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Development of Creative Economy Innovation and Digital Entrepreneurial Ability for Distribution Strategy by using Design Thinking

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Abstract

Purpose: 1) develop a learning model involving design thinking to develop creative economy innovation and the characteristics of digital entrepreneurs. 2) evaluate the impact of design thinking on creative economy innovation 3) evaluate the impact of design thinking on digital entrepreneurial ability. **Research design, data and methodology:** 1) develop a learning model involving design thinking in order to develop creative economy innovation and the characteristics of digital entrepreneurs. 2) Evaluating creative economy innovation involving design thinking. 3) Assessing the characteristics of digital entrepreneurs based on design concepts. **Results:** 1) the development of a learning model involving design thinking to develop creative economy innovation and digital entrepreneurial competency 2) The students who studied using the learning model involving a design thinking process had the highest overall scores in terms of creative economy innovation 3) The scores for the assessment of digital entrepreneurial activity for the students who studied by using the design thinking learning model were at a high level. **Conclusions:** The development of the design thinking learning model can encourage students to be able to develop creative economy innovations and to empower digital entrepreneurs' ability for distribution strategy. Educational institutions that would like to succeed in developing creative economy innovative and digital entrepreneurship characteristics with the support of design thinking.

Keywords: Creative Economy Innovation, Digital Entrepreneur Ability, Design Thinking, Distribution Strategy

JEL Classification Code: M21, M31, O31, I25

1. Introduction

Currently, Thailand focuses on developing economic growth. However, most of the country's manufacturing sector relies mainly on labor and physical capital factors. The use of technology and innovation in the country is still low (Alosani et al., 2022) because entrepreneurs lack the skills to innovate with regard to business operations. Therefore, creative economy innovation is a way to solve existing problems by focusing on increasing productivity based on technology and innovation in such a way as to be able to develop the country such that it equals the leading

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economies. This is because it is fundamentally important to move towards innovation in developing a creative economy. For example, it is essential to introduce entrepreneurial creativity and new inventions within Thai society. This will help to drive the Thai economy forward in the long run (Wu et al., 2021). In addition, digital entrepreneurs (Digital Entrepreneurial Ability) play an important role in creating an innovative creative economy, and act as manufacturers who can add value to products or services. Innovation is a significant factor in that it plays a very important role in economic and social development. Economists have said that economic growth is driven by innovation and the introduction of new knowledge (Sharma, 2011). Thailand has the potential to develop digital entrepreneurs and encourage new entrepreneurs to be creative, to initiate and try to adopt new technology in business in such a way as to drive the economy using innovation. There needs to be a system that facilitates the use of innovation in a tangible way. Such a system consists of several approaches including data creation and knowledge development (Troshani et al., 2019). It also includes using design thinking which needs to be increasingly applied in both industry and education. Design thinking is a process used to solve problems with an appropriate problem circumstance as well as introducing new ideas to meet specific needs or deal with problem situations in the best way possible on the basis of a deliberate process to efficiently generate tangible future outcomes (Liedtka, 2018).

Creative economy innovation and digital entrepreneurship within higher education institutions can play an important role in promoting economic growth, societal development, and preparing students for the future workforce. These activities can help to foster the development of new products, services, business models, distribution channel and drive distribution Strategy and competitiveness in various industries. Additionally, higher education institutions can provide students with the skills and knowledge needed to participate in the creative economy and digital entrepreneurship, helping to prepare them for future career opportunities. (Hjorth & Galloway, 2015; O'Connor & DeMartino, 2018)

2. Objective

1. Develop a learning model involving design thinking in order to develop creative economy innovation and the characteristics of digital entrepreneurs.
2. Evaluate the impact of design thinking on creative economy innovation
3. Evaluate the impact of design thinking on digital entrepreneurial ability

3. Research Hypothesis

According to previous literature review under the topic Features of Creative Economy Innovation, Digital Entrepreneurial Ability, the different between general and digital entrepreneurs, Design thinking process, The following hypothesis are:

1. Students who study using the learning model involving the design thinking process, will achieve high scores with regard to creative economy innovation.
2. Students who study using the learning model involving the design thinking process, will achieve high scores with regard to the characteristics of digital entrepreneurs.

4. Research Scope

4.1. Population and Sample

The population consisted of students who were studying for the degree of Bachelor of Business Administration, Business Computer Program at Nakhon Si Thammarat Rajabhat University.

The sample consisted of 34 students from this population who were in the first semester of their studies in 2022. The sample was obtained by random sampling.

4.2. Research Variables

The independent variable was a learning model using the design thinking process to develop creative economy innovation and digital entrepreneurial ability.

The dependent variables were creative economy innovation and digital entrepreneurial ability.

4.3. Scope of Content

Computer project for business course of Bachelor of Business Administration Program

4.4. Duration of the Experiment

Learning activities over a 16-week period (July 2022 - October 2022)

5. Literature

5.1. Features of Creative Economy Innovation

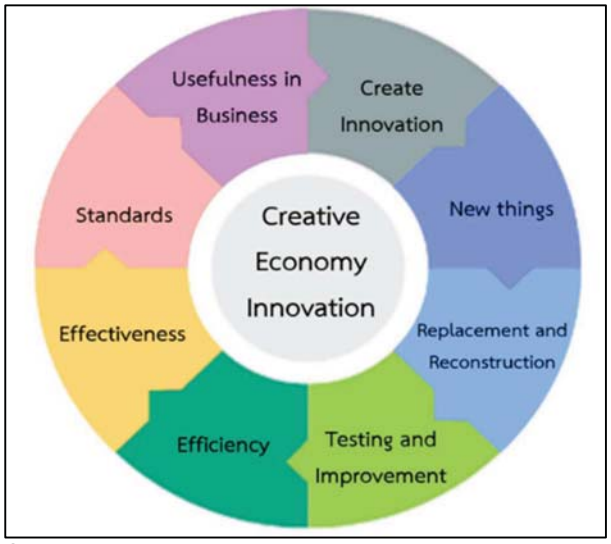
Innovation is the heart of a business process that shows

initiative. It is beneficial in terms of making the organization exist and grow (Miller et al., 2022). Innovation involves the introduction of a new process, service or product that arises from the use of knowledge and creativity that is beneficial to the economy and society. It can involve the creation and development of products, services and processes to a higher value. However, such innovation must meet identified needs, be able to solve problems and bring utility to users (Zhao et al., 2022). The innovation process involves a number of important steps - exploring various environments, making decisions in terms of applying the innovation in the most beneficial way, creating new innovations and learning to create knowledge. This can be used to develop methods for managing such innovation processes to be more effective (Wu et al., 2021). In addition, innovation is an important tool for entrepreneurship. The theory of innovation in economics has identified the concept of innovation education from an entrepreneurial perspective. Furthermore, the importance of entrepreneurs with regard to innovative development, points out that innovation will encourage economic growth only when entrepreneurs introduce innovation for economic benefit. Entrepreneurs play an important role in the innovation development process and innovation then plays a role in the development of the creative economy. (Alosani et al., 2022). Creativity has a part to play based on a knowledge of technology and innovation for business development. It also involves the production of goods and services in a new way that add more value to the economy. It is the development of the economy by using initiative creation and utilizing it to benefit society (Paunović et al., 2022). The characteristics of creative economy innovation are shown in Table 1.

Table 1: Characteristic synthesis of Creative Economy Innovation.

Assessment Criteria	Review
1. Create innovation	Alosani et al. (2022); Wu et al. (2021); Zhao et al. (2022); Miller et al. (2022); Paunović et al. (2022)
2. New things	Alosani et al. (2022); Wu et al. (2021); Zhao et al. (2022); Miller et al. (2022); Paunović et al. (2022)
3. Replacement and Reconstruction	Wu et al. (2021)
4. Testing and improvement	Miller et al. (2022)
5. Efficiency	Alosani et al. (2022); Zhao et al. (2022)
6. Effectiveness	Alosani et al. (2022); Zhao et al. (2022)
7. Standards	Jing et al. (2022)
8. Usefulness in Business	Alosani et al. (2022); Wu et al. (2021)

From Table 1, it can be seen that the characteristics of creative economy innovation consist of 8 criteria as follows: 1) Create innovation 2) New things 3) Replacement and reconstruction 4) Testing and improvement 5) Efficiency 6) Effectiveness 7) Standards 8) Usefulness in Business.



Source: Author

Figure 1: Characteristic of Creative Economy Innovation.

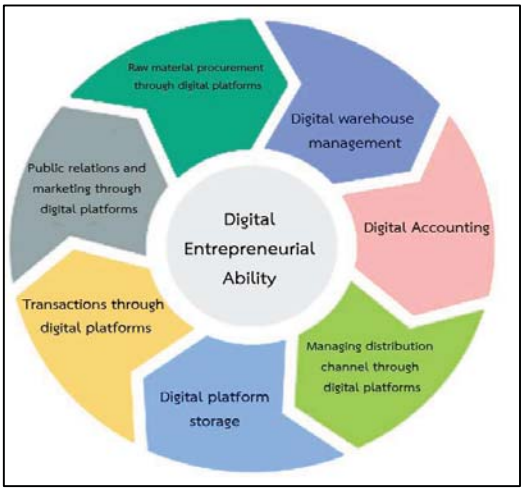
5.2. Digital Entrepreneurial Ability

Digital entrepreneurs are founders of new ways of doing business based on the use of digital technology. They can also see opportunities arising from business activities that can be created through the introduction of digital technology (Kim, 2019). Developing digital entrepreneurial ability results from connecting experiences with the idea of developing people's competency in terms of technology (Li et al., 2022). It is an important factor that will create organizational competitive advantages. (Liu et al., 2019). Digital competency consists of 5 components: 1) Knowledge. This is required with regard to specific areas that are essential for digital work. 2) Skill. This is necessary for employees being able to perform digital operations effectively. 3) Self-concept. This relates to attitudes, values, and opinions about oneself and actions involving 4) Traits. These are aspects of personality that express digitally and 5) Motive. This is the inner power that drives behaviors to achieve individual goals (Sharma, 2011). In conclusion, digital entrepreneurial ability presents new ways to do business by using digital technology. A synthesis of digital entrepreneurial ability is shown in Table 2.

Table 2: Synthesis of Digital Entrepreneurial Ability.

Assessment Criteria	Review
Raw material procurement through digital platforms	Sharma (2011); Wang et al. (2018)
Digital warehouse management	Liu et al. (2019); Liu et al. (2019)
Digital accounting	Troshani et al. (2019); Himick et al. (2022)
Managing distribution channel through digital platforms	Li et al. (2022); Perotti et al. (2022)
Digital platform storage	Kim (2019)
Transactions through digital platforms	Kim (2019)
Public relations and marketing through digital platforms	Botha & Sibeko (2022)

From Table 2 It can be seen that digital entrepreneurial ability consists of 1) Raw material procurement through digital platforms 2) Digital warehouse management 3) Digital accounting 4) Managing distribution channel through digital platforms 5) Digital platform storage 6) Transactions through digital platforms 7) Public relations and marketing through digital platforms.



Source: author

Figure 2: Digital Entrepreneurial Ability.

5.3. The Different between General and Digital Entrepreneurs

Digital entrepreneurs introduce new ways of doing business with the use of digital technology. This is different from the actions of general entrepreneurs as shown in Table 3.

Table 3: A comparison of the Differences between the Abilities of General Entrepreneurs and those of Digital Entrepreneurs.

Entrepreneur Competency	Reference	Digital Entrepreneur Competency	Reference
Raw material procurement	Wang et al. (2018)	Raw material procurement through digital platforms	Sharma (2011)
Warehouse management	Liu et al. (2019)	Digital warehouse management	Liu et al. (2019)
Accounting	Himick et al. (2022)	Digital Accounting	Troshani et al. (2019)
Managing distribution channel	Perotti et al. (2022)	Managing distribution channel through digital platforms	Liu et al. (2022)
Online marketing	Kim (2019)	Digital platform storage	Kim (2019)
Transactions through digital platforms	Kim (2019)	Transactions through digital platforms	Kim (2019)
Public relations and marketing through digital platforms	Al Mamun et al. (2019)	Public relations and marketing through digital platforms	Botha & Sibeko (2022)

5.4. Design Thinking Process

Design thinking is a thinking process used to create new ideas that leap outside the original box. In particular, with regard to complex projects or problems it takes time to arrive at a solution and relies on a team with expertise in various things. There is also a need for user-based prototype experimentation (Liedtka, 2018). With a deep understanding of the problem, users are at the center of creative thinking and solutions. They take possible approaches for testing and development in order to obtain guidelines or innovations that meet the needs of the situation under consideration. Therefore, design thinking is divided into 5 steps: 1) Empathize, 2) Define, 3) Ideate, 4) Develop a prototype, and 5) Test. The first and second steps involve deep understanding and an interpretation of the problem. The third step involves the use of creativity and multiple perspectives to generate ideas. The fourth and fifth steps involve concept testing and the development of prototypes which will become the sample concepts. These steps can lead to obtaining a solution or innovation that meets the needs of the situation or problem that has arisen (Moore, 2022). It can be said that the design thinking process is one which is used to solve a problem creatively, experimenting and testing. This is providing insights that can derive innovative approaches. Design thinking can be used in a variety of organizations, in both the business sector and government.

6. Research Methodology

The research methodology is divided into 3 phases based on the research objectives. These are as follows:

Phase 1: develop a learning model involving design thinking in order to develop creative economy innovation and the characteristics of digital entrepreneurs. It consists of the following steps:

1. Exploring basic information to develop a learning model involving design thinking in order to develop creative economy innovation and the characteristics of digital entrepreneurs. This is done by analyzing the selection of subjects that will be used to develop the learning styles in the Bachelor of Business Administration Program, majoring in Business Computer within the Faculty of Management Sciences at Nakhon Si Thammarat Rajabhat University. Therefore, the computer project for business course was chosen.

2. Exploring concepts, theories, and related research concerning the development of design thinking, learning processes associated with developing creative economy innovation and digital entrepreneurial ability.

3. Exploring the opinions of experts in business administration, information technology and design thinking and innovation, by using structured interviews to gather data for analysis.

4. Developing a learning model involving design thinking to develop creative economy innovation and digital entrepreneurial competency. This involves the following 5 steps:

[1]. **Empathize.** (Thoroughly understanding the target group) This was done by doing fieldwork to study the problems of enterprises and organizations related to business. In-depth interviews were used in order to fully understand the problem in conjunction with the use of observation methods. The student was understanding the needs, wants, and limitations of target customers by conducting research, interviews, and surveys. Identify the pain points and unmet needs in the market.

[2]. **Define.** (Defining the problem). An innovator defines a problem in order to solve the problem by stating who are the users? what are their needs? what are the problems? and how can the problems be solved? The student was clearly defining the problem, trying to solve and the opportunity for innovation. Identify the key customer segments and their needs, as well as the potential value proposition and revenue streams.

[3]. **Ideate and Brainstorming**. Innovators and representatives of enterprises, and organizations related to business brainstormed together in order to get new ideas. It was concluded that an addition of online sales channels by developing a website (innovation) would increase sales volume. The student was generating a wide range of ideas for digital products or services that can address the identified problem and meet the needs of the target customers.

[4]. **Prototype.** The innovator begins to create a prototype by developing a website (innovation) and using the Content Management System (CMS) of the website. WordPress program was chosen with the Xampp simulation as a web server, and phpMyAdmin was used to manage databases. The student was creating simple, low-fidelity prototypes of the ideas to test with potential customers. This will give a sense of what features and functionality are most important to them.

[5]. **Test and Implement.** The innovator tested the developed website (innovation) before registering the domain name and setting up the actual server. If errors were found improvements were made. An experiment was then conducted with the sample group used in the research process. Thirty-four randomly-selected Nakhon Si Thammarat Rajabhat University students from the Faculty of Management Sciences who studied in the Bachelor of Business Administration program, majoring in Business Computer, during semester 1/2022, participated in learning activities over a 16-week period (July - October 2022). The student was getting feedback on the prototype from potential customers to validate assumptions and identify areas for improvement. In Implement process the student was to bring the final solution to market and continue to gather feedback to improve it over time. Continuously monitor the market and adapt to changing customer needs.

In order to develop a creative economy innovation assessment form with design thinking with rubric assessment criteria (scoring rubrics) were used in 8 areas: 1) Create innovation 2) New thing 3) Replacement and reconstruction 4) Testing and improvement 5) Effectiveness 6) Efficiency 7) Standards 8) Useful in business. The form was checked using the Index of Item-Objective Congruence: (IOC) by experts in order to find the confidence value of the assessment form in Table 4.

Table 4: Criteria for Interpretation of Creative Economy Innovation

Criteria	Interpretation of creative economy innovation
33-40 score	the highest level
25-32 score	high level
17-24 score	moderate
9-16 score	low level
0-8 score	the lowest level

In order to create a digital entrepreneurship assessment form based on design concepts, rating scale assessment criteria are used in 7 areas: 1) Raw material procurement through digital platforms 2) Digital warehouse management 3) Digital accounting 4) Managing distribution channel through digital platforms 5) Digital platform storage 6) Transactions through digital platforms, and 7) Public relations and marketing through digital platforms. The form was checked the Index of Item-Objective Congruence: IOC)

by experts in order to find the confidence value of the assessment form in Table 5.

Table 5: Criteria for Interpretation of Characteristics of Digital Entrepreneurs

Criteria	Characteristics of digital entrepreneurs
20-25 score	the highest level
16-19 score	high level
11-15 score	moderate
11-15 score	low level
11-15 score	the lowest level

Phase 2: Evaluating creative economy innovation involving design thinking. This consists of the following steps:

1. After completing the design thinking learning model, the researcher assessed the innovation by using the creative economy innovation assessment with design thinking form which was evaluated by 5 Assessment Committees.

2. The scores that were obtained from the assessment of creative economy innovation by design thinking from were then analyzed in order to find the mean and standard deviation values.

Phase 3: Assessing the characteristics of digital entrepreneurs based on design concepts. This consists of the following steps:

1. After the creative economy innovation evaluation by design thinking had been completed, the researcher provided innovations for digital entrepreneurs to use.

2. When the students had tried it for 3 months, the researcher evaluated their digital entrepreneurial ability by using a digital entrepreneur ability assessment based on design thinking form.

3. The scores that were obtained from the digital entrepreneur ability assessment with design thinking form were analyzed in order to find the mean and standard deviation values.

Table 6: Summary of the Methods for Implementing the Objectives.

Objective	Method	Sampling/Document	Analyzing the data
1. Develop a learning model involving design thinking to develop creative economy innovation and characteristics of digital entrepreneurs.	Organize a learning model involving a design thinking process. There are a total of 5 steps: 1. Thoroughly understand your target audience 2. Define the problem 3. Brainstorm 4. Prototyping 5. Test	Thirty-four randomly-selected Nakhon Si Thammarat Rajabhat University students from Faculty of Management Sciences who studied in Bachelor of Business Administration program, majoring in Business Computing, semester 1/2022 over a 16 week period (July 2022 - October 2022).	- Learning style with design thinking process - Creative economy innovation Assessment with design thinking - Assessment form for digital entrepreneurial characteristics based on design thinking
2. Evaluate creative economy innovation with design thinking	Organize learning with a design thinking process.	Evaluating creative economy innovation with design thinking	Mean and standard deviation
3. Evaluate the characteristics of digital entrepreneurs based on design thinking concepts.	Give innovations to community enterprises to use	Evaluating digital entrepreneur ability with design thinking	Mean and standard deviation

7. Research Results

The research results with regard to creative economy innovation development and the characteristics of digital entrepreneurs involving design thinking, were divided into 3 parts according to the research objectives. These were as follows:

Part 1: The results with regard to the development of creative economy innovation and digital entrepreneurial ability by using design thinking, the design thinking learning model for innovation development, creative economy, and digital entrepreneurial competency, consists of 7 main components as follows:

1. Teacher roles. Teachers are responsible for the preparation of learning resources, learning activities, materials, measurement and evaluation. Another role is to provide appropriate teaching and measurement by collecting results based on the objectives specified in the learning management plan.

2. Learner roles. Learners are responsible for seeking information from a variety of sources in order to learn, understand, analyze, and synthesize facts, and to organize the knowledge system that has been created.

3. Learning involving design thinking. The aim of this is to encourage learners to be innovators. This consists of 5 steps: 1) Understanding the target audience thoroughly, 2) Defining the problem, 3) Brainstorming, 4) Prototyping, and 5) Testing.

4. Technology to support learning in the form of Content Management System (CMS) has been used. This involves using the Wordpress program, with Xammp simulated as a web server, and using phpMyAdmin to manage the database.

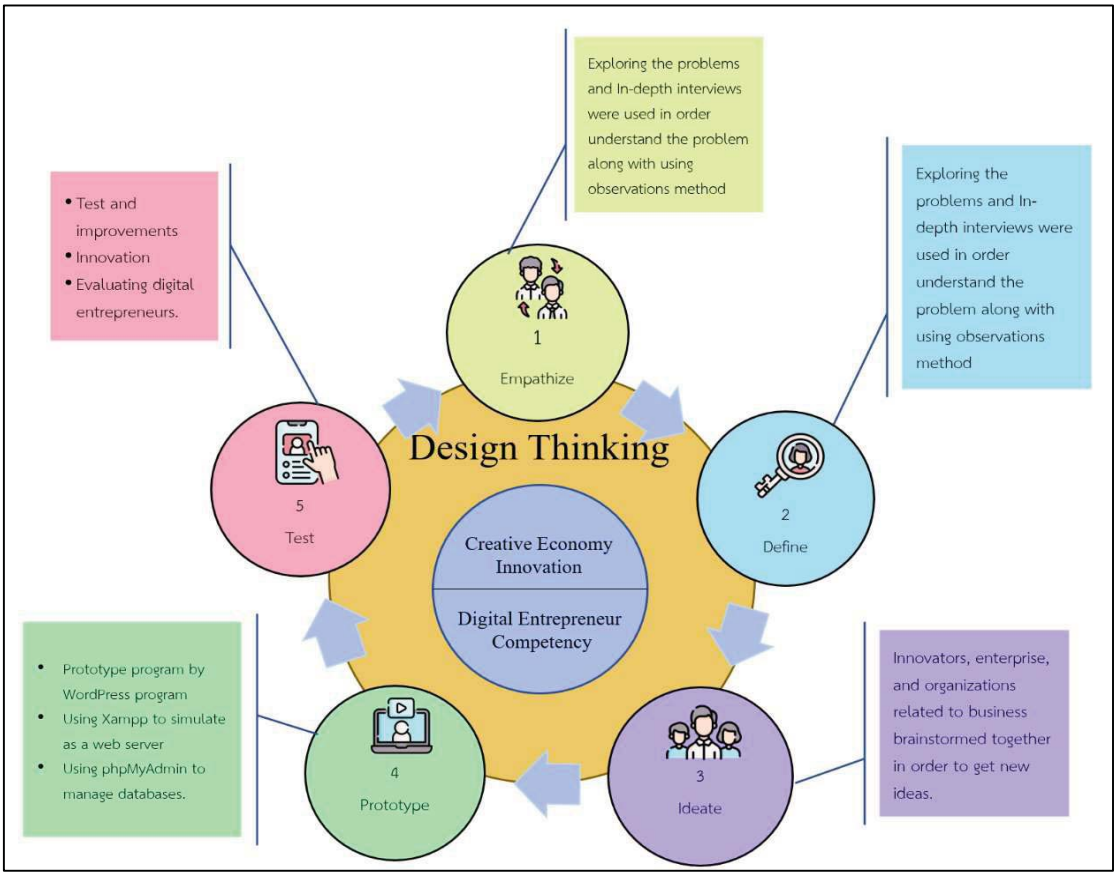
5. Measurement and evaluation of learning outcomes was based on 5 Student Assessment Committees who evaluated the students' work using scoring rubrics.

6. The evaluation criteria with regard to the characteristics of creative economy innovation are: 1) Creating innovation 2) New things 3) Replacement and reconstruction 4) Testing and improving 5) Effectiveness 6) Efficiency 7) Standardization 8) Usefulness in a business setting.

7. The evaluation criteria with regard to digital entrepreneurs' ability are: 1) Raw material procurement through digital platforms 2) Digital warehouse management 3) Digital accounting 4) Managing distribution channel through digital platforms 5) Digital platform storage 6) Transactions through digital platforms 7) Public relations and marketing through digital platforms.

Source: The Author

Figure 3: Design Thinking Learning Model for Creative Economy Innovation Development and Digital Entrepreneur Ability.



Source: The Author

Figure 4: Design Thinking Process for Creative Economy Innovation Development and Increasing Digital Entrepreneurial Ability.

Part 2: In terms of the results of the evaluation with regard to creative economy innovation use of design thinking, the researcher evaluated innovation using the creative economy innovation assessment form. The assessment committee consisted of 5 students who used the scores that were obtained from the assessment of creative economy innovation using design thinking to analyze mean and standard deviation, as shown in Table 7.

Table 7: The Result of the Evaluation of Creative Economy Innovation

The evaluation of creative economy innovation	The result of the evaluation of creative economy innovation		
	Mean	S.D.	Result
1. Create innovation	4.53	0.56	**Highest**
2. New things	4.46	0.58	**High**
3. Replace and reconstruct	4.40	0.68	**High**
4. Test and improve	4.21	0.68	**High**
5. Effectiveness	4.27	0.68	**High**
6. Efficiency	4.31	0.69	**High**
7. Standards	4.42	0.65	**High**
8. Usefulness in business	4.48	0.65	**High**
Total	**35.08**	**0.65**	**Highest**

From Table 7, it can be seen that with regard to students who studied using the design thinking learning process, the overall evaluation in terms of creative economy innovation was at the highest level. Furthermore, this is in accordance with one of the research hypotheses. When considering each area, it was found that creative economy innovation with regard to creating innovation evaluated at the highest level (Mean = 4.53, S.D. = 0.56) was evaluated at the highest level, followed by usefulness in business (Mean = 4.48, S.D. = 0.65). This was then followed by New things (Mean = 4.46, S.D. = 0.58), then standardized (Mean = 4.42, S.D. = 0.65), replacement and reconstruction (Mean = 4.40, S.D. = 0.68), efficiency (Mean = 4.31, S.D. = 0.69), effectiveness (Mean = 4.27, S.D. = 0.68), and finally test and improve (Mean = 4.21, S.D. = 0.68).

Part 3: The results in terms of the evaluation of digital entrepreneurial ability based on design thinking, are shown with regard to mean and standard deviation in Table 8.

Table 8: The Result of the Evaluation of Digital Entrepreneur Ability.

The evaluation of digital entrepreneur ability	The result of the evaluation of digital entrepreneur ability.		
	Mean	S.D.	Result
Raw material procurement through digital platforms	4.08	0.51	**high**
Digital warehouse management	3.92	0.50	**medium**
Digital accounting	3.84	0.51	**medium**
Managing distribution channel through digital platforms	4.64	0.77	**highest**
Digital platform storage	4.85	0.89	**highest**
Transactions through digital platforms	4.65	0.48	**highest**
Public relations and marketing through digital platforms	4.48	0.60	**high**
Total	**18.35**	**0.61**	**high**

From Table 8, it can be seen that students who studied by using the design thinking learning process, were assessed with regard to digital entrepreneurial attributes at a high level. Thus, it is in accordance with one of the research hypotheses. When considering each aspect, it was found that creative economy innovation with regard to creating digital platform storage are evaluated at the highest level (Mean = 4.85, S.D. = 0.89), followed by transactions via digital platforms (Mean = 4.65, S.D. = 0.48), Managing distribution channel through digital platforms (Mean = 4.64, S.D. = 0.77), public relations and marketing via digital platforms (Mean = 4.48, S.D. = 0.60), raw material procurement via digital platforms (Mean = 4.08, S.D. = 0.51), warehouse management via digital systems (Mean = 3.92, S.D. = 0.50) and digital accounting (Mean = 3.84, S.D. = 0.51).

8. Discussion

In terms of the development of creative economy innovation and digital entrepreneurial ability for Distribution Strategy using design thinking, the researchers discussed the results as follows.

Students who study by using the design thinking learning model have the highest scores in the evaluation of creative economy innovation in line with one of the research hypotheses. Learning activities involving a 5-step design consist of 1) Thoroughly understanding the target group (empathize) 2) Defining the problem (define) 3) Brainstorming (ideate) 4) Pototype (creating a prototype) 5) Testing. This is a learning activity that focuses on students creating innovations to meet users' real needs and practicing every step. Moreover, these innovations are examined by experts leading to making corrections under the supervision of an advisor. This indicates that the teaching and learning process is able to practice problem solving in a sequence of steps. Therefore, such a process can help students to solve a problem by considering the most appropriate points and determining the best and most efficient solution. Student have the opportunity to create and brainstorm which allows them to practice thinking in various forms and using various methods. It also makes learners find new ways when it comes to innovation. This is consistent with the research by Liedtka (2018) who said that the application of design to teaching and learning activities encourage students to think more critically and accurately with regard to problems. This can help learners become aware of real problems. Furthermore, it enables them to recognize the problem at the right point and to solve problems in the correct order. This encourages a thorough analysis of problems and solutions and allows the students to arrive at solutions more effectively.

Students who study by using the design thinking learning model, the evaluation scores of the characteristics of digital entrepreneurs were at a high level in line with one of the research hypotheses. This is because the learning activities that follow the design thinking learning process consisted of 5 steps: 1) Thoroughly understanding the target group (empathy) 2) Defining the problem (define) 3) Brainstorming, 4) Prototyping, and 5) Testing. They have the characteristic of a digital entrepreneur. This shows that the learning process is ready to adapt to change. Technology, if used as a tool in activities, can lead to a more efficient workflow, while the use of information and the development of new skills in more beneficial. This is consistent with the research of Williams et al. (2022), which stated that supporting the design thinking could develop potential to have business experience in being entrepreneurship innovation and using technology in the business context to have products and services based on innovation.

9. Conclusion

The development of the design thinking learning model can encourage students to be able to develop creative economy innovations and to empower digital entrepreneurs' ability for Distribution Strategy. Educational institutions and organizations that would like to succeed in developing creative economy innovative and digital entrepreneurship characteristics with the support of design thinking, should pay attention to preparation of the following:

1. Teacher's roles. These individuals are responsible for teaching preparation, learning resources, learning activities, materials, measurement and evaluation. In terms of the last aspect, their role is to provide appropriate measurement by collecting results in terms of the objectives specified in the learning management plan.

2. Learners should be encouraged to seek information from a variety of sources for use in learning, understanding, analyzing and synthesizing facts, and organizing the knowledge system that has been created.

3. Digital learning platforms and knowledge media are technologies that can support learning

4. The measurement and evaluation of learning outcomes involves an assessment of the characteristics of creative economy innovation and digital entrepreneurial ability. A variety of forms of assessments should be used and should include scoring rubrics. Encouraging students to develop creative economy innovative and digital entrepreneurial ability can be used to develop an educational foundation to improve learners in such a way that they become digital entrepreneurs with the support of design thinking in order to help manage the education process to meet the needs of the economy. This would enable the country to develop in such a way as to be equal to the world's economic leaders, and to achieve the goals of the National Economic and Social Development Plan and the National Education Plan of Thailand.

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