some groups, friends came together, and participants shared experiences and ideas, even telling each other's stories, which were confirmed and expanded by the person in question.

The focus group recordings were transcribed for analysis using a spiral methodology, which consists of reviewing and describing the collected data to code it and build analysis categories; then, through secondary coding, the categories are related to identifying themes and possible links; finally. The report includes a description from each research team member to provide context and clarify the findings.

4. Results

The results of the answers given by the participants in the study are as follows and classified according to the different skills assessed. Some answers are in the form of cloud graphs and a table.

Knowing - Students' first analysis is about the problems affecting tourism in the pandemic; they visualize that the sector is economically affected and that there are social repercussions in the destinations; they recognize that this activity succeeds in the face of adverse situations. They consider that entrepreneurship is one of the ways tourism graduates can recover and create jobs. Sustainability comes into the discussion when ecological problems arise, alluding to the need for companies to have a different orientation, where nature preserves and companies' negative impacts reduce. Some students believe it is no longer time to define whether businesses should be sustainable but that future entrepreneurs should consider the well-being of their market and society.

Sustainable entrepreneurs play a central role in developing local ecosystems, seeing opportunities where others see problems, and developing solutions that actively involve them.

It has seen sustainable entrepreneurs on social networks building products from recycling, creating valuable and reusable products, using all the wasted food, and generating innovation, which is very important.

Acquiring knowledge allows them to understand these problems in their immediate environment, i.e., tourism; not designing and managing a sustainable business gathered indecisions among the participants about their potential performance as business owners. Writing a business plan turned out to be a moderately acquired competence. A third said they did not know how to do it, and another third said they had 50 to 70 percent of the knowledge to carry out this project. They rated their knowledge skills on a scale of 1 to 10, collected by an instrument that produced the results shown in Graph 1.

The students identified seven skills necessary to work sustainably: designing market studies, promotion and sales plans, environmental management plans, carrying capacity analysis, project evaluation, and financial and administrative management. More than half of the students felt that they had satisfactorily acquired the knowledge related to marketing; it needs the knowledge to prepare market studies, promotion, and sales plans. Others valued the knowledge in financial analysis and administrative management; there are weaknesses in knowing how to carry out carrying capacity studies, and this discourages them, reducing the support they could receive if they decided to work in rural or coastal areas; there were higher values for the knowledge of the environmental management plan. Graph 1 shows that the knowledge needed to start a sustainable enterprise must achieve.

Graph 1. Level of specific skills
Source: own elaboration (2023).

Only a few people can help start a business if they do not like the idea, especially if they need to learn how to make a concrete business plan of what, where, and how far they want to go. They need a clear idea of how to design and manage a sustainable business; there are many ways to do something ecologically and participate in the community, but they need to learn how to design or manage it.

Knowing- doing – In terms of the technical, social, or cognitive skills students possess to ensure that their knowledge is applied, skills such as working autonomously stand out. Secondly, there is a balance between those students who claim to be able to identify opportunities for creating new sustainable business models and those who do not.

The ability to make decisions is a skill that they still need to develop. The majority of students affirm that, in situations of uncertainty, it is difficult for them to determine the best solution. A significant difference is in the ability to take risks, a competence poorly achieved by the students, a factor linked to the category of *being able to do*, since not knowing the degree of favourability of the environment puts them in a vulnerable situation, and they prefer not to take a risk.

It would need more ability to take risks and a performance orientation because entrepreneurship is very risky; it is about making decisions that can sometimes go for better or worse. Achievement orientation, because the path of entrepreneurship, They will not deny it, is very dark, and they never know what business is going to be like in the future; they do not know how to keep it going and do not know how drastically the environment is going to change so that they can also update the business to society.

Leadership emerged as an acquired competence among the students, most of whom mentioned being able to influence or carry out actions to lead a sustainable entrepreneurship project and that, if the opportunity arose, it would be ecologically oriented; however, it is considered a competence that still needs to be consolidated. Regarding the initiative to develop projects, a smaller proportion of students said they had it.

I have taken a course on starting a business and possess creativity, but It needs help with the motivation to begin. Many colleagues also need more initiative and take the necessary steps to pursue their goals. It is important to remember that failure is a natural part of the

process, and trying and failing is better than never trying. A mere idea will only become a reality by taking action.

Another weakness identified is the ability to communicate effectively with people, with only a tiny proportion of them claiming this is something they master with ease, especially as the tourist activity requires it; some mentioned that they are good at it but need to perfect it.

Knowing - being -Pupils talk about the norms, values, and attitudes they have towards the environment in which they work and which have an impact on the way students might act; they understand the concepts of respect, equity, and inclusion; also appreciate the diversity and multiculturalism of communities, elements generally integrated into the concept of sustainability. When presented with the actions they carry out to improve the conditions of the environment, the vast majority recognized that these skills only implement on a few occasions.

Social responsibility is an essential factor for sustainable development, mainly due to the working conditions in the tourism sector; they seem clear about where to direct their business values and behaviors. Despite the agreed answers of knowing how to relate to people in the community, when their participation in tourism activities with vulnerable groups goes from knowledge or ability to attitude, the vast majority denied making this type of approach. They claim to respect the environment, but only some participate in campaigns to benefit their community; knowledge does not match action.

One student described perseverance as an entrepreneurial virtue, an ability to cope with change. Another mentioned it as patience because an entrepreneur often needs immediate results and must keep investing long-term.

Apart from the motivation to be able to do it, it needs perseverance because not everything goes well at the beginning, not everything is rosy, and it will always have to face new things, especially when it is new business because the new is never easy and even more so when start alone.

Wanting -to do- Action-oriented knowledge and skills require students to have a clearer idea of whether they have ever considered being an entrepreneur. Most accept, and for various reasons, that it is a challenging activity that will allow them to be independent, self-employed, and economically better off, in addition to creating jobs and having a positive social impact. Others believe they have the talent and the vocation, are active, innovative, and good leaders, and want to use these qualities by running a business (see Graph 2).

Graph 2. Cloud of words about the reasons for undertaking
Source: Own elaboration (2022).

Those who do not see themselves as entrepreneurs think it is because they do not have the financial resources to start a business; they want to work as employees in other companies to gain experience, and they do not feel capable or sometimes are afraid of failing. For others, it is simply not an option because it is not their vocation, and they prefer to work in other activities. It evidences those leaving work's personal and professional aspirations (see Table 1).

Table 1. Entrepreneurial intentions and activity of students.

Entrepreneurship	Employment	Training	Ignorance
Starting business	Start working in	Develop and work on	They do not know
Start own business	companies	personal projects	Not related to
Start a business	Work in a tourist unit	Continue studies	entrepreneurship
Build a team and get	Working	Training	They do not intend to
funding	Working to save and	Prepare further	practice
Having own business	start a business	Do a postgraduate	
Undertake	Working outside the	degree	
To have own	country	Study a master's	
company	Working in a hotel	degree	
Offer work to others	Working in the		
Start a family	tourism sector		
business	Working in		
Start restaurant	restaurants		
Being boss	Finding a job		
	Grow at work and		
	career		
	Get a job		
	Work in government		

Regardless of whether or not they wanted to start a business, a large proportion said that it was not a topic of conversation among their friends and those ideas usually are considered individually. They said they would like to contact experts and receive continuous training to start a sustainable business project. Some students admit to using the new technological tools to increase their knowledge autonomously; they expressed their pleasure in exploring new things independently. They are cautious when visualizing the consequences of their choices, and their actions contribute more to the sustainability of their city, which in this case, is a tourist destination. The following texts show some of the answers expressed by the students;

> 'Yes, I considered it at one point, and what I did was get out of my comfort zone, constantly innovate and create new things; it allowed me to grow professionally and personally. I'm gifted at it, I really like everything to do whit marketing, I like making a profit and talking to people. For the great experience of starting my own business, being my boss, and providing employment opportunities for the people around me. Probably in the future, but in the short term, I prefer to finish my degree to be ready. It is not something that crosses my mind, or that I want to do at this point in my life, it is just not in my plans'.

In the construction of a desirable model of business sustainability, they recognize the importance of contributing in the three spheres (economic, social, and environmental). However, in accordance with their competencies, they point out that, like any business, the first need to be covered is the economic dimension, but it can contribute by achieving new forms of work and tourist consumption; the second interest is the contribution to the environmental dimension and the implementation of activities that contribute to the

environmental quality of tourist destinations. Finally, the social dimension is seen as key to the well-being of communities.

Being- able to do- Regarding their personal capacity and degree of favorability of the environment to undertake from a sustainable orientation, it disrupts the role of the public sector in business development, as well as family support and educational support. Students feel that they are not yet fully competent to act sustainably. They recognize the value of sustainability as their curriculum integrates knowledge on the subject; they note that their institution promotes the entrepreneurial spirit through events such as conferences, fairs, and seminars. It also promotes experiences with entrepreneurs that stimulate interest in starting a new business. They mention the need to learn more about sustainability outside the academic environment, leaving the theory behind and moving on to more practical activities.

Family support is an important factor in promoting their children's entrepreneurship; they discuss the importance of parental motivation and the financial support sometimes received to start a business. In most cases, the students indicated that their families had confidence in their entrepreneurial abilities.

> 'My parents have always told me I have the skills and the attitude to do good things. My dad has always stressed that when I finish my studies, I can do whatever I want. They always told me "Hey, you can start a travel agency, you can start your own tour operator if you want to ."And really what they are saying to me is "You have the potential, the only thing you need is to know how to manage it, that is, what are you going to do in the future..." and well, I feel that I have always had the support of my parents'.

Participants claim to be unaware of public and private programs that strengthen the sustainability of new enterprises. They mention the need for a closer relationship with the authorities; they are not sure whether public policies favor or support entrepreneurship. Few students believe that their community supports the development of new businesses; others simply don't know.

> 'I tried to start a mini business, but the response from people was not very good, there were not as many sales as I expected, just like they said, so it is quite discouraging when you put in the effort and the product you are selling is not accepted'.

5. Discussion and Conclusions

The research results show how students have oriented their knowledge to develop entrepreneurial skills from a sustainable perspective. The use of systemic thinking skills is observed among the students, allowing them to address the problems of tourism and its relationship with the economic, social, and environmental dimensions. This manifestation of the will to solve problems and transformations (Kummitha & Kummitha, 2021, p.9) responds to the sensitivity dilemmas of companies and tourist destinations worldwide. Some possibilities are identified to change business management; few students visualize future intervention scenarios (Caniglia et al., 2021, p. 100; Wiek et al., 2011, p. 13; Žebrytė, 2022). There are students who develop this anticipatory capacity (Ploum et al., 2017, p. 132; Žebrytė, 2022) of how to achieve sustainable entrepreneurship; at this moment, they contribute little to improve the conditions of their environment.

Although they could not acquire all the necessary knowledge at university, they progressed in some areas, such as marketing or finance. However, only 8% of the students indicated that they had fully mastered these skills. The mastery of certain specific knowledge of the profession - tourism - is still in formation, and, as argued by Pesantez et al. (2021), knowledge is an important competence to perform in entrepreneurship and sustainability.

The know-how also resulted in strengths and weaknesses; the former shows a student with the ability to discover new business opportunities and with the potential for leadership and initiative (Leal et al., 2019, p. 294; Edokpolor, 2020, p. 339); however, not everyone has the ability to make decisions, work in a team, communicate or take risks to achieve a change towards sustainability. Entrepreneurship is generated from an individual's personality and characteristics. If these skills are not incorporated along with other cognitive and attitudinal skills, it is unlikely that students will be able to realize their business ideas (Cottafava et al., 2019, p. 544; DiVito & Ingen-Housz, 2021, p. 1072) or face various unpredictable situations. Wiek et al. (2011) point out that knowledge and skills competencies must be demonstrable and verifiable, as they guarantee the closing of the gap between conventional and sustainable business models.

Knowing how to be - is one of the best-acquired skills among students, especially in relation to the principles of sustainability. Students consider local values, vulnerable groups (Díez, 2020), and respect for the multiculturalism of communities; this is in line with the compliance with the SDGs in tourism. According to Vázquez (2018), sustainability requires from people not only sufficient knowledge but also shared values for the well-being of communities.

It can be affirmed that a high percentage of students intend to run a business; there are limitations, such as lack of experience and financial resources, when mentioning the need to work to achieve this. A possible explanation can be found in the results of the power to do competencies, as students do not distinguish enough motivation from society and public programs. Some mentioned the need for further learning and training on the subject.

The aim of this research was to investigate the entrepreneurial intentions and skills acquired by tourism students in the context of a sustainable orientation. The methodological design has allowed the objective to be satisfactorily achieved, as it has been possible to gather information to identify the competencies that students consider they have acquired and those they still need to acquire in order to improve their self-employment opportunities and contribute to a sustainable recovery of the sector, as sustainable business models have become increasingly important in the tourism sector in recent years. The entrepreneurial spirit of students is linked to the support of educational institutions that provide them with resources for their comprehensive business training; it is necessary to continue to develop more practical sustainable learning that contributes to the transformation of tourist destinations and the reduction of social and environmental problems.

In order to verify the results obtained in this research, it is proposed to carry out studies on sustainable entrepreneurship using quantitative methods, which in turn will allow us to know the relationship and dynamics of this variable with other variables of interest, such as pro-environmental behavior, culture, technological management, innovation, among others.

The research limitations are related to the sample, which comprised 48 tourism students, a small number of participants corresponding to a specific professional career, and from a Mexican public university. However, the information collected provides a substantial sense of their competencies, so caution is advised in generalizing the data.

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