

VUCA ERA: THE ROLE OF BUSINESS AND KNOWLEDGE MANAGEMENT SYSTEM TO BUILD COASTAL COMMUNITY ECONOMIC RESILIENCE

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Abstract: *The challenge for society in the digital era is the emergence of Volatility, Uncertainty, Complexity, and Ambiguity, or VUCA, so sensitivity, adaptivity, and constructive understanding are needed for all elements in a country, especially society. This study aims to describe how efforts to build coastal community resilience in the VUCA era through the business sector and knowledge management. This research is qualitative with a grounded theory method with a Straussian approach. Research data were collected through indirect observation and interviews so that they could be analyzed through detailed narratives. Based on the research results, it is known that coastal communities can face the VUCA era through the development of the business sector, especially on a small and medium scale. Even so, efforts are needed to implement a knowledge management system so that every business actor in the coastal area can innovate and compete in the VUCA era. The existence of business activities accompanied by systematic knowledge management will improve coastal communities economic conditions sustainably, even in the VUCA era.*

Keywords: *Business, Coastal Society, Digital, Knowledge Management, VUCA.*

INTRODUCTION

Coastal areas have a marginal stigma with people who tend to be categorized as poor. The poverty of people who still live in coastal areas is a paradox, given the potential for natural resources that are pretty large in coastal regions. Poverty is one of the main themes of every meeting on development because poverty reduction is the heart of the action (Atmanti et al., 2020). As Attali (1999) said, the challenge for future growth is reducing poverty because, in the following millennium, the poor will be the losers.

Whether we realize it or not, the coastal area is an area that is experiencing very dynamic growth and development. The coast is a strategic location for managing the regional spatial plan in various regions. However, in its management, there is an overlap between village government policies. This then triggers problems in the form of environmental damage, resource damage, and the inability of the land's carrying

capacity to support life activities in the area (Dewi et al., 2019). One of the potential coastal areas in Indonesia is the province of East Java. The north coast and the south coast of the East Java coast have natural resources that can be developed and used to undermine the image of 'poverty' for local communities (Rangkuti et al., 2022).

Marine and coastal natural resources in East Java require management with an environmentally sound system based on legal norms by considering the global environment's level of awareness and development and legal instruments related to the environment (August 2018). Likewise, the reform of government institutions is integrated into development activities. The problem in almost every coastal area of Indonesia is poverty and underdevelopment in terms of welfare and income levels compared to people living in urban areas (Attali, 1999).

Developing coastal community economic resilience is urgently needed, primarily through business activities. One of the challenges that must be faced in the business world is the world of VUCA (Pearse, 2017; Nowacka & Rzemieniak, 2022). VUCA stands for Volatility, Uncertainty, Complexity, and Ambiguity, which describes the current situation in the business world. Rapidly changing situations, uncertainty, complexity, and ambiguity are realities that will continue to exist. Like it or not, we must all force ourselves to adapt to this unpleasant and uncomfortable situation because this era is full of uncertainties. A business that has been running for five years, seven years, or has been running for a long time, cannot guarantee that the company will continue to survive because the market is constantly changing. The development of digital disruption has made everything seem to be automatic and increasingly massive, requiring every business person to strive to maintain their existence (Pearse, 2017; Antonacopoulou, 2018; Hadar et al., 2020).

Currently, no business sector is impervious to disruption. A company may have an effective marketing strategy, but it is unclear how long it will last (Millar et al., 2018; Aimar & Smith, 2021). There are many examples of companies that have benefited from the negative impact of the VUCA condition, so an effective alternative strategy is needed. One way is through continuous learning. It is always continuing to study challenging needs to be instilled in company leaders and employees because the business world is dynamic and uncertain. These uncertain emotional conditions require business people to be able to adjust or adapt to existing needs immediately. Therefore, to deal with this VUCA, business people must be open-minded, broad, and not static to adjust to the current uncertainties (Saksa, 2021; Khalatur et al., 2021).

This open-mindedness can be demonstrated through the management of knowledge and insight possessed by business people. Knowledge is an essential factor for companies to be able to achieve competitive advantage. First, The creation of innovative products cannot be separated from knowledge because the breadth of knowledge is a factor that encourages the birth of ideas to create a particular product (Richard, John, & Ricky, 1993). Second, knowledge will make it easy for all components of the company to improve product deficiencies for the better in the future. This knowledge certainly comes from each individual initiated by the organization or the surrounding environment (Pellegrini et al., 2020).

Companies are constantly making system changes at work to adapt to the current situation. However, the constant changes made everyone inside exhausted. They were coupled with tension, fear, and struggles within the company. For this reason, design thinking is needed to make it easier for a company to adapt to the VUCA era. Thinking longer than expected and being able to do difficult things, even without incomplete information, are examples of how applied design thinking can be. Design thinking can be managed through knowledge management (Cousins, 2018).

Knowledge management is considered a system entity that seeks to expand, process, and apply available knowledge by providing added value to the entity in achieving its goals (Gope, 2018). Knowledge management systems are created to facilitate the capture, storage, retrieval, transfer, and reuse of knowledge. Business activities accompanied by a knowledge management system have proven to impact society's economic development (Daud et al., 2021).

A study states that SMEs will develop rapidly if there are creations and innovations by SME actors (Syria, 2019). This innovative

creativity can be shown if a company has a knowledge management system (Challa et al., 2021; Chatwani, 2019). Other studies also state that knowledge creation, regulated in such a way in a business, will significantly affect social welfare (Baran & Woznyj, 2020; Kaivo-Oja & Lauraeus, 2018). It was further stated that the economic system is very dependent on business activities in the community, and these business activities will develop if business actors can carry out knowledge management sustainably (Lepelee, 2021).

Based on these empirical facts, it can be seen that business activities and knowledge management systems influence increasing the economic resilience of the community. So far, many studies related to this topic have been carried out. Still, there needs to be research linking business activities and knowledge management to the economic resilience of coastal communities in the VUCA era.

Table 1. Keywords that are rarely used but influential as research topics

Rank	Keywords	Total Link Strength	Occurrences
1	<i>VUCA Approach</i>	5	5
2	<i>New Collaboration</i>	8	5
3	<i>Tourism Knowledge</i>	9	5
4	<i>Management Process</i>	10	5
5	<i>Challenge</i>	13	5
6	<i>Innovation</i>	14	5
7	<i>Collaboration</i>	15	5

Table 1 above shows keywords rarely used as tools in research on business and knowledge management. However, these keywords still show an influence on research results. The number of occurrences of

keywords is determined to appear at least five times in each article published in Google Scholar, ScienceDirect, and Proquest databases. The keywords with the lowest total link strength are VUCA Approach, New Collaboration, and Tourism. This implies that these three keywords are rarely used as research topics related to the role of business and knowledge management systems in coastal areas. Table 1 shows that VUCA is an approach that has yet to be widely used in research analyzing business and knowledge management systems' role in building economic resilience in coastal communities. This research shows the novelty of research in the field of business management. This research aims to provide an overview of business activities and knowledge management systems that can influence the economic development of coastal communities in the VUCA era.

METHODOLOGY

The research method used is a qualitative method with a grounded theory approach. In the grounded theory approach, researchers try to see a setting directly without first adjusting the tools, techniques, or models from opinions and phenomena in the field (Bluffs, 2005). This grounded theory approach allows a fundamental theory to emerge from field data. Data analysis was carried out using the Straussian Approach (Onions, 2006) and then developed into a conclusion by triangulating through indirect observation and interviews. Statements were made before and during the research, including a general description of the atmosphere of social life, physical conditions, and economic and social conditions that occurred (Josiana & Hizbaron, 2019).

In-depth interviews were conducted directly with informants separately in their respective environments. Interviews will be shown with informants who are considered competent, namely the Regional Government

of East Java, Entrepreneurs in coastal areas, Academics, Coastal Communities, and Mass Media. The coastal areas that are the research samples are the coastal areas of Sidoarjo as the northern coastal region and the coastal areas of Jember as the southern coastal areas in East Java. Finally, from the conclusions, a theoretical concept can be formulated by looking at informants' perspectives regarding the role of business and knowledge management systems in building the economic resilience of coastal communities in the VUCA era.

RESULT AND DISCUSSION

Research result

From the results of observations in the field, it is known that business activities have greatly influenced the economic development of coastal communities in East Java. From the results of interviews and indirect observations that the author did, it is known that changes in the community's socio-economic life can occur due to the presence of the tourism sector in Papuma Jember beach and the Sedati coastal area in Sidoarjo. Tourism activities have given rise to business and employment opportunities in this area that helps the community's welfare around the beach. Beach areas have economic value and can help communities around tourist areas to better realize the importance of tourist sites for improving the economy of local communities, in addition to encouraging people to participate in maintaining the area. Various activities in this area open up opportunities for the community in the economic field. It encourages the surrounding community to do alternative jobs to supplement their household income.

Therefore, the potential for increasing the welfare of coastal communities with the existence of coastal ecotourism areas is certainly not wasted by communities around the coast. Apart from making shell crafts,

some also work as hawkers and snack sellers, rent mats to sit relaxed on the beach, rent boats, and others. One of the professions, such as hawkers, is mainly done by mothers. The hawkers here do not sell snacks like hawkers at the bus terminal but sell salted fish, fish crackers, fish paste, and processed milkfish. They get the salted fish, fish crackers, and shrimp paste from intermediaries who have processed the fish until they are ready for sale. Still, some process and sell the salted fish themselves without going through the intermediaries.

Based on the information from one of the hawker business actors around the Papuma beach tourist area, it was confirmed that they were selling from 07.00 in the morning to 18.00 in the afternoon. On ordinary days other than holidays, a decrease in revenue is recognized. When their income decreases, it is also difficult for them to meet their daily needs. Therefore they have side jobs such as factory workers or farm laborers. Meanwhile, based on interviews in the Sidoarjo coastal area, it is known that most people rent boats and fishing equipment, and some pond owners open public fishing ponds. Some people have also opened food stalls, with the main menu grilled milkfish without thorns or mussel cake. It was further explained by a business owner that during a pandemic, erratic income. Not to mention the many other tourist attractions more attractive to tourists. Even the coastal community thinks that people tend to prefer traveling to shopping centers rather than to coastal areas.

From the results of interviews conducted with the local regency government both in Sidoarjo and in the coastal area of Jember, it is known that the government has been working with academia, the private sector, and the media to increase the selling value of products produced by the local community. Many seminars, workshops, and events, such as SME exhibitions, are intended for people in coastal areas. In addition, training has been

provided to the community to improve their knowledge and skills in developing their businesses. From these results, it can be seen that in developing the economy of coastal communities in East Java, efforts have been made to manage knowledge carried out synergistically by the government, the private sector, academia, the public, and the mass media.

Business activities and knowledge management systems in the northern and southern coastal areas of East Java have proven to be influential in efforts to build the local community's economy. However, from the results of interviews and observations that have been made, it is known that other factors influence the economic level of coastal communities, namely the changing strategic environmental conditions. It needs to be realized that the Covid-19 pandemic is one of the conditions that create uncertainty in the space for coastal communities to develop their economy. In addition, other business actors are considered modern tourist areas and are more in demand by the community, making the economic growth of coastal communities tend to be less developed.

Discussion

Coastal Community Business Activities in the VUCA Era

VUCA stands for Volatility, Uncertainty, Complexity, and Ambiguity. This buzzword is often used concerning economic turmoil, not marketable, and the current crisis. Various changing factors in current conditions and difficulties in predicting can burden the future of one's organization or business. On the other hand, business people can push the idea of preparing or adapting their own company to various VUCA conditions as far as possible (Cousins, 2018; Lepeley & Nicholas Beutell, 2021; Ciro Troise et al., 2022). Various studies state that the VUCA condition is very influential in the existence of a business actor.

First, the effect of volatility includes speed, size, impact, and dynamics in various social, economic, and political matters. Some situations are unstable, and their duration and temporal extension are somewhat unpredictable. In this volatile condition, business leaders must be able to scan trends in business changes (Antonacopoulou, 2018; Baran & Woznyj, 2020). For example, in the current disruptive era, leaders must be able to read how to expand market share and what is needed to advance their business. Leaders must also know the extent to which technological developments can positively affect the business development. By understanding the level of change internally and externally, business people can maintain themselves optimally (Cousins, 2018). This condition requires the role of the local government regarding the touch of technology in production carried out by local communities, as it is known that most coastal communities are still simple and apply manual/conventional methods to produce a product. Meanwhile, global developments that are so rapid with technological devices are rarely used by business actors in microscopic and medium-scale fields (Haryanti, 2018). For this reason, coastal communities' business activities are often stagnant compared to business people who utilize technological devices to manage their businesses.

Second, the effect of uncertainty describes the loss of predictability and planning of events and variables. This condition causes some vital information to disappear. In addition, changes in an uncertain environment can cause substantial industry shifts or even change the company itself. Suppose you cannot adapt to these uncertain conditions. In this case, unstable conditions will result in two possibilities: the entry of superior products into the market and massive new offerings from significant competitors (Lepelee, 2021). The pandemic

conditions that have lasted for the past two years have sunk coastal communities, especially in the tourism sector. As a result, the products initially sold to tourist visitors could have sold better.

Third, the effect of complexity describes the chaos and disorder of environmental factors. Therefore, companies can sense and anticipate many complex factors and influences, but sometimes the sum of these complex factors causes an overload for the company. This complexity can be illustrated by the differences in perception between consumer desires, the point of view of particular groups of people, and applicable regulations (Daud et al., 2021; Gope, 2018). For example, a leather bag company that is among consumers requests to provide genuine leather but is opposed by the animal rescue community or environmental activists and the existence of regulations from the local government. These conditions certainly have an impact on the presence of the company in the future. In coastal areas, the management of mussels, fish, fish paste factories, cracker factories, and food stall businesses is indicated to have caused an accumulation of both organic and plastic waste, which has created friction between business actors and local environmental activities. Therefore it is necessary to strengthen cooperation between the community (business actors), environmental activists, and the academic community to carry out waste and waste management.

Fourth, the effect of ambiguity describes the unclear causal relationship in the corporate environment. This ambiguous condition is a floating situation, and the clarity is uncertain. An imprecise climate can be seen, for example, when a company goes beyond its usual activities and enters a (new) market with a (new) product for a (new) target group (Baran & Woznyj, 2020). Businesses in coastal areas still have to determine how to attract consumers and

increase their sales. Natural resource management in coastal regions is still traditionally done by local communities, and modernization measures are needed to improve the economic growth of coastal communities.



Pictures 1. The Role of Business in the Economic Development of Coastal Communities in the VUCA Era

Building a product with a solid and long-lived brand can collapse over a single rumor (Lepelee, 2021). News about restaurants without halal certificates, food with expired ingredients, and food factories with rat nests are some examples of unclear news that people finally believe to be true. As a result, business owners must overcome these rumors swiftly or go out of business (Antonacopoulou, 2018; Minciu et al., 2020; Carbonaro, 2021). Thus the VUCA condition can disrupt the business world without quick adjustment from business people.

Knowledge Management System In the VUCA Era

Companies that survive in the VUCA era can combine aspects of vision, competence, innovation, and risk in every decision-making under dynamic conditions (Lepelee, 2021), which can be done through a knowledge management system approach applied to the company. A knowledge management system collects, develops, disseminates, and effectively utilizes organizational knowledge. This approach aims to manage and use all assets owned by the organization or business actor, starting from HR assets to corporate material assets, so that they can achieve the organization's vision, mission, and goals, especially by adding value and increasing productivity

(Gope, 2018; Daud et al., 2021; Putra & Wijayanto, 2021). The knowledge management system can also be interpreted as an effort to manage and develop the knowledge possessed by individuals within the company into new knowledge, which ultimately has positive implications for achieving company goals (Syarafina & Sushandoyo, 2022).

Various studies state that a knowledge management system is necessary for companies that want to develop. Even in conditions that are uncertain and full of uncertainties like today, the knowledge management system is believed to be a solution to maintain the existence of companies that impact the people's economy. The knowledge management system is a weapon facing the VUCA era (Cousins, 2018; Minciu et al., 2020).

First, Volatility is a power capable of increasing the rate of change in the external environment. Changes in the domain that occur suddenly can cause leaders to rush decision-making. On this basis, companies must learn to respond to and manage change more effectively. Responding proactively in dealing with environmental changes, both internally and externally, must be done so as not to disturb and cause command and structure problems, namely by creating potential resources in the future. A knowledge management system is an approach that is considered appropriate for preparing resources in this agility (Cousins, 2018; Carbonaro, 2021; Lepeley & Nicholas Beutell, 2021). One effort can be made to provide training for the community (business actors) through synergy with the private sector or academia (Rangkuti et al., 2022), as the results above have been carried out to develop the potential of the community in the coastal areas of East Java.

Second, Uncertainty can be overcome by collecting, analyzing, interpreting, and disseminating information. Sufficient

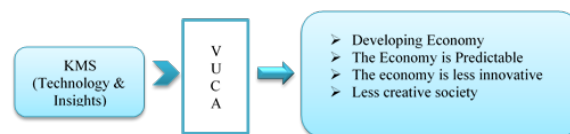
information can reduce uncertainty in this VUCA era (Gao et al., 2021). Companies with the latest and most up-to-date information will be able to analyze the data they have and see from different perspectives to face the future to avoid uncertainty. Companies can do this through the use of big data technology. In this regard, companies must be able to know and understand the actual problems and phenomena that are happening around them. Companies must also be able to draw a common thread in every sensation. This condition is undoubtedly based on the knowledge possessed by business people. Management of knowledge related to a variety of information is required as well as knowledge and skills in operating technological devices that can support business activities. Knowledge management is one solution that can be applied. Knowledge management systems can be used as knowledge sharing between individuals in groups to provide new knowledge and stimulate individual skills (Minciu et al., 2020; Lepeley & Nicholas Beutell, 2021;). The research results show that many business actors in the coastal areas of East Java still need to carry out knowledge-sharing activities.

Third, Complexity is a prolonged problem faced by companies. Companies are required to overcome this complexity by connecting the problem points. Companies must solve these problems and solve them one by one with the specialization developed. Restructuring parts of the company's operations to deal with the company's external complexities as effectively and efficiently as possible in dealing with complex elements can be done through a knowledge management approach (Ribiere et al., 2021). Ofoegbu (2014) and Tarliman et al., (2022) explain that the knowledge management system significantly affects the knowledge management performance in Nigeria's banking industry. Knowledge

management is fundamental in creating competitive value for an organization by creating talented members. Knowledge management that is appropriately implemented can show the leadership's capability to translate company objectives so that they can communicate at all levels of the organization. That way, short-term and long-term thinking can be created from one point of view, which illustrates that the knowledge management process can contribute positively by the hopes, expectations, and dreams of all parties for the organization's long-term sustainability, even in complex conditions.

Fourth, Ambiguity is a condition described as a blurring of reality or facts, causing misunderstandings in various situations. The risk that companies in conditions of ambiguity will face is decision-making based on limited understanding. For this reason, companies need to conduct experiments, and simulations, test hypotheses, and create prototypes to get an accurate picture of the vision, mission, and goals to be achieved. Experimentation is needed in dealing with elements of ambiguity. This experiment is closely related to the knowledge management system approach. Research states that a proper organizational investigation must be following knowledge transfer (knowledge sharing) and knowledge creation (knowledge creation); both are activities in the concept of a knowledge management system (Vorontchuk & Lando, 2021; C Troise et al., 2022). Only intelligent company leaders can determine whether the company's future strategy is profitable, where previously repeated trials were applied, so the element of ambiguity in VUCA can be faced. So far, only some experiments have been carried out by people in the coastal areas of East Java to develop their businesses. Because of this, there must be progressive and massive steps for the local government to encourage and

facilitate business actors in coastal areas to experiment and explore to develop their products.



Picture 2. The Effect of Knowledge Management System on the Economic Development of Coastal Communities in the VUCA Era

Picture 2 explains that the knowledge management system integrates technology and mechanisms built to support disseminating knowledge among members of the organization (company). The more comprehensive the knowledge that is shared and implemented, the stronger the existence of an organization, including building an economic system for coastal communities in dynamic conditions such as the VUCA era.

The Role of Business & Knowledge Management Systems to Build the Economic Resilience of Coastal Communities in the VUCA Era

It cannot be denied that business activity is the central aspect that can build community economic resilience, including coastal communities. The need for a new business paradigm emphasizes knowledge resources to increase the value creation of the resulting products. Thus knowledge management becomes a necessary process that plays a significant role in every business activity, which in turn impacts the resilience of the community's economy. As described above, business activities and knowledge management systems cannot be separated from conditions often called VUCA (Fisal & Hamed, 2022; Troise et al., 2022). Every business person must understand the challenges while finding the right solution for each element of VUCA they are facing, namely volatility, uncertainty, complexity,

and ambiguity, to win the market competition and maintain the economic resilience of the surrounding community.

1. Volatility

This component provides an overview of the current conditions. The progress of the disruptive era has made the business unable to run continuously stably; for example, due to the rapid development of technology. This condition is influenced by many innovations based on fast and constantly changing technological developments. These conditions make business people have to keep abreast of products using technology. Like it or not, the "natural selection" process will work for all business people. Therefore, the knowledge transfer of appropriate technological developments greatly influences flexibility and adaptability, which are essential to survive in such a massive industrial competition (Natalia, 2018; Shkarupeta et al., 2021).

For coastal communities, technological developments must be utilized optimally. Not only in marketing their products but also in alternative raw material processing techniques.

2. Uncertainty

This component explains that on every business trip, nothing can be ascertained. This uncertainty is made more complex and challenging due to incomprehensible market and industry conditions, which are difficult to predict and overcome. Many companies decide not to change the uncertainty because of the insecurity to change. However, companies must adapt rather than 'run' from uncertain situations by studying directions and conditions. Companies can carry out this learning process through a knowledge management system approach. The knowledge management system can increase a company's innovation ability while optimally empowering human resources to

find creative ideas in uncertain conditions (Buckley, 2019).

Businesses can discover creative ideas in the coastal environment through participating in seminars, workshops, or exhibitions organized by the government or other stakeholders.

3. Complexity

Complexity is a condition that describes the complexity of the business world at this time. Years ago, companies focused entirely on making a profit from their business. Nowadays, many factors are considered by a company to maintain its existence sustainably and win the competition in the industrial environment. Internal factors such as vision, mission, strategic plans, risk management, and skills possessed by members must be considered carefully. In addition, external factors also influence the existence of the company (Lepelee, 2021). For example, consumer involvement, the interaction between stakeholders, and compliance with regulations. Therefore, a company must be able to think ecologically to deal with these complex conditions. Ecological thinking is the company's ability to map and study various areas of relationships outside the company, such as market trends, consumers, stakeholders, the physical work environment, working relationships with other business actors, and policies set by the government related to business activities. (Natalia, 2018).

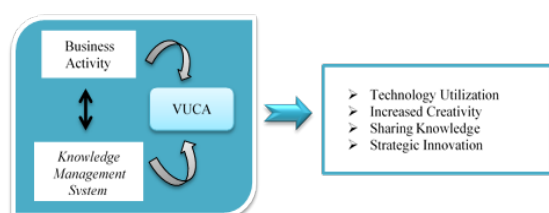
The results of this mapping are access to forming a sustainable business ecosystem for business people in the coastal environment. It can only be done optimally if every business actor in the coastal environment can manage all the knowledge the company possesses.

4. Ambiguity

Ambiguous conditions illustrate the blurring of the business field. It must be realized that in this era, many new business

players whose presence is complex or even unpredictable. Old business players who initially did not intersect must compete to get the same "prey" (Antonacopoulou, 2018).

Businesses in the coastal environment explained that they have long been moving to innovate and change business strategies to survive and win the market competition. Such innovations and techniques will only succeed with strategically managed knowledge.



Picture 3. The Influence of Business Activities and Knowledge Management Systems on the Economic Development of Coastal Communities in the VUCA Era

In simple terms, Picture 3 shows that a knowledge management system helps facilitate the storage, management, and provision of knowledge from/for stakeholders, which is then used to create a knowledge database (Baran & Woznyj, 2020; Lepeley & Nicholas Beutell, 2021). Learning must be managed through effective and efficient planning and implementation. In using the knowledge management system, it is hoped that all business people can utilize knowledge sources within the company easily and quickly Lepeley (Lepeley & Nicholas Beutell, 2021; Minciu et al., 2020; Zhang-Zhang et al., 2022). Knowledge utilization must also be accompanied by technology because, inevitably, the development of technology and information systems that are so massive can affect the pace of business activity. In addition, the government and related stakeholders must participate, such as the private sector, academics, and the media involvement in increasing opportunities for coastal communities to experiment and innovate in

developing their businesses. That way, business activities in coastal areas will continue and survive even in the VUCA era so that the economic system of coastal communities can grow and develop.

CONCLUSION

From the results of the analysis above, it can be concluded that the VUCA Era resulted in changes in people's behavior due to uncertainty, unpredictability, and constant changing massively. VUCA has changed the behavior of communities, organizations, and stakeholders in coastal areas. These conditions not only bring about short-term survival in times of uncertainty but also become the background for the significant challenges faced by the industrial world because of the desire to survive in the future and have a positive effect on developing the people's economy, especially coastal communities. The challenges of the VUCA era are very relevant if faced by business people in the coastal environment using a knowledge management system approach. The role of knowledge management generates creative ideas in the VUCA era, so business people in the coastal climate need to reconstruct an appropriate and comprehensive knowledge management system to store files in the form of knowledge that can be maintained and implemented sustainably.

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