
| RESEARCH ARTICLE

Utilization of the Edupreneurship Monitoring Information System (SIMO-Edu) to Improve the Performance of Vocational High School (SMK) Collaborations, Partners and the Community in the Edupreneurship Process

First Wanita¹ ✉ Husain Syam² and Hasanah Nur³

¹²³*Vocational and Engineering Education, State University of Makassar, Indonesia*

Corresponding Author: First Wanita, **E-mail:** firstwanita@akba.ac.id

| ABSTRACT

This study aims to apply a monitoring information system model (SIMO-EduPKK) in the edupreneurship process to improve the performance of collaboration between vocational high schools (SMK), partners and the community as well as to build partner trust in ordering SMK products. The edupreneurship monitoring information system model is designed to be able to facilitate the operational process of cooperation and monitoring of product manufacturing so that the edupreneurship process can run well and as a vehicle for introducing SMK products to the wider community. Researchers use the system development life cycle (SDLC) approach with the waterfall model method to develop a system to obtain an analysis that is in accordance with user needs in producing an information system and monitoring the edupreneurship process that is effectively used in enhancing cooperative relations between all related parties. The results of the research based on measuring questionnaires to teachers majoring in culinary management partners and the community show that the monitoring information system developed is effectively used in the process edupreneurship based on the response value given by teachers to the assessment category on related aspects through a questionnaire using the scala Likert was 96.15%, and the assessment from partners and the community was 95.31%, both of which were in the very practical category.

| KEYWORDS

Monitoring System, Edupreneurship, Collaboration, Teachers, partners, community

| ARTICLE INFORMATION

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1. Introduction

The government, in realizing national education goals and responding to various challenges in the globalization era, which increasingly demands the competence of quality graduates and has an entrepreneurial spirit, continues to work through various ministry priority work programs, such as the Smart Indonesia Program (PIP), Revitalization of Vocational and Skills Education, and Strengthening Education Character (PPK) (Renstra 2015-2019).

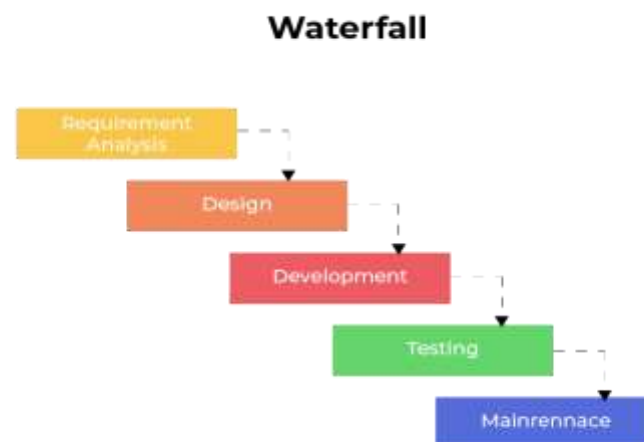
Based on Presidential Instruction No. 9 of 2016 concerning the Revitalization of Vocational High Schools, it really helps the world of education, especially Vocational Schools, in creating Vocational synergy with related institutions in an effort to improve the quality of Vocational Schools. The realization of the synergy of vocational education is carried out by preparing students to have work competencies according to the demands of the industrial world by equipping and providing various kinds of skills so that they become entrepreneurs (Hadam, S., Rahayu, N. & Ariyadi, A.N., 2017). Various efforts have been made by the government in order to improve the quality of graduates who are independent and synergistic with the needs of industry and the world of work (IDUKA).

Vocational High School (SMK) which is an integral part of the economic sector. SMK has an important role in reflecting the quality of the workforce through edupreneurship development. Ministry of Education and Culture in realizing the ability of human resources and equipment to be in line with Indonesia's economic growth (Renstra Dit. PSMK 2010-2014) at the school level, one of which is by increasing students' interest in entrepreneurship, which can grow through the edupreneurship process in schools. Through the practice of cooperation between partners and SMKs, it is hoped that they will be able to provide real experiences to students and some of the benefits that can be obtained through cooperative relationships for the improvement of vocational high schools. However, based on preliminary observation data, it is known that from a survey of 13 SMKs in Makassar City, it was found that 69.2% stated that they were constrained from a partner aspect in terms of the difficulty of finding partners and establishing effective cooperative relationships. This is due to the fact that most of the cooperative relations between SMKs and industrial partners are still limited to MOUs. So, the role of partners in the edupreneurship process in Vocational Schools has not been fully realized. The lack of trust in the quality of the products produced by SMK is also one of the reasons for the lack of cooperative relations. The existence of these obstacles is the reason that most of the products produced by students cannot be utilized or widely commercialized by IDUKA and the wider community because the products produced by students still do not meet the standards required by IDUKA and the community. In the opinion of Azizah et al. (2019), work standards and product quality must be able to meet the quality standards required by partners.

The existence of difficulties in finding partners and the existence of cooperative relationships that have not been optimally realized with partners can have an impact on the edupreneurship process because the benefits of cooperative relationships cannot be fulfilled optimally. Collaborative relationships are the first step in aligning the competencies needed by partners (Hamdan, S., Rahayu, N. & Ariyadi, A.N., 2017), can also provide real experience of entrepreneurship practice and, at the same time, can increase competence in students. Given the importance of cooperative relations with partners and the community as external factors that support the edupreneurship process, the researchers are therefore interested in developing an information system for monitoring entrepreneurship education that can improve cooperative relations between SMKs and partners and society, as well as being able to increase partners' trust in utilizing SMK products.

2. Method

The methodology used for software development uses the System Development Life Cycle (SDLC) and waterfall model methods. The waterfall model was chosen for the development of this system because it is simple, easy to understand, and easy to apply. But it works well and can give good results. Andrew P. Sage and James D. Palmer (1990) in Mitch Kramer (2018) examine the greatest advantage of the SDLC's waterfall model, which is to provide structure for organizing and managing software development projects in a most important methodological approach. Accurately understanding user needs. It is hoped that this research will lead to the creation of a surveillance information system that can improve the structure of good cooperation between the parties concerned. Monitor ongoing processes. To meet the requirements of the edupreneurship process. In the procedural approach, a system can be defined as a set of procedures with a specific purpose, whereas in the component approach, a system is defined as a set of components interconnected to form a unit to achieve its goals. Defined goal Indeed (Jogiyanto, 2005:34), especially for SMK teachers and partners, will be fully leveraged in support of the edupreneurship process. Software development in several steps using the waterfall method is as follows.



2.1 Requirements Analysis.

System requirements analysis is an important process for creating effective requirements based applications. This stage is to ensure that the system can meet the expectations and needs of users, that the system works properly, and that the system is built properly based on the background, it can be concluded that the problems faced are:

1. Difficult to find partners
2. Some cooperative relationships are only limited to MOUs.
3. partners lack confidence in the quality of the products produced.

Therefore, in building this system, researchers will overcome some of the obstacles encountered. Researchers are trying to facilitate collaborative relationships between SMK and partners by fulfilling user needs with several features that can help meet the needs of the collaboration process for edupreneurship practices, which can later make it easier for all users involved in the collaboration process. to overcome difficulties in getting partners, in this system the community can easily register as partners so that they can easily participate as suppliers of raw materials that are not available in the manufacture of SMK products, partners can also participate as providers of infrastructure facilities that are not available in SMKs in the manufacture. The existence of this feature is expected to make it easier to establish cooperative relationships and increase partner interest in collaboration while at the same time building partner trust in the quality of products made by SMKs by knowing the raw materials and infrastructure used. This is also at the same time being able to overcome cooperative relations that are only limited to MOUs. Researchers in overcoming the lack of partner trust in product quality, this system is equipped with features for monitoring the manufacture of products so that partners can monitor the implementation of product manufacture based on proper work procedures.

The following is an analysis of system requirements made.

At this stage, the researcher used data collection techniques through observation: The author conducted observations at several SMKs in Makassar, especially in the culinary field, in order to better understand the current situation and the collaboration process interviews. Apart from observing, the researcher also conducted interviews to collect data by proposing a series of questions to teachers and other stakeholders related to the system being developed and literature search: A literature review is also a method that researchers use to obtain data sources from both reference books and journals that are relevant to the system they are making. Researchers collect complete requirements and analyze and determine the requirements that must be met by the system they build. Results are shown in Table 1.

Table 1. The Results of Requirements Analysis

Actor	Requirement
Teacher	Input raw material cooperation opportunities Input opportunities for cooperation in infrastructure View the list of submissions for cooperation Approve cooperation offers Monitoring of collaborative activities
Student	View collaboration applications Input suggestions for acceptance of bids Product work updates
Partners	Input catalog Registration Seeing opportunities for cooperation in raw materials Seeing opportunities for cooperation in infrastructure Offer input View product catalog Product ordering Monitoring product work Product purchases
Society	Registration View product catalog Product purchases

2.2 Analysis of non-functional requirements

This analysis aims to measure whether the proposed new system can be implemented with the hardware and software specifications. Here is an analysis of the requirements for the new system:

- a. The hardware required for the design of the Entrepreneurship Surveillance Information System is a laptop/PC with the following specifications: Intel Core Processor (2.30 GHz); 4GB of RAM memory; 300GB hard disk
- b. Software requirements. The software required for system design is as follows. Windows operating system. Sublime Text 3 is used to encode website applications. Xampp; MySQL as a database server is used for database design. Google Chrome/Microsoft Edge.

2.3 System design

System and software design is carried out in this phase. Design occurs after the requirements are fully defined. System design is based on data collected in the previous stage. The functional design of the developed media aims to make it easier for SMKs (teachers) to practice collaborative relationships as well as a medium for disseminating SMK products through the eduprenurship information system (SIMO-Edu) so that they can be easily accessed anytime and anywhere without being limited by space and time. smk products are disseminated using the catalog available on the system. Then, the manufacture of products has the opportunity to open opportunities for collaboration with a more oriented towards eduprenurship practices. This system is designed to function in facilitating related parties in carrying out cooperative practices. There are 3 types of cooperation that can be carried out by partners and SMKs, namely partners as raw material suppliers, partners as infrastructure providers and ordering/purchasing SMK products by partners and the community, followed by the implementation stage.

During the system design stage, use case diagrams are used. A use case diagram is a diagram in the UML (Unified Modeling Language) model used to describe the interactions between actors (users) and systems A. Iskandar et al. (2020), Benefits of using use case diagrams include B. Easier understanding of the system and determination of phases for system development M. Alda (2021). This makes it easier to understand the interactions between actors and systems and how the system works and meets the needs of each user L. Melian (2020).

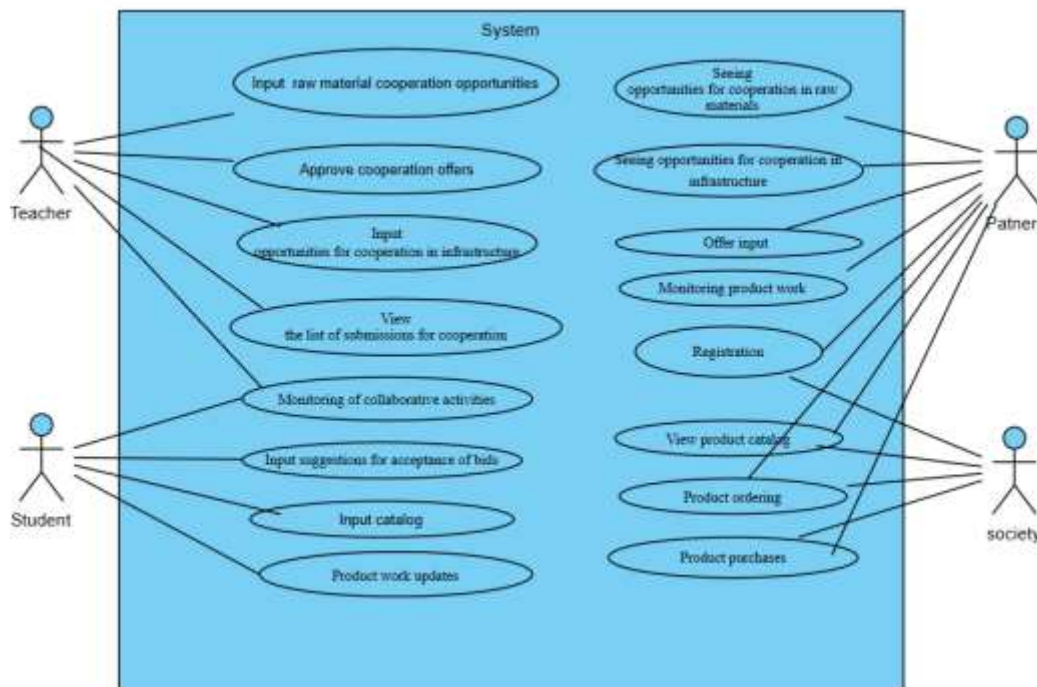


Figure 1. Use case Diagram

In Figure 1. It can be seen that this system consists of 4 actors with their respective roles, teacher actors have a role: Input raw material cooperation opportunities, Input opportunities for cooperation in infrastructure, View the list of submissions for cooperation, Approve cooperation offers, Monitoring of collaborative activities and student actors have a role: View collaboration applications, Input suggestions for acceptance of bids, Product work updates, Input catalog, partners actors have a role: Registration, Seeing opportunities for cooperation in raw materials, Seeing opportunities for cooperation in infrastructure, Offer

input, View product catalog, Product ordering, Monitoring product work, Product purchases. Society actors have a role: Registration, View product catalog and Product purchases.

3. Results and Discussion

3.1 Implementation

In this phase, programmers implement the system design approved in the previous phase. Software implementation is done by implementing the results of a software design into computer-understandable program code. The Results and Discussion section describes the results of implementing information systems to monitor educational entrepreneurship to improve collaboration between Vocational Schools, partners, and society. Describe how the system is implemented, tested, and maintained.

3.2 Login Form for Teacher

The teacher logs in first by entering the email and pass., as shown in Figure 2.

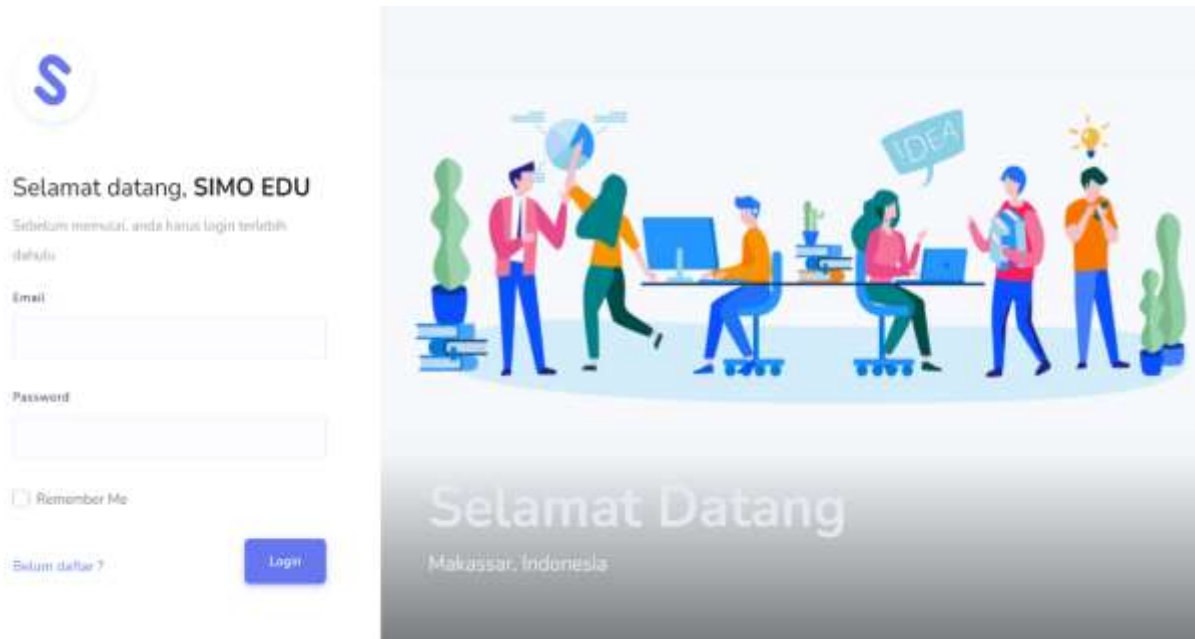


Figure 2. Teacher login form

3.3 Raw material & infrastructure cooperation opportunity form page

On this page, teachers and students can provide opportunities for collaboration with partners if there is a need for raw materials & infrastructure that are not available, As in the following picture

Figure 3. Raw material & infrastructure opportunity form page

From Figure 3, We can show the benefit of this form to make relationships with partners. It makes it easier for schools to find suppliers of raw materials while at the same time opening up many opportunities for collaboration with all existing partners to collaborate in making products carried out by students collaboration because opportunities can be seen in an updated way through the SIMO-Edu system, as well as making it easier for SMKs to meet the need for raw materials or infrastructure that are not available in schools in the practice of Edupreneurship.

Figure 4 Partner offer form

In Figure 4, Partners can make offers for cooperation opportunities that have been shared by the SMK (teacher). View the list of submissions for cooperation *and* Approve cooperation offers.

- a. On the partner submission list page, you can see the partners who proposed cooperation so that teachers and students can see and consider several partners who proposed cooperation, and students can also make suggestions to teachers for selecting partners who can be invited to cooperate based on several considerations such as distance that can be seen from the partner's address. Also, the recommended number of Items to supply. This can be seen in the figure.

Daftar Mitra yang mengajukan kerja sama

Show 10 entries Search:

#	Nama Bahan Baku	Kode Mitra	Mitra	Alamat	Saran	Harga Penawaran	Status	Aksi
11	Blue band	MTSMKB4	yufari ahzafra	NHP		27000	proses	Terima
12	coklat batang	MTSMKB4	yufari ahzafra	NHP		44000	proses	Terima
13	Blue band	MTSMKB9	Bagas Kue	sudang		23000	proses	Terima
14	telur	MTSMKB9	Bagas Kue	sudang		23000	proses	Terima
15	coklat batang	MTSMKB9	Bagas Kue	sudang		43000	proses	Terima
5	sirop	MTSMKB8	Ekageray	Jln waeter manggidi	lebih cenderung memilih ini dengan alasan lokasi trn dekat dengan sekolah, dan ts memonutu semua bahan yg tidak tersedia	135	success	Terima
6	es cristal	MTSMKB8	Ekageray	Jln waeter manggidi		25	success	Terima
7	cincin	MTSMKB8	Ekageray	Jln waeter manggidi		50	success	Terima
8	Blue band	MTSMKB8	Ekageray	Jln waeter manggidi		30000	proses	Terima
9	telur	MTSMKB8	Ekageray	Jln waeter manggidi		23000	proses	Terima

Figure 5. View the list of submissions for cooperation and Approve cooperation offers

b. Page Form Monitoring of collaborative activities

On this page, teachers and partners can see updates on the workmanship of products ordered by partners carried out by students. Through this system, the teacher can input partner orders and then make plans for making products and students will execute and update product work. As in the picture.

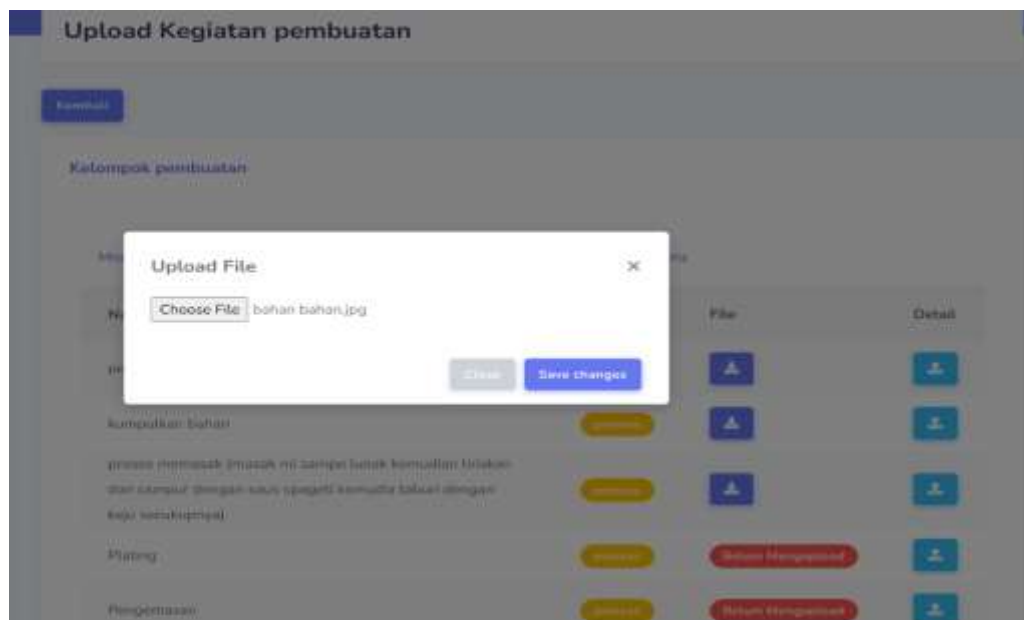


Figure 6. students upload the progress of making products

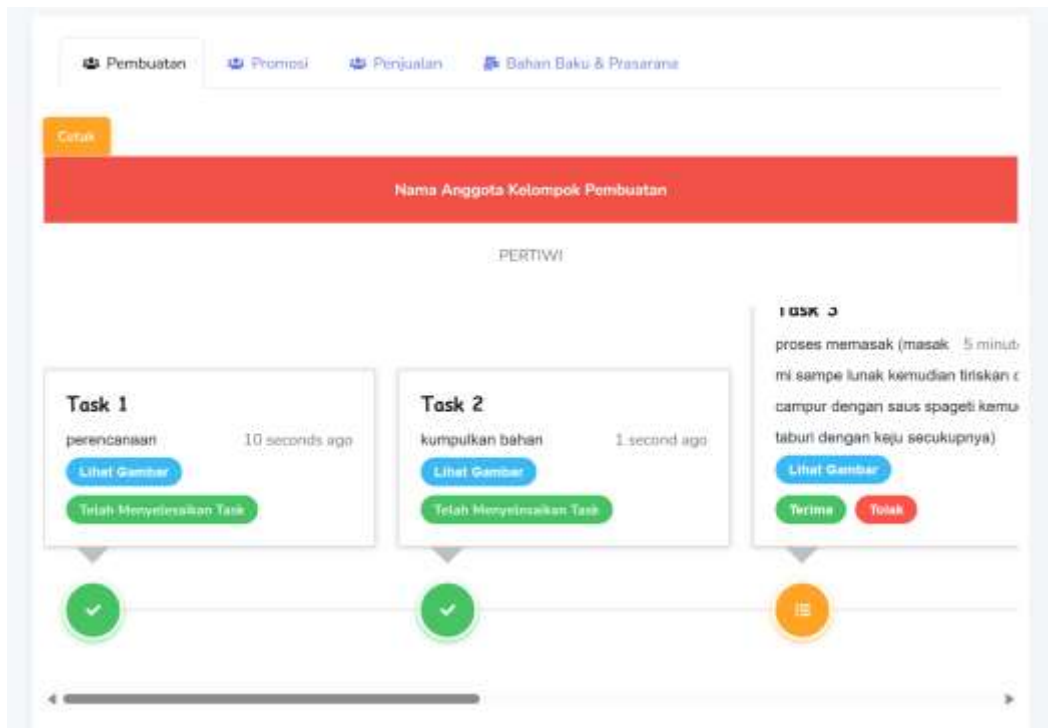


Figure 7. Monitoring the progress of product manufacturing and approval when it complies with quality standards

Then, the results of SMK products can be seen through the available catalogs. From selecting products in the catalog, partners and the public can place orders and purchase products, as shown in the picture.

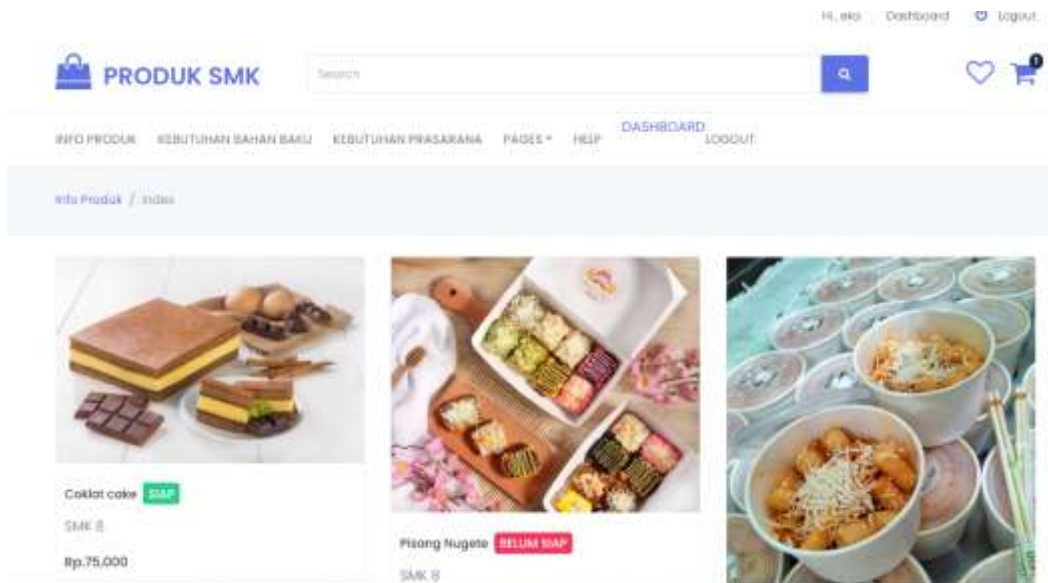


Figure 8. Catalog

From the catalog that can be accessed through the system, you can order products with ready status, as shown in Figure 8. Then, place an order by clicking on the ready image status, as shown in Figure 9

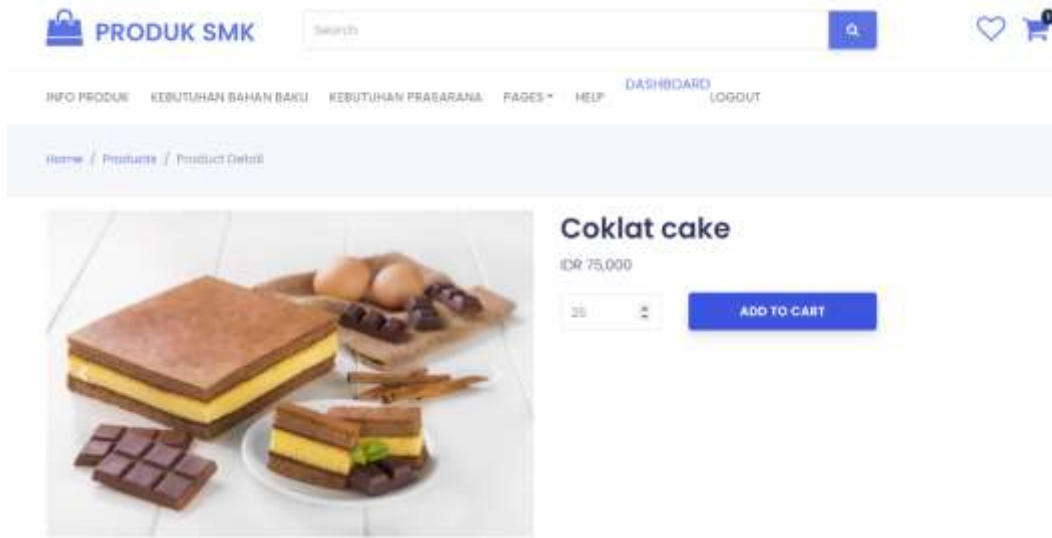


Figure 9 Form Order Process

The purchasing process is carried out by partners and the community by clicking on the basket image, as shown in Figure 10.

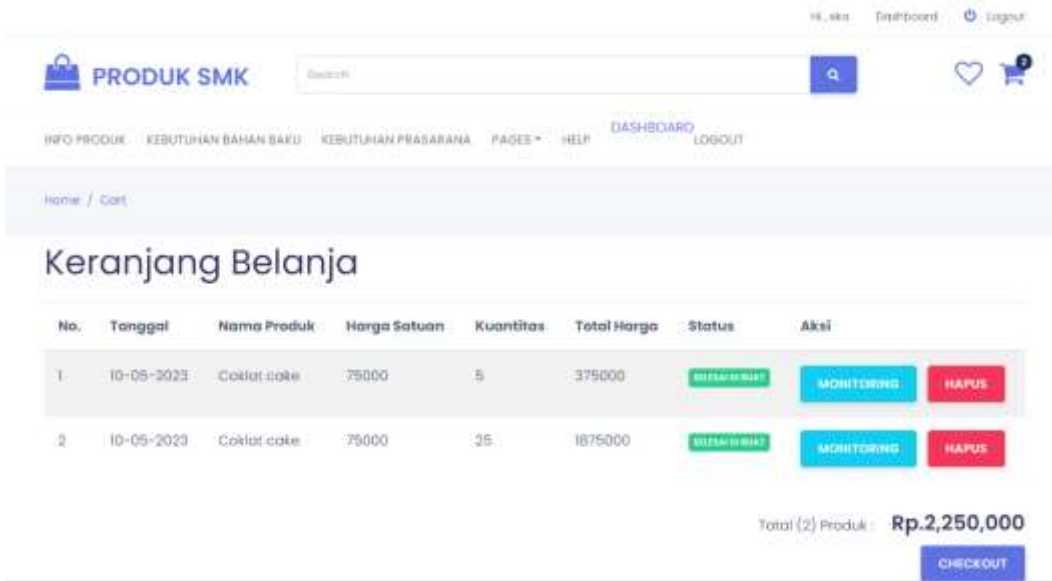


Figure 10. Form Purchasing Process

Partners can monitor the progress of making products, as shown in picture 11.

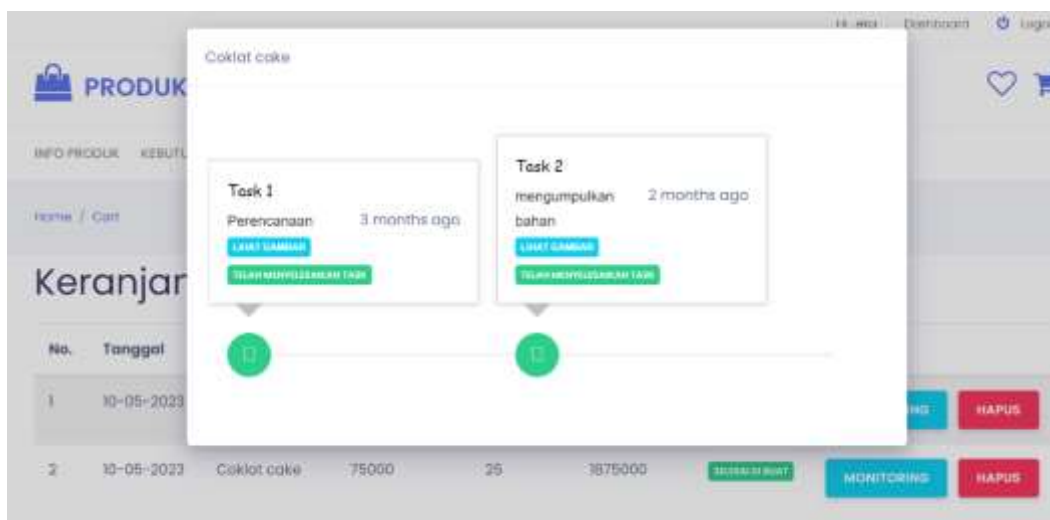


Figure 11. monitoring the progress of product creation

There are many conveniences and practicalities through the available features that are expected to strengthen and enhance cooperative relations between vocational high schools with partners and the community

At the testing stage, researchers used the UAT test and calculation method. Questionnaires are made to measure the level of satisfaction and effectiveness of the system that has been implemented. The questionnaire was made objective by asking for the participation of partner teachers and the community. The results of the questionnaire will then be calculated using the UAT calculation to determine the level of satisfaction and system effectiveness.

The questionnaire calculation formula uses the UAT calculation.

$$\text{Skor} = \frac{\text{Jumlah Jawaban}}{(\text{Jumlah Pertanyaan} \times \text{Jumlah Responden})} \quad 1)$$

The feasibility percentage interval of the edupreneurship monitoring information system can be classified as follows: if the percentage score is in the range of 0% to 20%, then the system is classified as "Highly Inadequate". If the percentage score is between 21% and 40%, then the system is classified as "Not Eligible". If the percentage score is between 41% and 60%, then the system is classified as "Neutral". If the percentage score is between 61% and 80%, then the system is classified as "Decent". If the percentage score is in the range of 81% to 100%, then the system is classified as "Very Eligible". This assessment is carried out by giving a score to each answer given by the respondent. A score of "Strongly Agree" has a weight of 4, a score of "strongly agree" has a weight of 3, a score of "agree" has a weight of 2, a score of "Disagree" has a weight of 1, and a score of "Strongly Disagree". By using this assessment weight, the results of the questionnaire can be analyzed and translated into numbers to facilitate decision making.

The results of the research analysis show that the created edupreneurship monitoring information system (SIMO-Edu) can help improve cooperative relations, and the collaboration process becomes easier and more organized, thus making the edupreneurship process run better. The response results from teacher users were 96.15, while partners and the community were 95.31. This gives hope that the edupreneurship monitoring information system (SIMO-Edu) will be useful for vocational schools in improving cooperative relations with partners and the community.

3.4 Maintenance

System maintenance is very important to keep the system functioning properly and meeting user needs. The choice of system is perfectly done. We aim to improve the software by looking at some aspects of the system. This includes updating the user interface, updating program code, and developing system functionality according to user requirements.

4. Conclusion

The edupreneurship monitoring information system (SIMO-Edu) created can help improve cooperative relations, and the collaboration process becomes easier and more practical to use by related users so as to make the edupreneurship process run better. The response from users such as teachers is 96.15, while partners and the community are 95.31. This shows that the edupreneurship monitoring information system (SIMO-Edu) is in the very practical category to use and will be useful for SMKs in enhancing the relationship of cooperation and trust between SMKs with partners and the community.

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