Innovating Tourism Education through Curriculum Innovation for Entrepreneurship and Digital Skills Development

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Abstract: This paper presents a curriculum innovation designed to enhance the quality and relevance of higher education in tourism and hospitality in response to labour market demands and digital transformation. The study presents the redesign of a bachelor's study programme through the introduction of two new courses, Entrepreneurial Marketing and Branding in Tourism and Venture Ecosystem, aimed at developing entrepreneurial, digital, and strategic competencies. The study adopts a design-based approach to curriculum development, analysing course design, intended learning outcomes, and innovative teaching methods. The proposed curriculum integrates project-based learning, case studies, agile approaches, and the Minimum Viable Product concept to promote active learning and real-world problem-solving. The paper argues that effective curriculum innovation requires not only updated course content but also modern teaching methods, competency-based learning, and stronger links between higher education and professional practice. It proposes a structured framework for curriculum design that supports the development of entrepreneurial and digital skills relevant to the tourism sector. The paper proposes a curriculum framework that may support curriculum innovation in tourism higher education and provides practical recommendations for educators and curriculum designers.

Keywords: Tourism Education; Curriculum Design; Curriculum Innovation; Entrepreneurship Education; Digital Skills; Higher Education; Project-Based Learning.

1. Introduction

Higher education in tourism is evolving in response to digital technologies, new business models and changing labour market demands. Tourism organisations increasingly expect graduates to have not only professional knowledge but also entrepreneurial thinking, digital skills, creativity and the ability to solve practical problems (Buhalis and Law, 2008; Sigala, 2018). Recent research also highlights how emerging digital technologies are changing tourism management, marketing and customer experiences (Buhalis, Leung and Lin, 2023). Universities therefore need to update their study programmes to better prepare students for current and future challenges.

Traditional tourism education has mainly focused on theoretical knowledge. However, employers increasingly require graduates who can work in teams, communicate effectively, use digital tools, and develop innovative ideas. Recent studies show that curriculum innovation should combine entrepreneurship education, project-based learning, competency-based education, and digital technologies to improve graduate employability (Fayolle and Gailly, 2008; Neck and Greene, 2011; Biggs, Tang and Kennedy, 2022).

Entrepreneurship education is no longer limited to preparing students to start their own businesses. It also supports the development of creativity, opportunity recognition, critical thinking and problem-solving skills that are important in today's tourism industry (Fayolle and Gailly, 2008; Neck and Greene, 2011). At the same time, digital transformation has changed the way tourism organisations operate. Graduates therefore need not only entrepreneurial thinking but also digital competencies that enable them to work effectively in modern tourism businesses.

Although many studies discuss entrepreneurship education and digital learning, fewer studies focus on curriculum redesign to develop entrepreneurial and digital competencies in tourism programmes. Most research examines individual teaching methods rather than the overall design of a study programme.

This paper presents a curriculum innovation developed for a bachelor's programme in Tourism and Hospitality Management at a Slovak public university. The innovation introduces two new courses -Venture Ecosystem and Entrepreneurial Marketing and Branding in Tourism. Together, these courses are designed to strengthen entrepreneurial thinking, digital competencies, and practical problem-solving through active learning.

The aim of this paper is to present a curriculum framework that supports the development of entrepreneurial and digital competencies in tourism higher education. Since the new courses have recently been introduced into the study programme, the paper focuses on curriculum design rather than on evaluating learning outcomes. The

study addresses the following research question: *How can curriculum innovation support the development of entrepreneurial and digital competencies in tourism higher education?*

2. Context and Theoretical Background

2.1 Curriculum Innovation

Curriculum innovation has become an important topic in higher education because universities are expected to respond more quickly to technological development and changing labour market needs. Today, innovation is understood not only as updating course content but also as redesigning learning outcomes, teaching methods and assessment so that graduates are better prepared for professional practice (Biggs, Tang and Kennedy, 2022).

In tourism, these changes are particularly visible. Digital technologies, new forms of customer interaction and increasing competition require graduates who can combine professional knowledge with entrepreneurial thinking and digital skills. This means that tourism programmes should provide opportunities for students to apply knowledge in practice rather than relying mainly on traditional lectures (Tribe, 2002; Hjalager, 2010). Curriculum innovation therefore becomes an important tool for improving the relevance of higher education.

2.2 Entrepreneurship Education

Entrepreneurship education has developed considerably over the last two decades. While it was originally associated mainly with starting new businesses, current approaches focus on developing broader competencies such as creativity, opportunity recognition, initiative and problem solving (Fayolle and Gailly, 2008; Neck and Greene, 2011).

Learning is increasingly organised through practical activities where students work with real problems, discuss alternative solutions and receive continuous feedback. Such approaches help students develop confidence and an entrepreneurial mindset that can also be applied in existing organisations (Neck, Greene and Brush, 2021). The European Entrepreneurship Competence Framework (EntreComp) provides a useful basis for defining entrepreneurial competencies and related learning outcomes. It identifies three main competence areas: ideas and opportunities, resources, and into action (Bacigalupo et al., 2016).

This is particularly relevant for tourism, where many graduates work in small and medium-sized enterprises that require flexibility, innovation and customer orientation.

2.3 Digital Skills in Tourism

Digital technologies have changed almost every area of tourism, from destination promotion and booking systems to customer communication and service management. Social media, online platforms, artificial intelligence and data analytics are now part of everyday business practice (Buhalis and Law, 2008; Sigala, 2018). The DigComp 2.2 framework provides a reference for understanding digital competencies, including the knowledge and skills needed to use emerging technologies such as artificial intelligence (Vuorikari et al., 2022).

As a result, universities need to ensure that graduates can use digital tools effectively and understand their role in business decision-making. Digital competencies should therefore be integrated throughout the curriculum and linked to practical tasks rather than taught only in specialised IT courses (European Commission, 2020; Chaffey and Ellis-Chadwick, 2019). Recent developments in generative AI are changing teaching and learning in tourism education and further increase the need to develop students' digital competencies (Dogru et al., 2024).

2.4 Competency-Based Education

Competency-based education places greater emphasis on what students are able to do than on the amount of knowledge they acquire. It connects knowledge, practical skills and attitudes into learning outcomes that can be demonstrated in realistic situations (Mulder, 2014).

This approach also requires consistency between learning outcomes, teaching activities and assessment. According to Biggs, Tang and Kennedy (2022), constructive alignment helps ensure that all parts of the curriculum support the same educational objectives. For tourism programmes, competency-based education provides a useful framework for linking university education with professional practice and graduate employability.

2.5 Project-Based Learning

Project-based learning is widely used in entrepreneurship education because it allows students to apply theory to practical situations (Thomas, 2000; Pittaway and Cope, 2007). Instead of solving predefined exercises, students work on real projects, cooperate in teams and present their own solutions (Kolb, 1984; Pittaway and Cope, 2007). In tourism education, this approach reflects the reality of professional practice, where teamwork, communication and problem solving are essential. It also creates opportunities to integrate digital tools, entrepreneurial thinking and interaction with industry partners into the learning process.

The literature indicates that curriculum innovation is most effective when it combines competency-based education, entrepreneurship education, digital skills and active learning. Although these topics are well established individually, they are less often considered together when designing tourism study programmes. The following section therefore presents a curriculum framework that brings these elements together in one coherent educational model.

3. Methodology

This paper presents a curriculum innovation developed for a bachelor's programme in Tourism and Hospitality Management at a Slovak public university. The study follows a design-based approach and focuses on the development of a new curriculum framework rather than on evaluating its impact.

First, a review of the literature on tourism education, entrepreneurship education and digital skills was carried out. Second, European policy documents and current labour market requirements were analysed to identify the competencies expected from tourism graduates. Finally, the existing study programme was reviewed to identify areas where these competencies could be strengthened.

Based on this analysis, two new courses -Venture Ecosystem and Entrepreneurial Marketing and Branding in Tourism -were developed and incorporated into the study programme. Learning outcomes, teaching methods and assessment were designed according to the principles of constructive alignment (Biggs, Tang and Kennedy, 2022).

The courses are based on competency-oriented teaching and active learning. Students work on practical projects, analyse case studies, develop business ideas using the Minimum Viable Product (MVP) concept, and work in teams. These activities are intended to support entrepreneurial thinking, digital skills and problem-solving.

The new courses have been incorporated into the study programme, and the first teaching cycle of Venture Ecosystem has started in the current academic year. An initial assessment of students' knowledge is planned, followed by a second assessment at the end of the semester. Approximately 80 third-year full-time students are expected to participate.

As the assessment results are not yet available, this paper focuses on curriculum design rather than the effectiveness of its implementation. Data collected during the planned assessments will be analysed in future research to examine changes in students' knowledge.

4. Curriculum Innovation Framework

4.1 Curriculum Design Principles

The new curriculum was developed to respond to changes in tourism and the skills expected from graduates. Four principles guided the redesign: labour market needs, entrepreneurship, digitalisation and active learning.

The first principle was to strengthen the link between university education and professional practice. Employers increasingly expect graduates who can solve problems, communicate well, work in teams and use digital technologies. These competencies were therefore included in the learning outcomes of the new courses.

The second principle was entrepreneurship. The aim was not only to teach students how to start a business, but also how to identify opportunities, think creatively and develop new ideas. The third and fourth principles focused on digitalisation and active learning. Students use digital tools during the courses and learn mainly through projects, teamwork and practical tasks.

4.2 Curriculum Structure

The curriculum innovation is based on two new courses that complement each other and support the development of entrepreneurial and digital competencies.

Venture Ecosystem. The *Venture Ecosystem* course introduces students to entrepreneurship, innovation and startup ecosystems. Students learn how to identify business opportunities, prepare value propositions and develop simple business models using the Lean Startup approach and the Minimum Viable Product (MVP) concept (Ries, 2011). They also become familiar with incubators, accelerators, investors and other organisations that support entrepreneurship.

Entrepreneurial Marketing and Branding in Tourism. The second course focuses on marketing and branding in tourism. Students work with customer value propositions, branding, digital marketing and communication. They also use social media, customer relationship management tools and AI applications that are becoming common in tourism businesses. The course helps students connect entrepreneurial ideas with market needs and customer expectations.

Together, the two courses provide a logical sequence from generating an idea to presenting it to the market. Both courses were newly introduced into the existing study programme. The main innovation is their complementary focus on entrepreneurship and digital marketing, connecting business opportunity development with customer needs, branding and digital communication in tourism.

4.3 Learning Design

The courses are based on active learning. Students work on practical tasks, discuss real examples and prepare solutions for tourism businesses. The teaching methods are designed to help students apply theoretical knowledge in practice while developing entrepreneurial and digital competencies. Table 1 summarises the main learning approaches used in the proposed curriculum and their intended educational purposes.

Table 1: Learning approaches used in the curriculum

Learning Approach	Main Purpose
Project-Based Learning	Problem solving
Case studies	Developing analytical thinking and decision making
Minimum Viable Product (MVP)	Business idea validation
Teamwork	Developing communication and collaboration
Agile approach	Improving projects through continuous feedback

These activities encourage students to participate actively in the learning process and prepare them for real situations they may face in their future careers. The curriculum also links intended competencies with practical assignments and assessment. Students are expected to work on projects related to business opportunities and marketing in tourism and present their proposed solutions. Assessment combines project work and presentations, with an emphasis on the practical application of knowledge. Table 2 presents the proposed relationship between competencies, learning activities, student assignments and assessment criteria.

Table 2: Alignment of Competencies, Learning Activities and Assessment

Intended Competency	Learning Activity	Proposed Student Assignment	Proposed Assessment Criteria
Opportunity recognition	Case studies and market analysis	Identify a business opportunity in tourism	Relevance and justification of the opportunity
Business model development	Project-based learning	Develop a simple business model for a tourism service	Feasibility and consistency of the business model
Business idea validation	MVP development	Prepare a basic MVP proposal	Clarity of the proposed solution and validation approach
Digital marketing	Practical marketing activities	Develop a digital marketing proposal for a tourism product	Selection of digital tools and suitability of the marketing approach

Intended Competency	Learning Activity	Proposed Student Assignment	Proposed Assessment Criteria
Communication and teamwork	Group projects and presentations	Present and defend a proposed tourism business idea	Clarity of presentation, argumentation and teamwork

Source: Authors' proposal.

Figure 1 presents the proposed curriculum innovation framework and illustrates the relationship between curriculum design, learning activities and intended competency development.

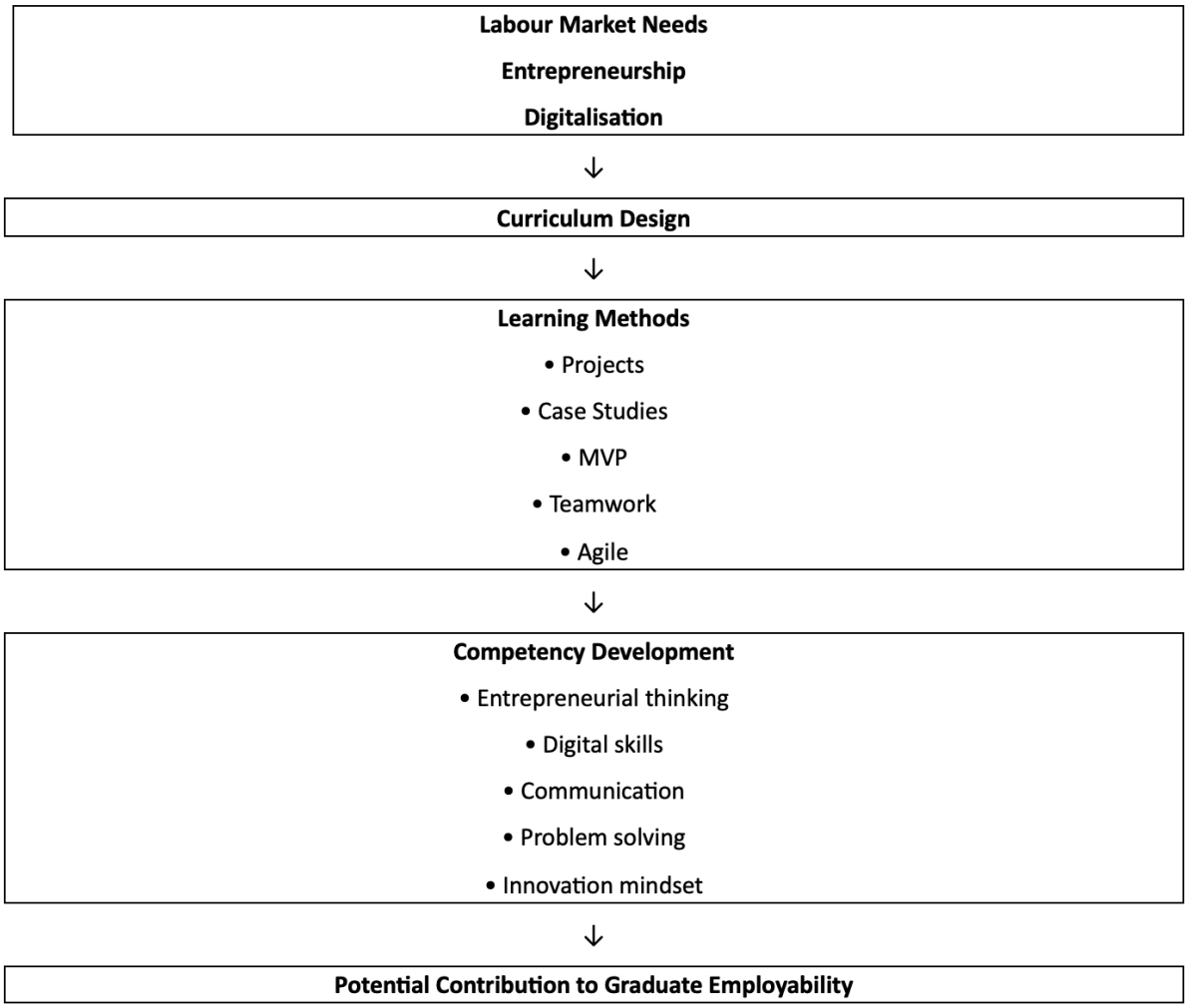

Figure 1: Curriculum Innovation Framework

The proposed framework differs from traditional curriculum design by integrating entrepreneurship education, digital competencies and active learning within one coherent programme. Unlike approaches focusing on individual teaching methods, it connects learning outcomes, teaching methods and competency development into a structured model that can be adapted by other tourism programmes.

5. Expected Outcomes

The proposed curriculum is expected to support the development of competencies that are important for today's tourism graduates.

- **Entrepreneurial competencies:** The new courses are designed to help students identify opportunities, develop business ideas and think creatively. Through practical projects, students are expected to develop their ability to analyse problems, propose solutions and respond to customer needs.

- **Digital competencies:** The courses aim to develop students' ability to use digital marketing tools, social media, AI applications and customer relationship management systems. These skills reflect current practice in tourism and hospitality.
- **Employability:** The curriculum also aims to strengthen transferable skills such as teamwork, communication, problem solving and critical thinking. These competencies may contribute to graduates' readiness for employment and support lifelong learning. The proposed curriculum may also help students prepare for work in multidisciplinary and international environments.

6. Implications

The proposed framework offers practical implications for several groups. For *universities*, it shows how tourism programmes can be updated to better reflect changes in the labour market and digital technologies. For *curriculum designers*, it provides an example of how entrepreneurship, digital skills and active learning can be combined within one study programme. For *policy makers*, the framework supports current priorities related to employability, innovation and digital transformation in higher education. It may also serve as an example for curriculum development in other professionally oriented programmes.

7. Discussion

The proposed curriculum innovation builds on existing approaches to entrepreneurship education, competency-based learning and digital skills development. Previous studies emphasise the importance of experiential learning, practical projects and opportunities for students to apply knowledge in real situations (Fayolle and Gailly, 2008; Neck and Greene, 2011). The present study brings these approaches together through the design of two complementary courses within a tourism and hospitality study programme.

The main contribution of the proposed innovation is the connection between entrepreneurial thinking and marketing competencies. Venture Ecosystem focuses on identifying business opportunities, developing business models and understanding the support available to new businesses. Entrepreneurial Marketing and Branding in Tourism focuses on customer needs, digital marketing and the communication of business ideas. Together, the courses are designed to connect the development of a business idea with its potential application in the tourism market. This approach is consistent with the principles of constructive alignment described by Biggs, Tang and Kennedy (2022).

However, introducing new courses does not automatically lead to improved student competencies. Successful implementation requires coordination between teachers, clear learning outcomes and appropriate assessment methods. Cooperation with tourism businesses may also help students understand practical challenges and apply their knowledge to real situations. At the same time, such cooperation depends on the availability and involvement of external partners.

Another challenge concerns the assessment of entrepreneurial and digital competencies. These competencies cannot be evaluated only through traditional knowledge tests. Practical assignments, project work and presentations may provide additional evidence of students' ability to apply what they have learned. Assessment criteria should therefore be clearly defined and linked to the intended learning outcomes.

The first teaching cycle of Venture Ecosystem has started, and an initial assessment of students' knowledge is planned, followed by another assessment at the end of the semester. Comparing the results of the same students may provide initial evidence of changes in their knowledge during the course. However, these changes cannot be attributed solely to the curriculum innovation without further evaluation. Moreover, the assessment of one course cannot demonstrate the effectiveness of the entire curriculum framework.

The proposed curriculum may contribute to students' preparation for professional practice, but its effect on graduate employability has not been demonstrated. Such outcomes would require longer-term evaluation, including feedback from graduates and employers.

The study also has limitations. The curriculum framework was developed for one study programme at one university, and its application in other institutions may require adjustments to local conditions, teaching resources and industry needs. Future research should examine the implementation of both courses, assess student assignments using defined criteria and compare intended learning outcomes with demonstrated competencies. These findings could provide a stronger basis for evaluating the proposed curriculum innovation.

8. Conclusion

This paper presented a curriculum innovation designed to strengthen entrepreneurial and digital competencies in tourism higher education. The proposed framework connects two complementary courses, Venture Ecosystem and Entrepreneurial Marketing and Branding in Tourism, through practical learning activities and competency-based education.

The study shows how entrepreneurship, digital skills and active learning can be integrated into curriculum design. Its contribution lies in connecting business opportunity development with marketing and digital communication within one study programme.

The framework provides a basis for curriculum implementation and further evaluation. However, the development of student competencies has not yet been demonstrated. The first teaching cycle of Venture Ecosystem has started, and student knowledge will be assessed at the beginning and end of the semester.

Future research will examine changes in students' knowledge and competencies and evaluate the practical implementation of the proposed curriculum. Further evidence will be needed to assess its broader applicability and potential contribution to graduate employability.

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Ethics Declaration

This paper presents a conceptual and design-oriented educational proposal. No empirical data were collected, and no human participants were involved; therefore, ethical approval was not required.

AI Declaration

AI-assisted tools were used for minor language editing and stylistic improvements. All academic content, arguments and conclusions were developed independently by the authors.

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