Analysis of innovation readiness level in SME exporting crafts sub-sector on furniture in Yogyakarta

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Abstract

The creative economy of the craft sub-sector is present to make a significant contribution to Indonesia's economic development through the creation of a positive business climate. The value of furniture exports in Indonesia continues to experience a positive increase from 2016 to 2020. This study aims to identify and analyze the level of readiness for innovation and strategy for furniture craft SMEs that have unique products to increase productivity, competitiveness, and export. This study uses a qualitative approach with an interpretive paradigm and case study design. The key informant is the owner of the CV. X. The researcher conducted a survey and interviews using the IRL (Katsinov) and TKT to explore and analyze the self-assessment of IRL and TKT. The results of this study indicate that CV. X shows that the self-assessment results meet Katsinov level 3 and TKT level 9. Based on the results of the self-assessment Katsnov 4 with a value of 78,18%, to fulfill it, efforts need to be made including: Improving ecosystem support for the adoption of technology products and innovations for the development of products desired by the market, improving the management of cooperation including existing collaborations and increasing the application of risk management.
Keywords*: craft, furniture, IRL (Katsinov), strategy, export.*

Introduction

The export value of Indonesia's non-oil and gas industry continues to show its best performance from year to year. Although in 2019 it experienced a decline because the Chinese government announced the first case of death caused by Covid-19 spreading to various countries. The Covid-19 case has hit the world. The Covid-19 pandemic has forced China and several countries to implement a lockdown. However, this condition can benefit Indonesia because Indonesia's competitor countries have implemented a lockdown which resulted in 2020 the value of Indonesia's non-oil exports again showing positive growth. Alhusain (2020) stated that Indonesian exports, especially non-oil and gas, were able to show good performance amidst the pressures of the Covid-19 pandemic (Santoso et.al., 2020a).

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The stability of the value of Indonesia's non-oil and gas exports is influenced by the creative economy. The picture above shows that fluctuations in the value of exports in the creative economy can still be said to be stable in the range of 19-20 US$ billion per year. Bappenas (2020), Economic development in the next five years is directed at increasing economic resilience as indicated by the ability to manage economic resources and use these resources to produce goods and services of high added value to meet the domestic and export markets (Santoso et.al, 2021a; 2021b). Increasing economic value added through the acceleration of 1) agro-fishery industry; 2) maritime; 3) industry; 4) tourism; and 5) creative and digital economy.

The creative economy is one of the concepts of developing the economic sector that does not only depend on the potential of natural resources but also prioritizes aspects of the quality of human resources (Andrea & Santoso 2020; Rian & Santoso, 2022) who have quality and creativity in optimizing the potential of resources to provide added value to the economic sector and overall well-being (Riswan, 2018). In Indonesia, the creative economy exists to make a significant contribution to Indonesia's economic development through the creation of a positive business climate.

The agency for Creative Economy of the Republic of Indonesia (BEKRAF RI) strengthens and protects the works of Indonesian artists. Rosiadi et al. (2016: 6), the role of the creative economy sector is considered increasingly significant to support Indonesia's economic growth in the future (Kemenparekraf: Infografis, 2021). The Ministry of Tourism and Creative Economy has established seventeen creative industry sub-sectors in Indonesia. One of these sub-sectors is a craft. In this case, the Ministry of Tourism and Creative Economy is responsible for managing the craft sub-sector.

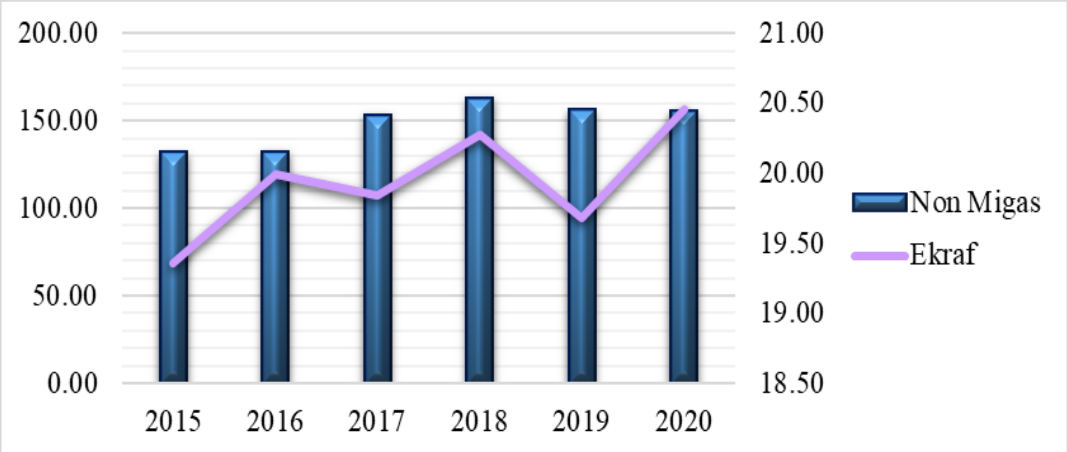

Figure 1. The Value of Non-Oil and Gas Exports and Indonesia's Creative Economy (In US$ Billion)

Source: Data processed from the Central Statistics Agency & Kemenperin 2020

Indonesia has a strategic location, of course, providing its benefits for local artisans and craft craftsmen. Not only rich in raw materials but the different landscapes on each island result in the emergence of a diversity of flora and fauna which later becomes a source of inspiration in making works by

craftsmen. Every work of craft artists represents the identity of each region. So that it gives color to the very diverse Indonesian culture.

Crafts is one of the sub-sectors that characterizes the Indonesian nation and is very close to the tourism industry and the creative economy. The Ministry of Tourism's Data and Information System Center (2020) explains craft (craft) is part of applied art which is a meeting point between art and design originating from traditional heritage or contemporary ideas whose results can be in the form of works of art, functional products, ornamental and decorative objects, and can be grouped based on material and exploration of technical tools. used, and from the thematic products.

In Indonesia, many craft businesses have successfully marketed their products to foreign markets. For consumers, the concept of handmade handicraft products made in Indonesia is no longer in doubt. Thus, craftsmen take advantage of this as an added value so that their products are marketed at a higher price.

The manufacturing industry, especially the wood furniture industry, has long been recognized as a labor-intensive industry and absorbs many workers (Santoso et.al., 2021c). The development of this industry is directed at industries that produce high-value-added products, and are globally competitive and environmentally friendly. Until now, the wood furniture industry is still an industry that attracts a lot of interest from both local and international entrepreneurs to continue to produce it because the value of its products is quite promising, and seeing the production opportunities that are increasing day by day (Santoso et.al., 2022)

The value of furniture exports in Indonesia continued to experience a positive increase from 2016 to 2020. During these five years, the increase in furniture exports in Indonesia reached US$53.3 million. Export Micro, Small, and Medium Enterprises (MSMEs) are faced with strategic issues covering aspects of raw materials, technology, markets, financing, human resources, and regulations. To maintain and/or improve positive performance in today's global competition, business actors must find their way or uniqueness in their products to gain a competitive advantage. One way that can be done by business people is to use innovation (Santoso et.al., 2020b).

The furniture industry is quite in demand by entrepreneurs, startups, and business people in general. This is because the furniture business promises a fairly large profit. According to Agustina (2019), the creative industry needs to be developed in Indonesia for several reasons. First, it can make important economic contributions such as increasing employment, increasing exports, and contributing to GDP. Second, create a positive business environment that has an impact on other areas. Third, build the image and identity of the country as tourism, a national symbol, and build a cultural heritage and local values. Fourth, rely on renewable resources such as science and increase creativity. Fifth, innovation and creativity are the competitive advantages of a country.

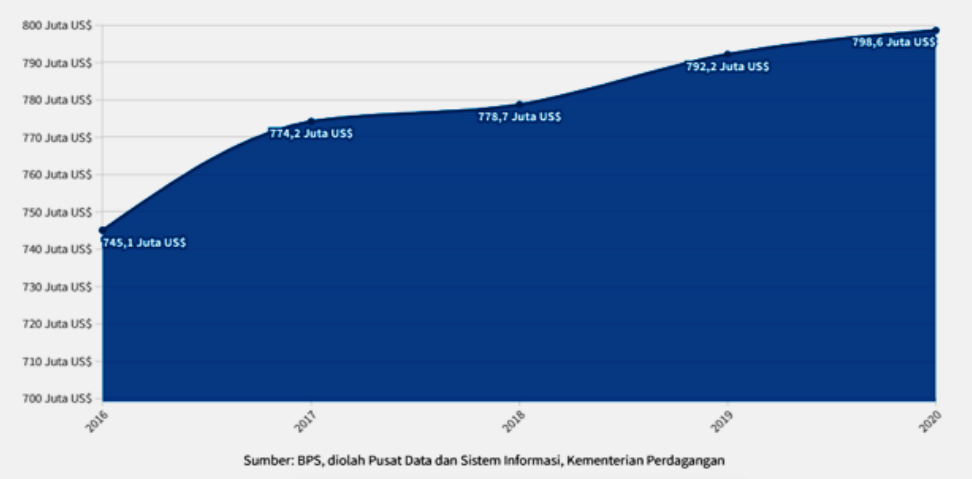

Figure 2. Furniture Exports 2016-2020
Source: DataIndonesia.id (2021)

The furniture industry is an industry that processes raw materials or semi-finished materials from wood, rattan, and other natural raw materials into finished goods in the form of furniture that has higher added value and benefits. The wood processing industry is divided into two groups, namely the upstream wood processing industry group, and the downstream wood processing industry group. The upstream wood processing industry group is the primary wood processing industry, namely the industry that processes logs into various wood sorts, while the downstream wood processing industry group is an industry that produces wood products, including dowels, molding, doors, windows, wood flooring, and the like.

The furniture industry must maintain the quality of its products because consumers will like quality and good quality products (Santoso & Mayrifka, 2019). Consumer satisfaction with a product is not only with a low price, attractive shape, tantalizing volume, and a better physical appearance, but also a product that offers a better value for benefits than its competitors as well as improvements to other attributes of the physical product that make consumers be m satisfied (Putra et al., 2019; Santoso & Mayrifka, 2019; Adhi & Santoso, 2021)

Business actors who innovate in this writing are MSMEs of wood processing crafts. Innovations through the creativity of Indonesian human resources carried out by SMEs in the craft sector for used wood are still possible to be processed into innovative products with economic value. The innovative furniture products produced by Indonesian MSMEs are part of the handicraft export.

Several previous studies are used as a reference in this study. Appendix 1 shows the state of the art of this research. However, this research has several novelties and advantages, including research related to crafts, innovation in the use of used wood that is suitable for use and added value, exports (fulfillment of standardization), and combination methods. In this regard, this study analyzes the level of innovation readiness in the Craft sub-sector SMEs to compete in the export market. The purpose of this study is to identify and analyzes the level of

innovation readiness and strategies for furniture craft SMEs that have unique products to increase productivity, competitiveness, and export.

Research Methods

This study obtained primary data sources (primary data) and secondary data (secondary data) using a qualitative approach (Uma & Bougie, 2017: 130), saying that primary data refers to information obtained directly (first hand) by researchers related to interest variables for the particular purpose of the study. Secondary data refers to information gathered from existing sources. The paradigm in this research is the interpretive paradigm (Sugiyono, 2018:549), qualitative research is based on interpretive philosophy because in looking at the symptoms of qualitative research, it must first interpret the data found. (Rian & Santoso, 2022). The purpose of the interpretive paradigm is to analyze social reality and how it is formed. While the research design is in the form of case studies that explore a specific case as a research problem, then specify a specific group of individuals, places, times, or processes that are the focus of the search (Santoso et.al., 2022b)

This research method refers to the method of interviews, surveys, and direct observations, and then filling out a questionnaire in the form of Innovation Readiness Level / KATSINOV and Applied Readiness Level (TKT) (Putra & Santoso, 2020; Ade, Santoso, & Yulio, 2021, Santoso et al., 2021d; Andrean & Santoso, 2020), Technology Readiness Level is level of maturity condition or preparedness of particular technological research and development system that measured with aim of the capability to adopted by users from the government sector, industry players, private parties and the public.

The interview process is divided into three stages, the first stage is the preparation of the writer determining the intent and purpose and collecting information such as questions to the informant. The second stage, the interview stage, notes and records important points during the interview. And the third stage is the stage of compiling the results of interviews with CV. X were summarized and classified according to the criteria on Katsinov.

The furniture industry is one part of the craft sub-sector. The furniture industry is described in the Indonesian Standard Field Classification (KBLI). KBLI 31001 contains the wood furniture industry, this group includes the business of making wooden furniture for households and offices such as tables, chairs, bed benches, cupboards, shelves, cabinets, room dividers, and the like (BEKRAF, 2016; OPUS Kemenparekraf, 2019; Rosiadi et al., 2016:112; Riyanto & Santoso, 2022).

CV. X as an MSME that has been exporting furniture is located in Bantul, Yogyakarta, and Jepara, Central Java, and has been operating for 17 years, namely since 2004. CV. X has export coverage to several countries such as Germany, Italy, France, Belgium, the Netherlands, America, and Japan. CV. X is also doing creativity by utilizing wood waste to make furniture crafts and wood materials to make furniture crafts and is expected to increase productivity and be competitive with the uniqueness of the product that can be easily recognized by customers. This research also identifies and explores challenges and business strategies in dealing with technological advances and developments

through engineering the company's business processes to increase productivity, competitiveness, and product uniqueness.

Research data were obtained in three stages, first from interviews with the company owner's CV. X. The process of collecting data with structured and unstructured interviews was conducted several times using online/online methods. In the first interview, some information was obtained, namely the background and history of the company, the raw materials used, the prices and types of products produced, and an overview of the sales and export process. The second data was obtained from a questionnaire from the Readiness Level of Innovation/KATSINOV. Ristekdikti (2018), explains that the Katsinov-Meter is a measuring tool that measures the level of readiness or maturity of innovations carried out by a company and/or projects/programs/activities. Innovation Readiness Level or Katsinov consists of 6 levels (Katsinov 1 to 6), each of which consists of 7 aspects of measurement, namely Technology, Market, Organization, Partnership, Risk, Manufacturing; and, Investment. The third data is which is obtained from participatory by making direct observations on the CV. X.

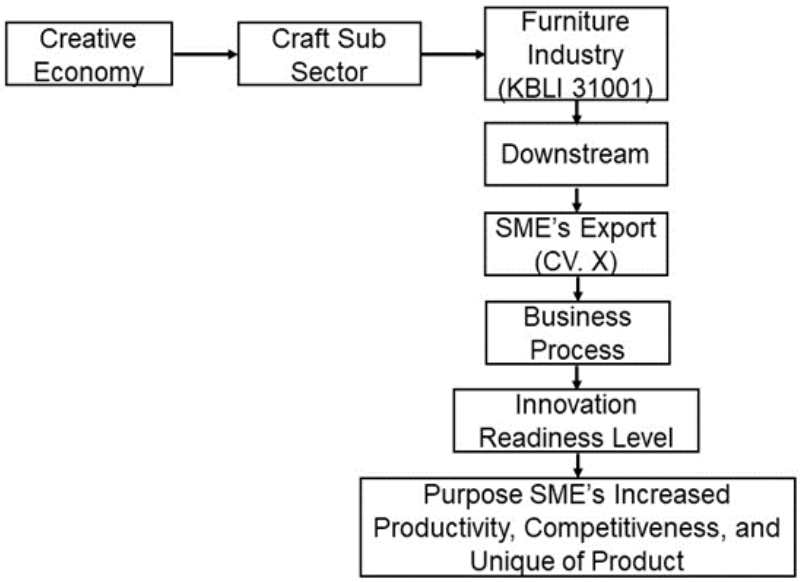

Figure 3. Research Framework
Source: Author, 2021

Miles & Huberman (1984), activities in data analysis are 1) data reduction where the data obtained need to be recorded carefully and in detail; 2) data presentation, done in tabular form; and 3) verification, temporary conclusions and will change if no strong evidence is found that supports the next data collection, Sugiyono (2018: 484).

The third data is obtained from participatory by making direct observations on the CV. X. For secondary data, the researcher uses existing data, namely the phenomena in the introductory chapter. Miles & Huberman (1984), activities in data analysis are 1) data reduction where the data obtained need to be recorded carefully and in detail; 2) data presentation, done in tabular form; and 3) verification, temporary conclusions and will change if no strong evidence is

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Result and Discussions

CV. X is one of the exporters of the furniture industry that has been established since 2004 and has now succeeded in creating various kinds of simple and elegant furniture products with quality and durable wood raw materials. CV. X exports products to several large countries (spread across several continents). CV. X has an Industrial Business License (IUI) issued by the RI OSS Management and Organizing Agency on January 17, 2019, with products in the form of wooden furniture with a capacity of 2,700 m3/year. December 2020 owner of CV. X received the Upakarti award for the IKM (Small and Medium Industry) category in the Pioneer Service category.

CV. X located in Bantul as many as 120 people and in Jepara as many as 125 people. One of the advantages of a CV. X is to use used wood as the main raw material and have an official permit and certification issued by the relevant agency or institution, and it becomes an attraction for foreign consumers. Some examples of products from CV. X such as tables, chairs, sofas, beds, mirrors, and so on.

Table 1. Recapitulation of Export Volume CV. X Period Feb 2019 – Jan 2020.

Month	Quantity	Volume Real (m^3)	Volume Packing (m^3)	PEB Total	V-Legal Total
Feb-19	2,556	123,89	631,87	14	14
Mar-19	1,168	65,01	475,77	9	9
Apr-19	1,016	77,92	666,27	11	11
May-19	1,023	36,08	246,11	7	7
Jun-19	995	38,49	228,56	6	6
Jul-19	1,155	44,86	230,52	8	8
Aug-19	1,455	85,76	517,96	16	16
Sep-19	3,505	85,63	541,84	14	14
Oct-19	1,990	69,69	439,88	12	12
Nov-19	3,903	108,68	578,58	11	11
Dec-19	1,840	83,90	616,38	14	14
Jan-20	2,707	138,53	889,50	21	21
Total	23,313	958,43	6.081,25	143	143

Source: Timber Legality Verification Recertification Audit Report Industrial Business License Holder CV. X

The results of interviews and secondary data collection showed that CV. X has good business development potential in the international market. This is evident from the recapitulation of the export volume of CV. X is increasing. This business development also proves that MSMEs are growing from time to time. This is supported by a statement from a key informant who stated that the condition of the covid-19 pandemic that had occurred did not hurt the sustainability of CV. X. During the Covid-19 pandemic had a positive influence, because of foreign business competitors' CV. X is unable to export due to the lockdown implemented by each country. Interviews were conducted by researchers with key informants, the owner of CV. X, and supporting informants namely the head of the production, sales marketing, and design development.

Figure 4. Product Example CV.X
Source: Website CV. X, 2022

In furniture production activities can't be separated from the need for raw materials/wood materials. Because of CV products. X is export-oriented and most of the destination countries are Europe, the Middle East, etc. Coverage of export CV. X includes Germany, Italy, France, Belgium, the Netherlands, America, and Japan. These countries are very strict about the requirements for their furniture products, including the wood material used must be certified and it is clear where it came from so that it is sustainable and does not damage nature/ecosystems. These things are driven by environmental issues, global warming, and the balance of the ecosystem. For these raw materials, CV. X cooperates with partners based on mutual trust. The raw material supplier partners already know the quality standards of raw materials required by CV. X, what wood materials can be used for raw materials for furniture needs to be sent for export purposes. These standards include old wood, demolition of buildings having a predetermined grade, minimal fillings, as not so to strip, and, no whiteness. And for new wood, it also has a certain grade, no patches, so as not to strip, and no whiteness. With wood raw material that has passed these qualifications, it will be the most important factor in achieving the quality of furniture products s. demolition of the building has a predetermined grade, minimal patch es, as not to strip, and no white. And for new wood, it also has a certain grade, no patches, aso s not to strip, and no whiteness. With wood raw material that has passed these qualifications, it will be the most important factor in achieving the quality of furniture products. Demolition of the building has a predetermined grade, minimal patches, so as not to strip, and no white. And for new wood, it also has a certain grade, no patches, so as not to strip, and no

whiteness. With wood raw material that has passed these qualifications, it will be the most important factor in achieving the quality of furniture products.

The Timber Verification and Legality System (SVLK) is a tracking system developed in a multi-stakeholder manner to ensure the legality of timber sources circulating and traded in Indonesia. The Timber Legality Verification System (SVLK) was developed to encourage the implementation of applicable government regulations related to the legal trade and distribution of forest products in Indonesia. CV X has already pocketed the SVLK. CV X certifications are FSC -C117252 (Recycled, FSC 100%), RA-COC-006699, SVLK82430313007 and BSCI: DBID-398607. Timber Legality Verification Certification audit process at CV. This X refers to the following rules and regulations:

1. ISO/IEC Guide 17065: 2012 General Requirements for Bodies Operating Product Certification Systems.
2. ISO/IEC Guide 23: 1982 Methods of Indicating Conformity with Standards for Third-party Certification Systems.

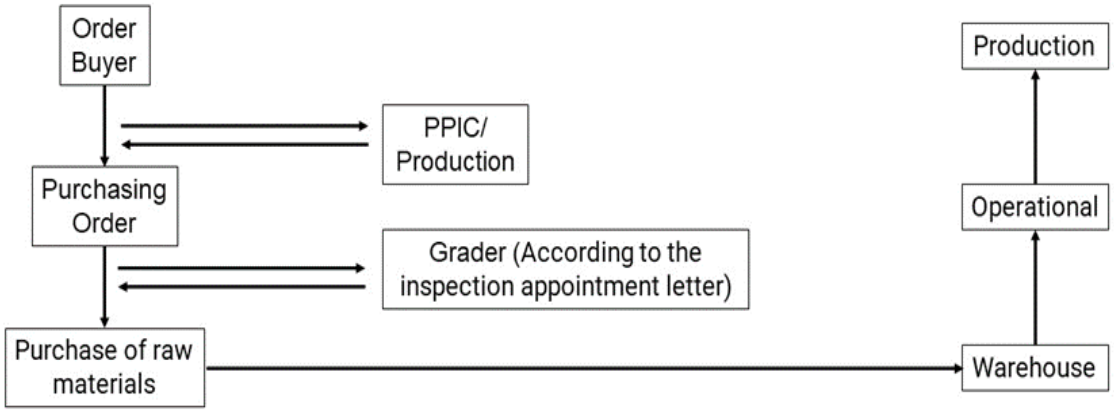

Figure 5. Business Process Flowchart CV. X
Source: Wood Certification Report, 2021

Based on the results of interviews related to the obstacles faced by CV. In this X, the key informant explained in general terms related to 1) government regulations/regulations that change frequently. The change of government resulted in a change of policy which resulted in the disruption of the export process. This regulatory problem hinders furniture exports because it is related to licensing. As a form of law-abiding business, CV. X always strives to comply with applicable regulations and cooperates with relevant government agencies, and 2) the need for raw materials used for the demolition of old buildings which are sometimes difficult to obtain. CV. X cooperates well with suppliers to overcome this. With superior human resources owned by CV. X. These obstacles were also overcome by providing additional designs using materials such as iron, rattan, and natural stone. To support the production process, CV. X collaborated with the Yogyakarta Provincial Education Office in the form of a vocational apprenticeship training program for 5 (five) Vocational High Schools. In addition, the challenge of CV. X is the right schedule so that the product can reach the customer's hands-on time. CV. X in its export activities uses ships as

logistics transportation for every 1 (one) container of either 20 feet or 40 feet, adjusted to the need for efficiency in shipping costs. X collaborated with the Yogyakarta Provincial Education Office in the form of a vocational apprenticeship training program for 5 (five) Vocational High Schools. In addition, the challenge of CV. X is the right schedule so that the product can reach the customer's hands-on time. CV. X in its export activities uses ships as logistics transportation for every 1 (one) container of either 20 feet or 40 feet, adjusted to the need for efficiency in shipping costs. X collaborated with the Yogyakarta Provincial Education Office in the form of a vocational apprenticeship training program for 5 (five) Vocational High Schools. In addition, the challenge of CV. X is the right schedule so that the product can reach the customer's hands-on time. CV. X in its export activities uses ships as logistics transportation for every 1 (one) container of either 20 feet or 40 feet, adjusted to the need for efficiency in shipping costs.

A business or company will have an urgent need to innovate. To encourage innovation readiness, for commercialization purposes, and reduce the risk of failure to use innovative products, innovation readiness needs to be measured and determined in advance. Based on these considerations, it is necessary to stipulate a Regulation of the Ministry of Research, Technology, and Higher Education concerning the measurement and determination of readiness to innovate. The readiness of innovation is the maturity or readiness of a result of research and technology development that can be measured systematically so that it can be accepted by users, both government, industry, and companies. Katsinov's measurement and determination are carried out by reviewing the conditions of innovation readiness as a prerequisite that must be met so that an innovative product is ready to enter the market. The results of the self-assessment measured by Katsinov show that for Katsinov level 3 has been met. The overall total score is 93, with a percentage of 88.57% which means that it exceeds the threshold value of 80%.

The results of the self-assessment on Katsinov 4 with a value of 78.18%. This means that it is not fulfilled because the assessment results are still below the 80% threshold, so the measurement is stopped at the Katsinov 3 level achieved. Details of the value of 7 key aspects (1) Technology by 60%; (2) Market by 90%; (3) Organization by 80%; (4) Partnership by 70%; (5) Risk of 60%; (6) Manufacturing & Logistics by 95%; (7) Investment of 90%. 3 aspects are below the threshold, namely technology, partnership, and risk. Based on interviews for filling in the parameters for each aspect of Katsinov above, the researcher recommends 3 key aspects. The researcher recommends the following 3 key aspects:

1. The key aspects of technology are expected to require increased ecosystem support for the adoption of technological products and innovations for the development of products desired by the market. This needs to be done so that market penetration becomes stronger through innovation and technology implementation,
2. On the key aspects of the partnership, the recommendation is to improve the management of cooperation, including existing cooperation,
3. In the key aspects of risk, recommendations are given in the form of improving the application of risk management, starting from risk

identification to market risk mitigation. This needs to be a concern for companies to be able to identify risks, starting from planning, and identifying risk categories so that they can manage risk including mitigation.

Table 2. Results of Self-Assessment Measurements Katsinov 3 on the CV. X

No	Aspect	0	1	2	3	4	5	(0 = not met; 1=20%; 2=40%; 3=60%; 4=80%; 5=100% or fulfilled)
1	T					X		The actual system technology has been demonstrated in an actual environment.
2	T					X		External testing of the developed technology has been carried out in full, to meet technical requirements and regulatory compliance.
3	T					X		Have documented the technology developed.
4	T					X		Innovation Results have been introduced.
5	T						X	Has acquired intellectual property (eg patents, industrial designs, copyrights, trademarks, etc.).
6	M						X	The specific needs and requirements of the customer have been identified.
7	M						X	Segment, size, and market share are predictable.
8	M						X	The product has been introduced, and the price has been set.
9	O					X		Establishment of the organization (business structure with staff and collaborators).
10	O					X		Identify any additional staff needed.
11	O					X		Has detailed the division of responsibilities and workload.
12	Mf					X		The system design is mostly stable and proven in test and evaluation.
13	Mf					X		Proven manufacturing processes and procedures on a pilot scale.
14	Mf						X	Production at a low rate has been implemented.
15	I					X		Has defined the final condition of the technology product by considering the target person, vertical market, and geography.
16	I						X	Validation of the business carried out has been applied.
17	I						X	Identification and validation of key performance indicators that indicate business success.
18	P						X	A formal partnership has been established.
19	P						X	Have prepared and implemented a cooperation plan.
20	R					X		Technological risk studies are the basis for making technical decisions in the engineering & operation stage.
21	R					X		At the technology application stage, a technology risk control plan is prepared.
		0	0	0	0	12	9	
	Σ				93			

Σ	88,57%	FULFILLED	

Source: Self-Assessment by the researcher on Katsinov Meter, 2021

Table 3. Results of Self-Assessment Measurements Katsinov 4 on the CV. X

No	Aspect	0	1	2	3	4	5	(0 = not met; 1=20%; 2=40%; 3=60%; 4=80%; 5=100% or fulfilled)
1	T				X			Skills related to the operation and maintenance of technology products have been formed.
2	T				X			Common uses of technology products by a wide range of markets have been identified.
3	T				X			Technological advantages through test results have been identified.
4	T				X			There is support for the adoption of technology products by the market.
5	T						X	Has built the image of technology products in the market.
6	M					X		Business model set.
7	M						X	Competitors are well identified.
8	M					X		Marketing emphasizes the introduction of specific technology products to its customers.
9	O						X	Has established the form of organization.
10	O					X		Has developed partnerships with independent organizations.
11	O				X			Identify opportunities to introduce products to new partners and markets.
12	Mf						X	It has been shown that production is profitable.
13	Mf					X		Start implementing GMP (Good Manufacturing Practice) or Lean Manufacturing.
14	Mf						X	Began to implement quality assurance according to standards (SNI).
15	I						X	There are public demands on the quality, safety, and security of the products used.
16	I						X	Market potential identified.
17	I					X		Market acceptance of the product has been identified.
18	P					X		Collaborating in dynamic business networks.
19	P				X			Continue to manage existing collaborations.
20	R				X			Preparation of non-technological (organizational and social) risk control plans at the stage of product introduction to the market.
21	R				X			An organizational risk assessment (especially financial indicators) is carried out at the stage of introducing the product to the market.
22	R				X			Social impact risk assessment at the stage of product introduction to the market.
		0	0	0	9	6	7	
	Σ				86			
	Σ				78,18%			FULFILLED

Source: Self-Assessment by the researcher on Katsinov Meter, 2021.

Determining the technology used in the business process will need to be considered in detail and precisely regarding the degree of the mechanism and

the expected benefits (Susilo, Wijayanti, & Santoso, 2021); (Santoso et.al, 2021). If viewed from the TKT, Katsinov 3 consists of TKT 7, 8, and 9. Based on the results of discussions and surveys, an assessment with an instrument (TKT) results in level 9 (Arwanto & Prayitno, 2013).

Conclusion

Based on the results of the identification and analysis and discussion of the company CV. X, as a furniture craft MSME tcane to penetrate the export market, found the following:

1. CV. X has a unique product including processing used wood that is still possible to be processed into innovative products with economic value. Creativity by utilizing waste wood materials to make furniture crafts and add value. This is supported by business processes and technology development as well as the acquisition of related standards that support business processes up to export.
2. The results of the analysis of the Innovation Readiness Level (Katsinov) and the Technological Readiness Level (TKT) were carried out through a self-assessment conducted by researchers with the company as follows:
   a. The results of the self-assessment for Katsinov level 3 have been met and actually Katsinov level 4 will also be fulfilled if 3 key aspects, namely technology, partnerships, and risk are improved, for example increasing ecosystem support for technology product adoption and innovation for product development desired by the market, improved management of cooperation including the ongoing collaboration and increased risk management implementation, from risk identification to market risk mitigation
   b. The results of the self-assessment for TKT level 9 are met.

From the results of identification and analysis of Katsinov and TKT and their recommendations, it is expected that CV. X can increase productivity, and competitiveness and expand exports and/or the marketplace. Creative economy business actors in the craft sub-sector, especially furniture, are expected to collaborate with joint programs that have been carried out by various stakeholders in the creative economy/SME development ecosystem including the role of the government (Kemenparekraf/ Baparekraf, Ministry of Industry, Ministry of Trade, Ministry of Cooperatives and SMEs), Academics, Associations (Kadin) and others in brought Indonesia's name to international trade. In this study, CV. X has shown a good stage. The role of the National Research and Innovation Agency and the Ministry of Education and Culture in developing value-added innovations, including in the implementation of the measurement and recommendation of the Innovation Readiness Level is also very necessary so that the outcomes and added value of both business actors (micro), industry and in the aggregate in the macro economy may increase.

This study has limitations on the craft sub-sector which has not been widely studied. In particular, research on the export craft subsector using the Katsinov measuring instrument. Another limitation is the direct survey in the field offline, except for one of the authors who know the owner of the CV. X. Future researchers are expected to be able to further examine the craft sub-

sector with questions that can describe in more detail so that if using the Katsinov measuring instrument it can increase to the next level.

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References

Ade, A F., Santoso, S. Yulio, N D. (2021). Analysis of The Level of Innovation dan Technology Readiness in the Pond Waterwheel Technology Development Project to Support Increased National Shrimp Production (Case Study of PT Barata Indonesia Persero). *Prosiding Seminar Nasional Sains dan Teknologi IV, 2021*. ISBN 2477-4845 artikel 9, pp. 73 – 81.

Agustina, T. S. (2019). *Kewirausahaan di Era Revolusi Industri 4.0*., Penerbit: Mitra Wacana Media,

Alhusain, A.S. (2020). Peluang dan Strategi Peningkatan Ekspor Pasca Penandatanganan Regional Comprehensive Economic Partnership, Kajian Singkat Terhadap Isu Aktual dan Strategis Vol.XII/No.22/II/ Puslit/ Vovember 2020, Pusat Penelitian Badan Keahliam DPR RI.

Andrea G, Santoso, S. (2020). Improving Economy of the Community Based on Sustainable Tourism and Creative Economy through Business Process Re-Engineering (BPR) With Geopark Development in Lebak Regency Banten Province, *International Jurnal of Innovative Science and Research Technology*, 5(1), 472-482

Andrean D., & Santoso, S. (2020). Build Operate Transfer (BOT) As a Business Role Model for Metering System and Development Project (Studi Cases On Metering System Project Wcish Located At PT. Rexaudia Sasada Sentosa). *Dinasti International Journal of Management Sciences (DLIMS)*, 2(1), 60-69. DOI: 10.31933/dijms.v2i1.525

Arwanto, & Prayitno. (2013). *Tekno-Meter Pengukuran Tingkat Kesiapan Teknologi.* Jakarta: BPPT

Badan Ekonomi Kreatif (BEKRAF) Republik Indonesia (2016). *Laporan Analisis Klasifikasi Aktivitas Ekonommi Kreatif dalam KBLI 2015.*

Kementerian Pariwisata dan Ekonomi Kreatif/ Badan Pariwisata dan Ekonomi Kreatif Republik Indonesia. (2019). Opus. Ekonomi Kreatif Outlook Oktober 2019. Jakarta.

Kementerian Pariwisata dan Ekonomi Kreatif/ Badan Pariwisata dan Ekonomi Kreatif Republik Indonesia. Infografik Data Statistik Indikator Makro (2021) Pariwisata & Ekonomi Kreatif.

Miles, M. B., & Huberman, A. M. (1984). Drawing valid meaning from qualitative data: Toward a shared craft. *Educational researcher*, *13*(5), 20-30.

Naini, N. F., Santoso, S., Andriani, T. S., & Claudia, U. G. (2022). The effect of product quality, service quality, customer satisfaction on customer loyalty. *Journal of consumer sciences*, *7*(1), 34-50.

Pusat Data dan Sistem Informasi. Kementerian Pariwisata dan Ekonomi Kreatif/Badan Pariwisata dan Ekonomi Kreatif RI. (2020). Statistik Ekonomi Kreatif 2020.

Putra, F. A., Jannah, M., Malik, A., Muchlis, E., & Yandra, M. (2019). Identifikasi Produksi Dan Pemasaran Karya Muda Furniture Dalam Industri Mebel. *Journal of Civil Engineering and Vocational Education (Cived)*, 6(3).

Putra, I.M.Y.; Santoso, S. (2020). Rekomendasi Mesin Pengupas Kulit Testa Kelapa Berdasarkan Tingkat Kesiapterapan Teknologi, *Jurnal AGROHITA: Jurnal Agroteknologi*, 5(2), 143-154. DOI: 10.31604/jap.v5i2.2143

Riswan, M. (2018). Problematika Pengembangan Ekonomi Kreatif Dalam Menunjang Sektor Pariwisata di Kalimantan Selatan. *Jurnal Kebijakan Pembangunan*, 13(2), 129-139.

Riyanto, A., & Santoso, S. (2022). Interior Design Production Plan Simulation Modeling with Dynamics System: A Case Study of PT. Panutan Sejati. *Journal of Humanities and Social Sciences Studies*, *4*(1), 77–88. https://doi.org/10.32996/jhsss.2022.4.1.8

Rochman, R., Santoso, S., Fourmarch, F., Pawenary, P., & Fithri, P. (2021). Transformasi Digitalisasi Pelaporan HAZOB Untuk Meningkatkan Kinerja Keselamatan Kerja di Perusahaan. *SITEKIN: Jurnal Sains, Teknologi dan Industri*, *18*(1), 112-119.

Rosiadi, A., Surbakti, S, R., Husjakarsih, I., Listianingrum, T., Ratri, W, A, M., Arisiani, I, K., Nefriana. (2016). Laporan Hasil Analisis Kegiatan. Laporan Analisis Klasifikasi dan Aktivitas Ekraf dalam KBLI 2015. Buku 2. Jakarta: Badan Pusat Statistik.

Santoso, S., Hapsari, P. A., Difoasih, G., & Prianto, S. E. (2021d). Analysis of Public Interest In Online Tourism In The Middle of The Covid-19 Pandemic. *JELAJAH: Journal of Tourism and Hospitality*, 3(1), 1 - 11.

Santoso, S., Minanda, R., Swastantomo, R., Kusnadi, K., & Syarifah, L. (2022). Hubungan Karakteristik Pekerjaan, Kompensasi, dan Kepemimpinan Transformasional, terhadap Kinerja Operasional. *SKETSA BISNIS*, 9(1), 34-52. Https://Doi.Org/10.35891/Jsb.V9i1.3139

Santoso, S., Natanael, A., Fatmawati, A. A., Griselda, A., Khoirunnisa, J., Simanjuntak, M., & Bagus, A. R. (2021b). Analisis Pengembangan Platform Ekspor Sub Sektor Kuliner Tinjauan Dari Model Sistem Inovasi. *Sumber*, *21*(22.07), 102-65.

Santoso, S., Natanael, A., Griselda, A., Khoirunnisa, J., Simanjuntak, M., Bagus, A. R., & Merry, L. Z. (2021a). Analysis of Business Process Reengineering and Export Platform in Supporting Business Exports of Creative Economy Players in the Micro, Small and Medium Business in Culinary Sub-sector. *Journal of Economics, Business, and Government Challenges*, *4*(1), 32-49.

Santoso, S., Siswanti, I., Hidayat, R. N., Isa, S. M., & Marfatah, M. R. (2022b). Measuring Model of Infrastructure Provision Readiness with Sharia PPP Financing Scheme Using the IRL and TRL Concept Approach. *IQTISHODUNA: Jurnal Ekonomi Islam*, *11*(2), 139–152. https://doi.org/10.54471/iqtishoduna.v11i2.1656

Santoso, S., Soehari, T. D., Aprianto, Y., Andrean, D., & Henny. (2020b). Value Creation In Fisheries Supply Chain As A Role Model For Fish Protein Hydrolyzate Cluster Development. *Jurnal Rekayasa Mesin, 11*(3), 401 – 407. DOI:10.21776/ub.jrm.2020.011.03.12

Santoso, S.; Mayrifka, D. (2019). Analysis Problem and Improvement of Appearance Aesthetics Product Model HC C5 / XT with Method of Plan-Do-Check-Action (PDCA) In Pt. XXXX, *International Journal of Innovative Science and Research Technology*, 4(11), 42-49.

Santoso, S.; Putro, S.S.; Fatmawati, A.A; Putri, C.G.; Sa'dillah (2021c). Disain Mitigasi Risiko Penularan Covid-19 Di Lingkungan Industri Padat Karya Dengan Metode FMEA, *JKBM (Jurnal Konsep Bisnis Dan Manajemen)*, 7(2), 149-166. https://doi.org/10.31289/jkbm.v7i2.4674

Sugiyono. (2018). *Metode Penelitian Bisnis, Pendekatan Kuantitatif, Kualitatif, Kombinasi dan R & D*. Bandung: Alfabeta.

Susilo, Y., Wijayanti, E., & Santoso, S. (2021). Penerapan Teknologi Digital Pada

Ekonomi Kreatif Pada Bisnis Minuman Boba. *Jurnal Ekonomi Manajemen Sistem Informasi*, *2*(4), 457-468.

Ubaidillah, R., and Santoso, S. (2022), Analysis of Increasing Added Value Ecosystem Creative Economy Startup in The Culinary Sector (Case Study of the First Winner of Food Startup Indonesia 2020), Volume 03, Issue 09, 2022 pp. 59-65

Uma, S., Bougie, R. (2017). *Metode Penelitian untuk Bisnis*. Jakarta: Salemba Empat.

Appendix

State of the Art

	Keyword	Santoso, S., Hapsari, P. A., Difoasih, G., & Prianto, S. E. (2021).	Santoso, S., Natanael, A., Fatmawati, A. A., Griselda, A., Khoirunnisa, J., Simanjuntak, M., & Bagus, A. R. (2021)	Santoso, S., Natanael, A., Griselda, A., Khoirunnisa, J., Simanjuntak, M., Bagus, A. R., & Merry, L. Z. (2021)	Susilo, Y.; Wijayanti, E.; Santoso, S (2021)	Adhi, S., Sugeng, S. (2021).	Andrean, D.; Santoso, S. (2020)	Suriani, N., Aan Oka Suryadinatha, Ida IDM Rai Mahaputra. (2017).	Suci, Y. R. (2014)	Ni Luh Wisayani,Kertahadi. (2014)	Yunida Sofiana. (2011)	Donna, L., Santoso, S., Kayani, I., Cahyanugraha, I., Arfiandi, D., & Aryati, D. (2021)
Type of Industry	Oil and Gas						v					
	Tourism	v										
	Craft											v
	MSME's							v	v			v
	Trade, Service, and Investment										v	
	Food and Beverage				v	v						
	Culinary		v	v						v		
Method	Qualitative	v	v	v	v	v	v	v		v	v	v
	Quantitative				v		v					v
	Study of Literature			v					v			