

## Vocational Education Management: Multi-Case Study at SMK Center of Excellence Bitung City, Manado City, Tomohon City North Sulawesi Province

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### ABSTRACT

The research in this dissertation is motivated by a phenomenon where there are still various challenges in the development and efforts to advance Vocational High Schools which include: the still high unemployment rate for Vocational High School graduates, and incomplete integration between Vocational High Schools and the industrial world/world of work such as: development curriculum, learning process, learning evaluation, to graduate marketing. The focus of the research in writing this thesis is: 1) How is Vocational Education Planning at Christian Vocational School 2 Tomohon, SMKN 2 Bitung and SMKN 1 Manado? 2) What is the Implementation of Vocational Education at Christian Vocational Schools 2 Tomohon, SMKN 2 Bitung and SMKN 1 Manado? 3) How is the Monitoring and Evaluation (Monev) of Vocational Education at Christian Vocational Schools 2 Tomohon, SMKN 2 Bitung and SMKN 1 Manado? This type of research is a qualitative descriptive study using a multi-case approach, data collection techniques 1) Participant Observation, 2) In-depth interviews, 3) Documentation, 4) FGD (Focus Group Discussion), and data analysis with the approach of (1) analysis of individual case data, and (2) cross-case analysis of data. From the results of this study, the authors conclude that: 1) Vocational Education Planning: the principal prepares the documents needed for registration SMK-PK and forms an SMK-PK team and a development team involving related stakeholders. 2) Implementation of Vocational Education: The implementation of the SMK-PK program starts in 2021 which is SMK-PK in the first stage the school gets assistance in the form of physical equipment, while in the second stage, it focuses on the program. The principal participates in every program or activity carried out such as collaboration with du/di, participates in the process of

teaching and learning activities, and so on. 3) Monitoring and Evaluation (Monev) of Vocational Education: The school principal conducts internal evaluations related to the curriculum program and management of SMK-PK. The Principal also evaluates the learning process by controlling the implementation of the learning process. In the management of SMK-PK, there is also an evaluation in the form of control carried out by the government on the management of SMK PK funds so that schools must report regarding the progress of program implementation and the use of SMK-PK funds.

**Keywords:** Management, Vocational Education, SMK Center of Excellence

## INTRODUCTION

High unemployment in Indonesia has become a big problem for vocational education in general and Vocational High School (SMK) education in particular. Data on the increase in unemployment in Indonesia in February 2020 amounted to 6.88 million people and among the largest unemployed were vocational school graduates with a percentage of 8.49% in February 2019, however, this decreased slightly from a percentage of 8.49% to 8.63 % as of February 2020 (Central Statistics Agency, 2020). In addition, the open unemployment rate reached 6.51% or around 82.57 thousand people out of the 1.19 million workforce (Central Statistics Agency, 2022). Even though it has decreased by around 0.77 points compared to the previous year, this is a warning sign for the government if a solution is not immediately sought. Specifically in the Province of North Sulawesi (Sulut), it shows that labor absorption is not yet optimal, where many educated graduates and graduates are still unemployed. In February 2023, the Open Unemployment Rate (TPT) of the majority of vocational high school graduates will be the highest at 12.81%, the Educated Unemployment Rate (SMA and above) will be 9.18%, and the lowest Open Unemployment Rate will be for those with elementary school education or above. bottom, namely 2.17% (Gawai. Go, 2023). This indicates that the majority of unemployment in North Sulawesi is contributed by residents with a higher level of education. In general, the majority of workers in North Sulawesi work in the informal sector. Judging by the business field, the agricultural sector remains the highest labor absorption sector in North Sulawesi, even though over the past year it has experienced the highest decline in labor. There is labor migration from the agricultural sector, especially to transportation, warehousing, and Infocom with the highest increase in labor over the last year.

As a school that prepares graduates who are ready to work, Vocational Schools must look at the needs of the industrial world market, Vocational Schools must align their curriculum with industry, and Vocational Schools must create effective learning to improve students' levels. On the other hand, the gap in vocational education graduates is a second challenge. The skills gap between the skills learned in vocational schools and the skills needed in the labor market has attracted the government's attention. Due to an unbalanced labor market, there is an accumulation of vocational school graduates. Starting from several of these problems, there is a revitalization of education in vocational schools as a more careful, sustainable, and responsible effort to achieve national education development goals as stipulated in the National Education System Law Number 20 of 2003 (Hadam, et al., 2017). The revitalization of vocational schools through the Vocational High School Center of Excellence (SMK-

PK) program aims to produce graduates who are absorbed in the world of work or become entrepreneurs. In connection with this, the Ministry of Education and Culture (Kemendikbud) launched the eighth episode of the Independent Learning policy regarding SMK-PK. The SMK-PK program is an embodiment of improving vocational education as a strategy for developing Indonesia's human resources (HR). SMK-PK is a comprehensive breakthrough aimed at responding to challenges in the context of improving the current condition of SMK so that it is more in line with the needs of the world of work (Kemdikbud, 2021).

The Minister of Education and Culture (Kemdikbud, 2021) explained that the SMK-PK program aims to produce graduates who are absorbed in the world of work or become entrepreneurs through an in-depth and comprehensive alignment of vocational education with the world of work. Schools selected for the SMK-PK program are expected to become references and provide guidance to encourage improvements in the quality and performance of surrounding vocational schools. Efforts to create harmony between vocational schools and the world of work can be achieved through fulfilling the eight aspects of link and match. First, the curriculum is prepared together in line with strengthening aspects of soft skills, hard skills, and work characteristics according to the needs of the world of work. Second, learning is pursued based on real projects from the world of work (project-based learning) to ensure hard skills, soft skills, and strong character. Third, increasing the number and role of teachers/instructors both from industry and experts from the world of work. At least up to a minimum of 50 hours/semester/skills program. Fourth, field/industry work practice for at least one semester. Fifth, for graduates and teachers/instructors, competency certification must be following the standards and needs of the world of work. Sixth, teachers/instructors need to emphasize updating technology through regular training. Seventh, carry out applied research that supports teaching factories based on cases or real industry needs. Eighth, commitment to absorb graduates into the world of work. The Ministry of Education and Culture also encourages collaboration with the world of work to be further improved, including through scholarship cooperation and/or official ties, donations in the form of laboratory equipment, and others. The 2021 SMK-PK program is prioritized for 895 vocational schools with seven priority sectors, including the creative economy, machinery and construction, hospitality, care services, maritime, agriculture, and foreign cooperation. The Director General of Vocational Education (Kemendikbud, 2021) emphasized that the PK Vocational School program does not aim to create favorite schools or make them "ivory towers" for other schools but rather as a joint place to develop existing Vocational Schools in their environment.

The existence of the SMK-PK program has been initiated since 2019 through a vocational school revitalization program aimed at 300 schools which focuses on improving the quality of learning facilities and infrastructure following world of work standards. Then in 2020, there will be a Vocational School Center of Excellence (CoE) program targeting 491 schools and 4,586 teachers and school principals with a focus on improving learning in the world of work, competency of teachers and vocational school principals, as well as facilities and infrastructure. Referring to Basic Education Data (Dapodik) (Kemdikbud, 2021), there are 190,842 companies or institutions/agencies that are vocational school partners with 272,788 collaborations between vocational schools and the business world of industry (DUDI). This collaboration consists of 87 vocational industry partner business fields. Vocational Houses were also initiated with members from industry associations such as Kadin, Apindo,

and FHCI. Meanwhile, the SMK-PK program establishes synergy with higher education institutions covering aspects of planning and management of the SMK-PK program. There are at least more than a hundred prospective universities to accompany SMK PK, including Bandung State Polytechnic (Polban), Surabaya State Electronics Polytechnic (PENS), Yogyakarta State University (UNY), Bogor Agricultural Institute (IPB), Bandung Institute of Technology (ITB). , and many other universities. The SMK PK program provides physical and non-physical assistance to related schools. Physical assistance can be used to build practice spaces in the form of workshops or laboratories, as well as providing equipment. Meanwhile, non-physical assistance is allocated, among other things, to strengthen curriculum alignment with industry. In 2021, the Directorate of Vocational Schools (Kemendikbud, 2021) allocated a budget for non-physical assistance for the Vocational School PK program of IDR. 200 million, while physical assistance provided amounted to IDR 1.4 billion to IDR 4 billion.

SMK PK is a vocational school development program with certain skill competencies in improving quality and performance, which is strengthened through partnerships and alignment with the business world, industrial world, and the world of work. The Indonesian government through the Decree of the Minister of Education, Culture, Research, and Technology Number 165/M/2021 concerning the Center of Excellence Vocational High School Program aims to produce graduates who are absorbed in the world of work or become entrepreneurs through in-depth and comprehensive alignment of vocational education with the world of work and It is hoped that it will become a center for quality improvement and reference for other vocational schools. In line with this, the world of vocational education is also trying to compensate so that every vocational school graduate is well absorbed by DUDI or becomes an entrepreneur. The PK Vocational School Program is a program that focuses on developing and improving the quality and performance of Vocational Schools with priority areas that are strengthened through partnerships and alignment with the world of work to produce graduates who are absorbed in the world of work or become entrepreneurs and become reference Vocational Schools as well as centers for improving the quality and performance of other Vocational Schools. (Ministry of Education and Culture, 2021). In 2022, the government through the Ministry of Education and Culture (2022) will facilitate 1,402 PK vocational schools spread throughout Indonesia. However, based on existing data and facts, the unemployment trend for vocational school graduates is still the highest to date. In 2023, since the launch of SMK-PK in 2021, from the results of field observations that have been carried out, the implementation of the SMK-PK program through the 8+i link and match concept at SMKS Kristen 2 Tomohon, SMKN 2 Bitung and SMKN 1 Manado as schools Firstly, the implementation of the SMK-PK program is still not optimal. This is also reinforced by the results of preliminary interviews with school principals which indicate that there are obstacles in implementing the SMK-PK program, namely in terms of the availability of facilities and infrastructure that do not support the implementation process of the SMK-PK program well and also the number of productive teachers is still very low. The obstacles identified in question greatly influence the three vocational schools in implementing the SMK-PK program.

The preliminary study conducted by the researcher shows that there is a gap. The gap in question indicates that on the one hand, it is hoped that there will be regional regulations regarding the implementation of vocational education in North Sulawesi as the implementation of the PK Vocational School program, the availability and implementation of the Regional Public Service Agency for

Vocational High Schools (BLUD SMK) to boost economic growth, CEO of vocational education, policy brief optimizing the government's role in vocational education in North Sulawesi, and assisting universities in managing the SMK PK program with the support of the Ministry of Education and Culture. On the other hand, there are realities which, among other things, show the high unemployment rate of vocational school graduates in North Sulawesi, the absence of vocational BLUD services, opportunities to increase the competency of school principals, teachers, and vocational school supervisors according to the needs of the world of work are still few, the synergy of stakeholders including the world of work in development The Vocational School program is still lacking, and assistance from universities in implementing the Vocational School PK program is not yet optimal. On that basis, research regarding vocational education management at PK Vocational Schools in North Sulawesi is urgent and imperative. So far, research on vocational education management has been studied as a vocational education quality assurance management model that uses holistic skills education (Munastiwi, 2015) and a vocational education management mechanism based on computer software technology (Peng Wu & Wang, 2021). Management of vocational education at the national and regional levels in North Sulawesi within the link and match framework is still limited to signing a memorandum of understanding in the form of engagement, limited to internships at DUDI, and limited to learning without experience. DUDI is a place of work and career today and tomorrow for graduates of the SMK PK program. Facts in the field from preliminary studies show that vocational school graduates are implementing the Vocational School PK program as a result of vocational education management which is constructed from marriage or in other words link and super match, namely an emotional bond of marriage between the management at Vocational School PK and the management at DUDI. The concept of marriage in this research is in line with the ideas of Makarim (Junita, 2020) as Minister of Education, Culture, Research, and Technology regarding the concept of marriage or marriage. Why is it called marriage? For a long time, it has been difficult for the world of education and the world of DUDI to always be united and in line in implementing link and match which has become government policy, but there are always problems when it comes to implementation (Afriansyah and Anang, 2020). In this context, it is hoped that the school management, namely the principal and vocational school teachers, will immediately prepare themselves to improve the quality of marriage with DUDI. In connection with this, Sakarinto (Junita, 2020) as the Directorate General of Vocational Education further developed what is known as a mass marriage package that must be implemented by all vocational schools in Indonesia, namely: curriculum prepared together with industry, training materials and certification in the industry officially entered into in the school curriculum. guest teachers from the industry regularly teach in schools, well-structured and jointly managed internship programs, strong and official commitment from industry to absorb graduates, scholarship programs and service ties for students, bridge programs where industry introduces the necessary industrial technology and work processes to teachers, competency certification for graduates is provided by industry, competency certification for graduates is provided by schools together with industry, joint research, namely applied research with teachers originating from real cases in industry, various activities or other wedding programs. The research ideas raised from field facts have not been researched in the context of vocational schools implementing SMK PK which are spread across autonomous cities/regencies in North Sulawesi.

There are several reasons to consider researching vocational education management at vocational schools implementing the SMK PK program in North Sulawesi. First, research on vocational education management at PK Vocational Schools is an important part of the management of the national education system and human resource development (Sutarna, et al., 2020; Dao, 2021; Santoso, 2022). Second, vocational education management provides students with practical skills that are relevant to the needs of the job market, helps reduce unemployment rates and provides more job opportunities to individuals, increases productivity in the workplace, contributes to economic development and creates a competent workforce and contributes to growth family economy, helps reduce the skills gap that exists in society, helps in transferring new knowledge and skills in technology and innovation to students which is important in industrial and economic development, enabling them to start their own business or be self-employed which contributes to economic independence, indirectly directly improves the quality of life of students, relieves social and economic pressures by providing a clear path to career success for many individuals, supports industrial growth and innovation in various sectors, and not only benefits the individual receiving the training but also society and the economy as a whole which constitutes important investment in the future. Third, the management of vocational education in formal and non-formal education channels needs to have systems and regulations developed and interested parties must collaborate and have full commitment to be involved in vocational education management (Kemdikbud, 2016). Fourth, research on vocational education management makes an important contribution to improving vocational education policies at the national, regional, and school education unit levels and has the opportunity to create grounded theory through qualitative research, namely constructing a marriage-based vocational education management model at PK Vocational Schools in North Sulawesi. It is hoped that this will have an impact on graduates who can immediately be accepted into work and have competitive grades as well as national and global recognition following the competencies expected by the business world and the industrial world as well as the world of work or careers not only on a regional and national scale but also on an international scale. labor market.

The main problematic situation in this research is that vocational education management at the national and regional levels in North Sulawesi in the link and match framework is still limited to signing a memorandum of understanding in the form of engagement, limited to internships in the world of business/industry, and limited to learning without experience in the world of business/industry. as a place to work and have a career today and tomorrow for SMK PK graduates. On the other hand, some facts or realities occur in the field which show that vocational school graduates are implementing the SMK PK program as a result of vocational education management which is constructed from marriage (link and super match), namely an emotional bond of marriage between the management at SMK PK and the other parties. management in the world of business/industry. The idea of marriage is in line with the idea of Makarim (Junita, 2020) as Minister of Education, Culture, Research and Technology regarding link and match which was conceptualized as 'marriage' which was then operationalized by Sakarinto (Junita, 2020) as Directorate General of Vocational Education as a 'mass wedding package' that must be implemented by all vocational schools in Indonesia. In other words, graduates of vocational schools implementing the Vocational School PK program as a result of vocational education are the impact of vocational education management which is created from the marriage of management at Vocational School PK and management in the business/industrial world.

The research problem idea raised from field facts has not been researched in the context of vocational schools implementing SMK PK which are spread across the autonomous regions of cities/regencies in North Sulawesi.

Research on vocational education management, which is studied from a marital perspective, namely an emotional marriage bond between management at vocational schools implementing SMK PK and management in the business/industry world, has the potential to contribute to the preparation of the body of knowledge of vocational education management within the scientific framework of educational management. In this regard, the implementation of this research was studied using the theory of educational management functions as a research framework consisting of the vocational education planning function, the vocational education implementation function, and the monitoring and evaluation (monev) function of vocational education. On this basis, researchers developed a conceptual model of vocational education management based on PK Vocational Schools in North Sulawesi Province. As presented in Figure 1, vocational education management at SMK PK is formed from a marriage between management at SMK PK and management in the business/industry world. This means that the management of vocational education carried out at Vocational School PK is based on the marriage that occurs between the management at Vocational School PK and management in the business/industry world within the framework of link and super match. How the marriage-based vocational education management model at PK Vocational Schools will be very dependent on field data as a basis for construction. This is what is called grounded theory (Bogdan and Bikle, 1982; Sugiyono, 2013; Creswell, 2014).

The focus of this research is vocational education management based on the emotional bonds of marriage between the management of the Center of Excellence Vocational High School and the business/industry world in North Sulawesi Province. The formulation of the problem in this research is How is marriage-based vocational education planned at the Center of Excellence Vocational High School in North Sulawesi Province? How is marriage-based vocational education implemented at the Center of Excellence Vocational High School in North Sulawesi Province? How is the monitoring and evaluation of marriage-based vocational education at the Center of Excellence Vocational High School in North Sulawesi Province? This research aims to find new things related to the following things. Marriage-based vocational education planning at the Center of Excellence Vocational High School in North Sulawesi Province. Implementation of marriage-based vocational education at the Center of Excellence Vocational High School in North Sulawesi Province. Monitoring and evaluation of marriage-based vocational education at the Center of Excellence Vocational High School in North Sulawesi Province.

## METHODS

### *Types of research*

This research concerns vocational education management at PK Vocational Schools in North Sulawesi. If we examine the problems and research objectives that have been determined in the introductory chapter, we need a type of approach, method, and research design that is relevant to be

used in this research. The types of approaches, methods, and relevant research designs used in this research are explained as follows.

### ***Research Approach***

The type of research approach used in this research is a qualitative approach. Two main points of understanding can be analyzed related to the qualitative approach. First, the qualitative approach is to explore and understand the meaning that comes from individuals or groups for a social or human problem. Second, the research process requires the emergence of questions and procedures, data is collected in participant settings, data analysis is built inductively from specific to general themes, and researchers make interpretations about the meaning of the data (Creswell, 2014). The use of a qualitative approach in this research is based on the characteristics of natural settings, the researcher as a key instrument, multiple sources of data, and emergent design (Creswell, 2014:233-234). Research on vocational education management is carried out in natural settings where researchers collect data by talking directly with informants and observing the behavior and actions of informants in their context. Researcher as a key instrument means that the researcher himself collects data through observing behavior, interviewing informants, and reviewing available documents. In qualitative research, researchers do not collect data from a single data source, but various forms of data such as data collected through interviews, observation, and documentation. In addition, qualitative research designs are emergent designs because the research plan cannot be determined strictly because the focus can change after the researcher enters the field and collects data.

### ***Research methods***

The type of research method used according to the research approach is a case study. Creswell (2014) explains that when choosing the case study method, the researcher conducts a study of activities and events related to the research focus. The case referred to in this research is the school as an organization and the main research problem is how vocational education is managed at PK Vocational Schools.

### ***Research design***

The type of research design that can be used according to the type of approach and method used is a multi-case study design. The basis for consideration is that the research, case which includes three PK Vocational Schools has different characteristics, namely Christian Vocational School 2 Tomohon (case 1) which is located in Tomohon City, Vocational School 2 Bitung (case 2) which is located in Bitung City, and Vocational School 1 Manado (case 3) which is located in Manado City in North Sulawesi Province. This multi-case study research design was carried out in two stages starting from individual case analysis and then followed by cross-case analysis.

#### ***a. Individual Case Analysis***

In this first stage, the researcher carried out research on each case setting sequentially. Starting from case 1 (SMKS Kristen 2 Tomohon) to case 2 (SMKN 2 Bitung) to case 3 (SMKN 1 Manado). A series of studies from case 1 to case 2 to case 3 were used as an inseparable part of one another.



The things described in case 1 include a general description of the research location, research data, research findings, creating a table containing conceptual points, and compiling propositions. Likewise, the things presented in case 2 and case 3 follow the same method as the description in case 1, each of which can be differentiated.

**b. Cross-Case Analysis**

When finished with a series of research from case 1 to case 2 to case 3, then proceed to the second stage, namely cross-case analysis. The activities carried out by researchers at this stage are directed at obtaining similar and different themes or findings related to vocational education management at vocational schools implementing SMK PK.

The things that researchers do in cross-site studies include a combined analysis of research findings that have been conceptualized and creating tables for presenting the research findings of case 1, case 2, and case 3. The research findings of the multi-case study can be arranged as a theory that is built based on data from the field or grounded theory (Creswell, 2014).

***Time and Place of Research***

This research was carried out for six months, namely from October 2022 to April 2023. The location of the research was at three PK junior high schools in North Sulawesi Province. The three PK Vocational Schools in question are Christian Vocational School 2 Tomohon in Tomohon City, State Vocational School 2 Bitung in Bitung City, and State Vocational School 1 Manado in Manado City. The reason for selecting the three vocational schools implementing the SMK PK program was based on the consideration that these three schools were the first vocational schools to receive the SMK-PK program in North Sulawesi Province as determined by the Ministry of Education, Research and Technology in 2021 and there had been no previous research on these three schools.

***Researcher Presence***

The main instrument in this research is humans. To obtain as much in-depth data as possible, researchers were immediately present at the research site. "In a qualitative approach, the researcher himself or with the help of other people is the main data collection tool," this is done because if you use non-human tools, it will be impossible to make adjustments to the realities in the field. Apart from that, only humans can relate to informants and can understand the relationship between the realities on the ground. In line with the opinion above, the researcher was immediately present at the research location, namely the Vocational School Center of Excellence in Bitung City, Manado City, Tomohon City in North Sulawesi Province to find out the time of school community activities and to be able to unite with the informants and the environment so that they could conduct in-depth interviews, participatory observation and tracking the data needed to obtain data that is complete, in-depth and not over-extended. Therefore, to conclude the data comprehensively, the presence of researchers in the field is very necessary so that it matches the actual situation. In this research, the researcher acts as an instrument as well as a data collector so it can be said that the researcher in this research is the key instrument. In this research, researchers came directly to the research location, namely the Vocational School Center of Excellence in Bitung City, Manado City, Tomohon City in North Sulawesi Province. Researchers will come to the location to conduct research in the field. Researchers see and participate

in activities directly while remaining based on certain principles or codes of ethics. For this reason, the presence of researchers is very necessary to obtain comprehensive and complete data.

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### ***Data, Data Sources, and Research Instruments***

#### ***1. Data***

The data obtained in this research is data about the research focus, namely Vocational Education Management at SMKS Kr 2 Tomohon, SMKN 2 Bitung, and SMKN 1 Manado. The data sought or collected is data about Vocational Education Management, namely in managing SMK-PK, all components play an active role in planning, implementing, and controlling the impact of Vocational Education Management on the quality of graduates.

#### ***2. Data Source***

The data required in this research can be grouped into primary and secondary data.

##### ***a. Primary***

Primary data sources are research data sources obtained directly from sources (not through intermediary media). In determining informants to obtain research data, researchers found key informants using purposive and snowball sampling, namely determining and asking previous informants to indicate subsequent informants. In this research, the primary data source is the data source obtained and collected directly from the informants, namely: Principal, Deputy Principal, Team Leader, Teachers, Students, Supervisors, Mitra Dudi at SMKS Kristen 2 Tomohon, SMK Negeri 2 Bitung and SMK Negeri 1 Manado. The total number of respondents was 45 respondents.

##### ***b. Secondary***

The secondary data for this research was taken from data related to the title of the research being conducted. The data is in the form of books, research results, journals, websites, and other literature that is related to this research problem.

#### Research Instrument

The main instrument in this research is the researcher himself according to the approach used, namely a qualitative approach. Therefore, in this research, researchers act as planners, data collectors, data analyzers, data interpreters, and ultimately act as reporters on research results. In compiling this research instrument, the researcher carried out, (a) the steps in compiling the instrument (b) knowing how to formulate the instrument items, and (c) knowing the components of the completeness of the instrument.

#### *Data collection technique*

In research, besides needing to use appropriate research methods, it is also necessary to choose relevant data collection techniques and tools. The use of appropriate operational techniques and data collection tools allows objective data to be obtained. The data collection techniques used in this research are described as follows.

##### 1. Participant Observation

Observation is defined as systematic observation and recording of everything that appears on the research object. The observation method in this research was used to collect data related to the research focus. This method is carried out by researchers involving themselves directly in the activities carried out by research subjects in their environment, apart from also collecting data systematically in the form of field notes. In this case, the researcher tries to make systematic observations and recording of existing symptoms. The implementation of the observation technique in this research is participant observation. The purpose of participant observation is to observe events as they occur naturally in the field. In this technique, researchers involve themselves or interact directly with the activities carried out by the subject by systematically collecting data from the required data.

#### *In-depth interview (in-depth interview)*

In interviews, researchers use open interviews in which the subject or interviewee knows that they are being interviewed and knows what the purpose and objectives of the interview are being conducted by the researcher. In this case, the researcher used in-depth interview techniques, namely by digging up in-depth information from the Principal, Deputy Principal, Team Leader, Teachers, Students, Supervisors, Mitra Dudi at SMKS Kristen 2 Tomohon, SMK Negeri 2 Bitung and SMK Negeri 1 Manado between October 2022 and May 2023.

#### *Documentation*

The documentation method is a method used to search for data regarding things or variables in the form of notes, transcripts, books, newspapers, agendas, and so on. In a study, documentation techniques are used as a source of supporting data. In addition, documentation data is needed to complement the data obtained from interviews and observations.

The documents in question can be photographs, school documents, interview transcripts, and documents about the history of the school and its development. All of this documentation will be collected for analysis for completeness of the research data.

### ***FGD (Focus Group Discussion)***

Focus Group Discussion (FGD) is a method for collecting qualitative data that is currently often used in various social research. Often various errors are found in the implementation of FGD whereas in field implementation, there is a misunderstanding of FGD with group interviews. Even though FGD is a group discussion where there is interaction between the respondents. Various issues regarding FGD need to be understood first before you carry out the FGD itself because the measuring instrument used determines its validity and reliability.

FGD has been known for a long time, even the oldest, this method became popular since the Second World War as moral propaganda. Recently, this method has often been used in the fields of economics, psychology, anthropology, sociology, public health, and others. In Indonesia, this method is known as focus group interviews. From the meaning of the word, we know that FGD is a way of gathering information about a specific problem through group discussions.

FGD is a discussion group, not an interview or chat. The characteristic of the FGD method that other qualitative research methods (in-depth interviews or observation) do not have is interaction! The life and death of an FGD lies in this characteristic. Without interaction, an FGD changes into a focused interview group (FGI-Focus Group Interview).

FGD is a focused discussion, not a free discussion. This principle complements the first principle above. Be reminded that don't just pursue interaction and group dynamics, if you only pursue this the discussion can go awry. During the discussion, the moderator must focus on the purpose of the discussion, so that the moderator will always try to return the discussion to the "right path".

This FGD was held at the Regional Education Office of North Sulawesi Province on May 10 2023 involving the Principal, Deputy Principal, Team Leader, Teachers, Students, Supervisors, and Dudi Partners of Christian Vocational School 2 Tomohon, State Vocational School 2 Bitung and Vocational School Negeri 1 Manado

### ***Data analysis technique***

This research uses a multi-case study design, so data analysis is carried out in two stages, namely: (1) individual case data analysis, and (2) cross-case data analysis (Yin, 1987).

#### ***1. Analysis of individual case data***

Analysis of individual case data is carried out on each object. In analyzing, the researcher interprets the data in the form of words so that meaning is obtained. Therefore, analysis is carried out together with the data collection process and after the data has been collected.

According to Miles and Huberman (2014), qualitative research data analysis can be carried out through three streams of activities that occur simultaneously, namely: 1) data reduction, 2) data presentation, and 3) concluding/verification.

The flow components are explained in the following stages.

#### ***a. Data reduction***

Data reduction is a form of analysis that sharpens, categorizes, directs, removes what is not necessary, and organizes data in such a way that final and verified conclusions are obtained.

Data reduction continues throughout the research, even before the data is collected, anticipation of data reduction is already apparent when deciding on the conceptual framework, research area, research problem, and determining data collection methods. During the data collection, the next stage of reduction took place (summarizing, coding, exploring themes, creating clusters, and writing memos). This process continues until after data collection in the field, even at the end of making the report so that it is complete.

b. Data presentation

As emphasized by Miles and Huberman, the presentation of data is intended to find meaningful patterns and provide the possibility of drawing conclusions and taking action. The presentation of data in this research is also intended to find meaning from the data that has been obtained, then arranged systematically, from complex to simple but selective forms of information.

c. Concluding/Verification

The analysis activities in the third stage are drawing conclusions and verification. Since data collection, researchers have tried to find the meaning or meaning of the symbols, taking notes, regularity of patterns, explanations, and the cause and effect flow that occurs. From this activity, conclusions are made that are still open, and general, then move on to specific/detailed ones. Conclusions are expected to be obtained after data collection is complete

***Cross-case data analysis***

Cross-case data analysis is intended as a process of comparing the findings obtained from each case, as well as a process of combining cases. Initially, the findings obtained were organized into categories and themes, analyzed conceptually inductively, and a narrative explanation was made which was structured into certain propositions which were then developed into the substantive theory. The propositions and substantive theory were then analyzed by comparing them with the propositions and substantive theory. II. This comparison is used to find differences in the characteristics of each case as a theoretical conception based on differences. These three cases were used as temporary findings. In the final stage, simultaneous analysis was carried out to systematically reconstruct and develop a conception of the similarities between cases I, II, and case III. In this process, cross-case analysis was carried out between cases I, II, and II using the same technique. This final analysis is intended to develop a systematic conception based on the results of data analysis and narrative theoretical interpretations in the form of cross-case propositions which are then used as material for developing substantive theoretical findings.

The steps taken in this cross-case analysis include: (1) using a conceptualistic inductive approach which is carried out by comparing and combining conceptual findings from each case; (2) the results are used as a basis for compiling conceptual statements or propositions across cases, (3) evaluating the suitability of the proposition with the facts that are the reference; (4) reconstructing the propositions according to the facts of each case; and (5) repeat this process as necessary until the limit of saturation.

## RESULTS AND DISCUSSION

In qualitative research, the constant comparative method is known as developed by Glaser & Strauss (Bogdan & Biklen, 2007) and used in grounded theory to find new theories based on data collection and analysis. The implementation of the constant comparative method in this research is to compare research findings regarding marriage-based vocational education management at PK Vocational Schools in North Sulawesi. The intended comparison is to identify similarities and differences regarding marriage-based vocational education management per case of marriage-based vocational education management research as presented in Table 1.

**Table 1.** Comparison of vocational education management

Marriage-Based Vocational Education Management at PK Vocational Schools			
Similarities And Differences	Vocational School Implementing The Pk Vocational Program		
• <i>Similarities</i>	SMKS 2 Tomohon	SMKN 2 Bitung	SMKN 1 Manado
▪ Marriage-Based PLANNING at Vocational Education Vocational Schools			
• Basis for planning	<ul style="list-style-type: none"> <li>▪ Legal Basis for the Republic of Indonesia Minister of Education and Culture Decree Number 17/M/2021 concerning the Center of Excellence Vocational School Program</li> <li>▪ Preparation of Requirements administrative documents</li> <li>▪ MOU as the basis for marriage between SMK PK management and DUDI management</li> <li>▪ MOU for University assistance</li> <li>▪ Teacher Internship MOU</li> <li>▪ Guest Teacher MOU</li> </ul>	<ul style="list-style-type: none"> <li>▪ Legal Basis for the Republic of Indonesia Minister of Education and Culture Decree Number 17/M/2021 concerning the Center of Excellence Vocational School Program</li> <li>▪ Preparation of Requirements administrative documents</li> <li>▪ MOU as the basis for marriage between SMK PK management and DUDI management</li> <li>▪ (MOU for University assistance</li> <li>▪ Teacher Internship MOU</li> <li>▪ Guest Teacher MOU</li> </ul>	<ul style="list-style-type: none"> <li>▪ Legal Basis for the Republic of Indonesia Minister of Education and Culture Decree Number 17/M/2021 concerning the Center of Excellence Vocational School Program</li> <li>▪ Preparation of Requirements administrative documents</li> <li>▪ MOU as the basis for marriage between SMK PK management and DUDI management</li> <li>▪ MOU for University assistance</li> <li>▪ Teacher Internship MOU</li> <li>▪ Guest Teacher MOU</li> </ul>

	▪ Technical Guidelines/Guidebook	▪ Technical Guidelines/Guidebook	▪ Technical Guidelines/Guidebook
• Preparation of plans	<ul style="list-style-type: none"> <li>Form a Work Team with BNI and Alfamart management</li> <li>Propose to get the PK Vocational School program</li> <li>Prepare curriculum planning</li> <li>Prepare financing plans</li> </ul>	<ul style="list-style-type: none"> <li>Form a Work Team with United Tractor management</li> <li>Propose to get the PK Vocational School program</li> <li>Prepare curriculum planning</li> <li>Prepare financing plans</li> </ul>	<ul style="list-style-type: none"> <li>Form a Work Team with Aryaduta hotel management</li> <li>Propose to get the PK Vocational School program</li> <li>Prepare curriculum planning</li> <li>Prepare financing plans</li> </ul>
• Results of planning preparation	<ul style="list-style-type: none"> <li>School strategic plan containing vision, mission, goals, programs, activities and implementation schedule</li> <li>Draft school budget</li> </ul>	<ul style="list-style-type: none"> <li>School strategic plan containing vision, mission, goals, programs, activities and implementation schedule</li> <li>Draft school budget</li> </ul>	<ul style="list-style-type: none"> <li>School strategic plan containing vision, mission, goals, programs, activities and implementation schedule</li> <li>Draft school budget</li> </ul>
<b>Implementation of Marriage-Based Vocational Education at PK Vocational Schools Education</b>			
• Task settings	<ul style="list-style-type: none"> <li>Carry out job descriptions properly for each existing personnel</li> <li>HR carries out SMK PK activities</li> <li>The work team works according to their main duties and expertise</li> <li>Teacher Internship</li> <li>Guest teachers</li> <li>Assistance from the University</li> </ul>	<ul style="list-style-type: none"> <li>Carry out job descriptions properly for each existing personnel</li> <li>HR carries out SMK PK activities</li> <li>The work team works according to their main duties and expertise</li> <li>Teacher Internship</li> <li>Guest teachers</li> <li>Assistance from the University</li> </ul>	<ul style="list-style-type: none"> <li>Carry out job descriptions properly for each existing personnel</li> <li>HR carries out SMK PK activities</li> <li>The work team works according to their main duties and expertise</li> <li>Teacher Internship</li> <li>Guest teachers</li> <li>Assistance from the University</li> </ul>
• Curriculum settings	<ul style="list-style-type: none"> <li>Matching the operational curriculum with BNI and Alfamart by preparing it together</li> </ul>	<ul style="list-style-type: none"> <li>Matching the operational curriculum with the united tractor was carried out by</li> </ul>	<ul style="list-style-type: none"> <li>Matching the operational curriculum with the Aryaduta hotel by preparing it together</li> </ul>

	<ul style="list-style-type: none"> <li>• Guest teachers from BNI and Alfamart</li> </ul>	<ul style="list-style-type: none"> <li>• compiling it together</li> <li>• Guest teacher from United Tractor</li> </ul>	<ul style="list-style-type: none"> <li>• Guest teacher from Aryaduta hotel</li> </ul>
<ul style="list-style-type: none"> <li>• Budgeting</li> </ul>	<ul style="list-style-type: none"> <li>• Very sufficient funding sources from the Ministry of Education and Culture and BOS funds</li> <li>• Use of fees according to allocation from the Ministry of Education and Culture and sharing of BOS funds</li> <li>• Use of costs for procurement of facilities and infrastructure</li> <li>• Having a sufficient budget in terms of implementing activities, even though the infrastructure is not sufficient because it costs quite a lot</li> </ul>	<ul style="list-style-type: none"> <li>• Very sufficient funding sources from the Ministry of Education and Culture and BOS funds</li> <li>• Use of fees according to allocation from the Ministry of Education and Culture and sharing of BOS funds</li> <li>• Use of costs for procurement of facilities and infrastructure</li> <li>• Having a sufficient budget in terms of carrying out activities, even though the infrastructure is not sufficient because it costs quite a lot</li> </ul>	<ul style="list-style-type: none"> <li>• Very sufficient funding sources from the Ministry of Education and Culture and BOS funds</li> <li>• Use of fees according to allocation from the Ministry of Education and Culture and sharing of BOS funds</li> <li>• Use of costs for procurement of facilities and infrastructure</li> <li>• Having a sufficient budget in terms of carrying out activities, even though the infrastructure is not sufficient because it costs quite a lot</li> </ul>
<ul style="list-style-type: none"> <li>• Timing</li> </ul>	<ul style="list-style-type: none"> <li>• Clear division of time and deadlines (weekly, monthly, quarterly, semi-annually or annually), so it is easy to assess</li> </ul>	<ul style="list-style-type: none"> <li>• Clear division of time and deadlines (weekly, monthly, quarterly, semi-annually or annually), so it is easy to assess</li> </ul>	<ul style="list-style-type: none"> <li>• Clear division of time and deadlines (weekly, monthly, quarterly, semi-annually or annually), so it is easy to assess</li> </ul>
<ul style="list-style-type: none"> <li>• Obstacles/challenges</li> </ul>	<ul style="list-style-type: none"> <li>• Insufficient infrastructure budget</li> </ul>	<ul style="list-style-type: none"> <li>• Insufficient infrastructure budget</li> </ul>	<ul style="list-style-type: none"> <li>• Insufficient infrastructure budget</li> </ul>
<p><b>Monitoring And Evaluation of Marriage-Based Vocational Education at PK Vocational Schools</b></p>			



• Monitoring	<ul style="list-style-type: none"> <li>Carried out by the principal at all times</li> <li>Carried out by the Ministry of Education and Culture twice directly in the field</li> </ul>	<ul style="list-style-type: none"> <li>Carried out by the principal at all times</li> <li>Carried out by the Ministry of Education and Culture twice directly in the field</li> </ul>	<ul style="list-style-type: none"> <li>Carried out by the principal at all times</li> <li>Carried out by the Ministry of Education and Culture twice directly in the field</li> </ul>
• Evaluation	<ul style="list-style-type: none"> <li>Evaluation via the Ministry of Education and Culture reporting application</li> <li>Administrative and physical reports online via the TAM Application</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation via the Ministry of Education and Culture reporting application</li> <li>Administrative and physical reports online via the TAM Application</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation via the Ministry of Education and Culture reporting application</li> <li>Administrative and physical reports online via the TAM Application</li> </ul>
<b>Differences</b>	SMKS 2 Tomohon	SMKN 2 Bitung	SMKN 1 Manado
<b>Planning for Marriage-Based Vocational Education at PK Vocational Schools</b>			
• The process of preparing plans	<ul style="list-style-type: none"> <li>Prepare a school roadmap</li> <li>DUDI marriage partner: BNI and Alfamart</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>DI mating pair: united tractor</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>DUDI matching couple: Aryaduta hotel</li> </ul>
<b>Implementation of Marriage-Based Vocational Education at PK Vocational Schools</b>			
• -	• -	• -	• -
<b>Monitoring And Evaluation of Marriage-Based Vocational Education at PK Vocational Schools</b>			
• Evaluation	<ul style="list-style-type: none"> <li>Get a score of 95 which is at the Vocational School PK level and continue</li> </ul>	• -	• -

Based on a comparison of marriage-based vocational education management, which is

explained into the functions of vocational education planning, implementation of vocational education, and monitoring and evaluation at SMKS Kristen 2 Tomohon, SMKN 2 Bitung, and SMKN1 Manado, the research findings can be compiled as follows.

1. Marriage-Based Vocational Education Planning at PK Vocational Schools
  - a. Marriage-based vocational education planning in case 1, case 2, and case 3 as implementers in the SMK PK program is prepared based on the following rules.
    - 1) Legal Basis for the Minister of Education and Culture of the Republic of Indonesia Number 17/M/2021 concerning the Center for Excellence Vocational School Program.
    - 2) Require administrative documents.
    - 3) MOU as the basis for marriage between SMK PK management and DUDI management (BNI and Alfamart for case 1, United Tractor for case 2, and Aryaduta Hotel for case 3).
    - 4) MOU for University assistance.
    - 5) Teacher Internship MOU.
    - 6) Guest Teacher MOU.
    - 7) Technical Guidelines/Guidebook.
  - b. Planning marriage-based vocational education in case 1, case 2, and case 3 as implementers of SMK PK is a process structured as follows.
    - 1) Form a Working Team with DUDI management (BNI and Alfamart for case 1, United Tractor for case 2, and Aryaduta Hotel for case 3).
    - 2) Propose to get the PK Vocational School program.
    - 3) Develop curriculum planning.
    - 4) Prepare a financing plan.
  - c. Marriage-based vocational education planning in case 1, case 2, and case 3 as implementers of SMK PK resulted in the following plan structure.
    - 1) The school's strategic plan contains the vision, mission, goals, programs, activities, and implementation schedule.
    - 2) school WED.
  - d. Vocational education planning at SMK (Vocational Vocational School Christian 2 Tomohon) implementing the SMK PK program is demonstrated through preparing a school roadmap.
2. Implementation of Marriage-Based Vocational Education at PK Vocational Schools
  - a. The implementation of marriage-based vocational education in case 1, case 2, and case 3 as implementing SMK PK is demonstrated through the following task arrangements.
    - 1) Carry out job descriptions for each existing personnel properly.
    - 2) HR carries out SMK PK activities.
    - 3) The work team works according to their main tasks and expertise.
    - 4) Teacher Internship.
    - 5) Guest teacher.

- 6) Assistance from the University
  - b. The implementation of marriage-based vocational education in case 1, case 2, and case 3 as implementers of SMK PK is demonstrated through the following curriculum arrangements.
    - 1) Matching the operational curriculum with DUDI (BNI, Alfamart, United Tractor, and Aryaduta Hotel).
    - 2) Guest teachers from DUDI (BNI and Alfamart for case 1, United Tractor for case 2, and Aryaduta Hotel for case 3).
  - c. The implementation of marriage-based vocational education in case 1, case 2, and case 3 as implementers of SMK PK is demonstrated through budgeting as follows.
    - 1) The funding sources from the Ministry of Education and Culture are very sufficient and BOS funds.
    - 2) Use of fees according to allocation from the Ministry of Education and Culture and sharing of BOS funds.
    - 3) Use of costs for procurement of facilities and infrastructure.
    - 4) Having a sufficient budget in terms of carrying out activities even though the infrastructure is not sufficient because it costs quite a lot.
  - d. The implementation of marriage-based vocational education in case 1, case 2, and case 3 as implementers of SMK PK is demonstrated through time management, namely time division and clear time limits (weekly, monthly, quarterly, semesterly, or annually) so that it is easy to assess.
  - e. The implementation of marriage-based vocational education in case 1, case 2, and case 3 as implementing SMK PK has obstacles/challenges, namely the insufficient budget for facilities and infrastructure.
3. Monitoring and Evaluation of Marriage-Based Vocational Education at PK Vocational Schools
    - a. Monitoring and evaluation of marriage-based vocational education in case 1, case 2, and case 3 as implementers of SMK PK is demonstrated through monitoring as follows.
      - 1) Carried out by the school principal at any time.
      - 2) Carried out by the Ministry of Education and Culture twice directly in the field.
    - b. Evaluation of marriage-based vocational education in case 1, case 2, and case 3 as implementers of SMK PK is shown through the following evaluation.
      - 1) Evaluation through the Ministry of Education and Culture reporting application.
      - 2) Online administrative and physical reports via the TAM application.
      - 3) Evaluation of vocational education at Vocational Schools (Vocational Vocational School Christian 2 Tomohon) as the implementer of the Vocational School PK program is shown through the Vocational School PK level to be continued.

Referring to the research findings, a research proposition regarding marriage-based vocational education management at PK Vocational Schools in North Sulawesi can be prepared as follows.

1. Marriage as a basis for vocational education management
  - a. Major premise:  
Marriage-based vocational education management is an emotional bond formed from the marriage between the management of SMK PK and the management of DUDI.
  - b. Minor premise:
    - 1) The management of Christian Vocational School 2 Tomohon as the implementer of the Vocational School PK program is the management of BNI and Alfamart.
    - 2) The married couple of the management of SMK Negeri 2 Bitung as the implementer of the SMK PK program is the management of United Tractor.
    - 3) The married couple of the management of SMK Negeri 1 Manado as the implementer of the SMK PK program is the management of the Aryaduta hotel.
2. Vocational Education Planning
  - a. Major premise:  
Vocational education planning is the first function in the management of marriage-based vocational education in vocational schools implementing the SMK PK program.
  - b. Minor premise:
    - 1) Vocational education planning at vocational schools implementing the SMK PK program is prepared based on the rules.
    - 2) Vocational education planning at vocational schools implementing the SMK PK program is structured as a process.
    - 3) Vocational education planning at vocational schools implementing the SMK PK program produces plans.
    - 4) Vocational education planning at Vocational Schools (Vocational School Krist 2 Tomohon) implementing the Vocational School PK program is demonstrated through preparing a school roadmap.
3. Implementation of Vocational Education
  - a. Major premise:  
Implementation of vocational education is the second function in the management of marriage-based vocational education at vocational schools implementing the SMK PK program.
  - b. Minor premise:
    - 1) Implementation of vocational education is the second function in the management of marriage-based vocational education at vocational schools implementing the SMK PK program.

- 2) Implementation of vocational education is the second function in the management of marriage-based vocational education at vocational schools implementing the SMK PK program, demonstrated through the arrangement of personnel duties.
  - 3) Implementation of vocational education is the second function in the management of marriage-based vocational education in vocational schools implementing the SMK PK program, demonstrated through curriculum arrangements.
  - 4) Implementation of vocational education is the second function in the management of marriage-based vocational education in vocational schools implementing the SMK PK program, demonstrated through budgeting.
  - 5) Implementation of vocational education is the second function in the management of marriage-based vocational education in vocational schools implementing the SMK PK program, demonstrated through time management.
  - 6) The implementation of vocational education is the second function in the management of marriage-based vocational education in vocational schools implementing the SMK PK program which has obstacles/challenges.
4. Monitoring and Evaluation of Vocational Education
- a. Major premise:  
Monitoring and evaluating vocational education is the third function in the management of marriage-based vocational education in vocational schools implementing the SMK PK program.
  - b. Minor premise:
    - 1) Monitoring of vocational education at vocational schools implementing the SMK PK program is demonstrated through monitoring actors and periodically.
    - 2) Evaluation of vocational education at vocational schools implementing the SMK PK program is shown through manual and online reports in the form of applications.
    - 3) Evaluation of vocational education at Vocational Schools (Vocational Vocational School Christian 2 Tomohon) as the implementer of the Vocational School PK program is shown through the Vocational School PK level to be continued.

### ***Vocational Education Planning***

Theoretically, planning is the first function in educational management. Likewise, vocational education management begins with preparing vocational education plans at PK Vocational Schools. In this regard, Robbins and Coulter (2009: 162) state that planning is often called the first management function because the managerial activity of planning is making decisions for all things carried out by the principal as a manager, such as organizing, leading, and controlling. The planning applied in school management today generally applies strategic planning and operational planning, including the application of the planning function in vocational education management at PK Vocational Schools. Viewed from the perspective of implementing the planning function, one of the main things that is done is formulating the school's vision and mission (Umaedi, Hadiyanto, & Siswantari, 2007). Likewise,

within the framework of vocational education management at SMK PK, school management is required to prepare a school work plan (RKS). One of the main things in the RKS preparation process is formulating the school's vision and mission.

Viewed from a strategic management perspective, the first step that needs to be taken is to establish a vision, mission, and goals for the organization (Bateman and Snell, 2009: 142). Connected with research findings which indicate that the school's vision and mission are used as the basis for preparing vocational education planning, in principle this implies that vocational education management in the three research cases can be explained from planning theory applied in school planning and specifically in vocational education planning at PK Vocational Schools. As stated previously, types of planning can be divided into strategic planning and operational planning. The division of this type of planning is based on the time dimension, namely: long-term planning, medium-term planning, and short-term planning (Kurniadin & Machali, 2012). In the school context, the types of planning prepared are medium-term planning and short-term planning. Medium-term planning usually has a period of 3 to 8 years. In Indonesia, it is usually 5 years. Medium-term planning is an extension of long-term planning. Although this medium-term planning is still general, quantitative projected targets have been presented. Formulating the school's vision and mission is one of the main steps in the process of preparing school strategic planning. Regarding the planning process, this research found that in the three research cases, all of them prepared and determined the school's vision and mission. However, one rational thing is that the process of preparing vocational education planning in the three research cases has implemented the planning function in vocational education management.

Furthermore, if it is understood from the research findings that the types of SMK PK programs in the three cases include annual, semester, monthly, weekly, and daily programs and learning programs, then it can be explained that the vocational education plans developed in the three research cases can be classified into types of planning operational if viewed from the breadth and short-term planning if viewed from the time frame. operational planning is planning specific operational areas of an organization (Robbins & Coulter, 2009). short-term planning is planning that covers one year or less than one year ((Robbins & Coulter, 2009). Short-term planning is referred to as annual short-term planning or annual operational planning (Kurniadin & Machali, 2012). Thus, it is very clear that the vocational education planning formulated in the three research cases is in line with operational planning theory and short-term planning.

The relationship between the level of managers and leaders in an organization and the type of planning carried out (Robbins & Coulter, 2009). Lower-level managers and leaders carry out operational planning, while upper-level or top managers carry out strategic planning. Thus, the role of a planner and the role of a leader which is actualized in the process of preparing vocational education planning is something rational because the principal and DUDI management who carry out the role of a manager and carry out the role of a leader are basically at the bottom level of the national educational organization pyramid. Planning not only examines the basics of preparation, processes, and types of programs resulting from the planning process but can also cover any content or content in planning. In this research, it was found that the PK Vocational School program was the content or content of vocational education planning in the three research cases. Apart from all this, planning in an

organization can be carried out using an approach taken by top-level managers who are often assisted through a formal planning forum which has a group of planning specialists who help develop organizational plans. For example, the provincial government organization has a regional planning and development agency (Bappeda). Another approach to planning is to involve members of the organization in the planning process. This planning approach is not handled downwards from one level to the next but is compiled by organizational members at various levels and in various work units to meet their specific needs (Robbins & Coulter, 2009). This approach to planning is generally conceptualized as a participatory planning approach or participatory planning.

This is related to the research findings in the three research cases that in the process of preparing vocational education planning, all stakeholders were involved in creating the SMK PK program. Therefore, it can be explained that vocational education planning in the three research cases has implemented a participatory planning approach.

Regarding the SMK PK program, there are requirements for the SMK PK program (Kemendikbud, 2021) as follows.

- a. Vocational Schools that already have a National Education Unit Number (NPSN) and are registered in the Basic Education Data (Dapodik)
- b. Has certified vocational teachers from the world of work
- c. Have cooperation and partnerships with the world of work, at least aligning the curriculum and implementing fieldwork practices
- d. Have a School Development Master Plan (RIPS) or Roadmap.
- e. Have a minimum accreditation of B
- f. For vocational schools that receive physical development assistance. The SMK PK program must have proof of land ownership/use: 1). Vocational Schools organized by regional governments are owned by regional governments/government institutions/regionally owned business entities; and 2). Vocational schools organized by the community belong to the Vocational School organizing body
- g. Have at least 216 (two hundred and sixteen) students, except: 1). Vocational Schools located in special areas designated by the Ministry of Education and Culture; and 2). Vocational schools organized by local governments are located in areas with low population density and geographically cannot be combined with other schools
- h. Not currently receiving Physical Special Allocation Fund (DAK) assistance in the current year
- i. Has sufficient electrical power to run practical equipment.
- j. Have a school social media account.
- k. Land and/or space is available for the construction of a student practice room (RPS).
- l. Have a building for renovation/rehabilitation with a minimum building age of 5 (five) years for schools that receive assistance from the SMK PK program for physical construction.
- m. Have no arrears in government assistance reports from the Vocational School Directorate for the previous fiscal year.
- n. Obtain a letter of support/recommendation from the provincial government.

SMKS 2 Tomohon, SMKN 1 Manado, and SMKN 2 Bitung have followed every stage starting from socialization, selection, and determination through the leadership of the main unit in charge of vocational education issuing a decision regarding the SMK implementing the Central Vocational School of Excellence Program and conveying it to the governor with a copy of the provincial education office and SMK concerned. Next, a memorandum of understanding was signed to ensure the implementation and sustainability of the Center of Excellence Vocational School Program. The signing of a memorandum of agreement between the Ministry of Education and Culture and the provincial government with the following scope:

- a. The regional government's willingness not to rotate school principals, teachers, and administrative staff for a minimum of 4 (four) years in vocational schools designated as implementers of the Center of Excellence Vocational School Program (specifically for vocational schools organized by regional governments) as well as school supervisors, unless permission has been obtained from the head of the main unit in charge of vocations;
- b. willingness to allocate regional budgets to support the implementation of the Center for Excellence Vocational School Program which is not funded by the Ministry of Education and Culture's budget; And
- c. establishing regional policies to support the Center of Excellence Vocational School Program.

A memorandum of agreement is included with the work plan so that SMKS 2 Tomohon, SMKN 1 Manado, and SMKN 2 Bitung are designated as centers of excellence schools in 2021. After being designated as one of the schools that implement the SMK PK program, the school principal prepares all the requirements for curriculum, human resources, and team in managing SMK PK.

### ***Implementation of Vocational Education***

After obtaining the formulation of a plan or program through a planning process, it usually moves on to the next managerial process, namely implementing the plan or program. This means that the plan that has been formulated or established previously is a guideline that is used as a reference for implementing the plan. Research findings indicate that the three research cases in implementing vocational education plans at SMK PK were guided by predetermined programs. The implementation of vocational education at SMK PK in the three research cases has followed the principles of plan implementation in the planning process.

In educational management theory, the managerial stage of implementation is often called plan implementation. In this regard, state that plan implementation is the implementation of plans that have been formulated (Kurniadin & Machali, 2012). Matters that have been formulated include policy formulation, estimates of needs, costs of needs, determination of targets, formulation of plans, and details of plans. Meanwhile, plan implementation can be understood as a process of activities to realize programs and activities that have been planned (Umaedi, 2007). The implementation of the plan will not be realized as planned if it is not carried out by the plan implementer. In this research, it was found that in the three research cases, two groups were implementing vocational education plans, namely the main implementers were vocational school teachers and the supporting implementers were the heads of SMK PK. One interesting thing in the findings of this research is that the head of SMK PK as the school's top manager plays a role in supporting the implementation of the SMK PK program. This means



that the Vocational School principal carries out both managerial and non-managerial functions, such as the function of the Vocational School teacher as executor. The findings of this research are in line with the concept of non-management function where in organizations managers are called working managers because they carry out both management and worker functions (Robbins and Coulter, 2009:12).

In its implementation, SMKS 2 Tomohon, SMKN 1 Manado, and SMKN 2 Bitung created a Team Work TEAM SMK-PK consisting of the principal in charge, the head of a department, teachers, and deputy principals in all fields including school supervisors, even though the existing competencies were not yet optimal. 100% because this is a new program from the Ministry of Education and Culture, competencies will be completed as SMK PK progresses, including apprentice teachers.

Implementation of activities at SMKS 2 Tomohon, SMKN 1 Manado, and SMKN 2 Bitung does the following:

- a. Socialization of the Center of Excellence Vocational School Program to all vocational school residents, the world of work, and other relevant stakeholders.
- b. Preparation of policies in vocational schools related to the implementation of the Vocational Center of Excellence Program.
- c. Preparation of targets who will take part in Center of Excellence Vocational School Program training.
- d. preparation of data-based planning at the education unit level, implementation of link and match partnerships as a whole to strengthen soft skill and hard skill competencies following agreements with the world of work, including:
  - 1) Appointment to the business world is not a trivial matter, so in collaborating with the business world, the school principal will lobby with the involvement of teachers/guest lecturers from industry and the world of work; and financed by SMk-PK funds, so that emotional relationships are established and the business world will understand that the school Referrals have existence and responsibility to build trust in the link and match partnership and do not disrupt the production line of the business world but will help the production line to be even more optimal.
  - 2) Preparation and alignment of industry-based curriculum and involvement in the world of work including RABS budgets from both schools and the industrial business world;
  - 3) Real project-based learning (products/services) from the world of work;
  - 4) Implementation of fieldwork practice programs;
  - 5) Implementation of competency certification recognized by industry and the world of work for graduates;
  - 6) Teacher training in vocational schools by industry;
  - 7) Making a commitment with the world of work towards the absorption of vocational school graduates with a reciprocal system, what the business world will give to the school and vice versa, what the school will give to the world of business and industry is not only limited to the MOU but there is a marriage that occurs so that the commitment can be continued.

- 8) Implementation of Center of Excellence Vocational School Program training is aimed at school principals; Teachers; school supervisors; technicians; and administrative staff.
- 9) Utilization of technology platforms for learning and school management, which aims to support the implementation of educational policies that will be implemented for vocational schools implementing the Center of Excellence Vocational School Program.
- 10) Learning with a new paradigm is learning that is oriented towards strengthening competence, character, and work culture following the Pancasila student profile.

The PK Vocational School Program is a program of the Directorate General of Vocational Education of the Ministry of Education and Culture in 2021 to develop vocational schools with certain skills programs so that they can improve the quality of work and schools that become PK Vocational Schools to receive physical and non-physical assistance. The financing mechanism for SMKS 2 Tomohon, SMKN 1 Manado, and SMKN 2 Bitung is in the principled category with open management of financing from SMK-PK and BoS funds (fund sharing). Based on the SMK PK pocketbook (Kemendikbud, 2021) there are several activities in implementing SMK PK, namely technical guidance, distribution of funds, implementation of programs at SMK, mentoring, and supervision. Activities carried out by SMKS 2 Tomohon, SMKN 1 Manado, and SMKN 2 Bitung while implementing the SMK Center of Excellence (PK) program include workshops, seminars, learning with guest teachers, teacher internships, tracer studies, and collaboration with various industries. SMKS 2 Tomohon, SMKN 1 Manado and SMKN 2 Bitung.

### ***Monitoring and Evaluation of Vocational Education***

A school plan or program that has been determined will of course be implemented. To effectively implement school plans or programs, managerial monitoring, and evaluation steps are needed. Likewise, the implementation of the PK Vocational School plan or program requires monitoring and evaluation. Substantially, monitoring and evaluation of managerial activities are two different things, but in practice, they are often carried out simultaneously. In connection with the research findings, it is indicated that the implementation of vocational education plans in the three research cases is constructed in the managerial monitoring and evaluation activities of program implementers who act as monitors and evaluators. The role of monitor and evaluator of the SMK PK program implementer is an embodiment of the position or position of the implementer in the school organizational structure who is obliged and responsible for managerial monitoring and evaluation activities.

In this research, it was found in the three research cases that monitoring was carried out through reports on the implementation of the SMK PK program. The findings of this research are in line with the managerial stage theory where after the implementation or implementation stage of the plan has been prepared, the next stage that must be carried out is monitoring (Bateman & Snell, 2009). This means that monitors who carry out monitoring have in principle practiced managerial principles of monitoring the plans or programs that have been determined and implemented.

In addition to carrying out managerial monitoring activities, managerial evaluation activities are also carried out at the same time. In this research, the objective of the evaluation of the SMK PK program in the three research cases was the evaluation of the implementation of the SMK PK program. The managerial activities evaluating the SMK PK program found in this research can be understood

based on a human resource management perspective. Human resource performance evaluation is an important stage in the human resource management process and performance evaluation itself can be conceptualized as a process. In this regard, Mathis and Jackson (Fahmi, 2010) suggest that performance evaluation is a process of evaluating how well employees do their work when compared to a set of standards and then communicating this information. Therefore, the performance evaluation of vocational school teachers carried out in the two research cases was a process of evaluating how well vocational school teachers carried out the SMK PK program services when compared with a set of vocational school teacher competency standards.

Furthermore, discussing monitoring and evaluation as a managerial activity that is carried out simultaneously is in line with how to carry out monitoring and control simultaneously (Bateman and Snell, 2009). Managerial monitoring and evaluation activities carried out simultaneously can be understood as two types of school monitoring and evaluation, namely internal and external (Amtu, 2011:62). Internal monitoring and evaluation is carried out by the school itself. The implementation of external monitoring and evaluation is carried out by the Ministry of Education and Culture, Research and Technology. The principals of SMKS 2 Tomohon, SMKN 1 Manado, and SMKN 2 Bitung monitor the activities given to the team, ensure that activities run according to plan, carry out monitoring at all times, carry out monitoring directly to the school from the Ministry of Education and Culture twice and monitor documents by uploading them to the APM Application so that the in and out assessment determines which level the PK Vocational School is at or not. The evaluation carried out by the school principal is in the form of supervision of the learning implementation process by directly participating in the SMK PK learning process as well as carrying out internal evaluations to correct existing deficiencies to increase the competency of SMK students. The competency of vocational school students in question must meet the qualifications based on the standards regulated in the Decree of the Minister of Education and Culture No. 34 of 2018 concerning National Vocational Vocational School/Madrasah Aliyah Standards, in competency standards for SMK/MAK graduates. Graduates of SMK PK students are required to fulfill the targets of SMK PK, namely Working, Continuing, and Entrepreneurship abbreviated as BMW. Referring to the research results, findings, propositions, and discussions, a marriage-based vocational education management model can be developed which is constructed based on field data (grounded theory) at the Center of Excellence Vocational School in North Sulawesi Province.

Based on the research results, findings, and research discussions, it appears that the link and match 8 + I which became the link and super match was formed through an emotional marital bond between the management at SMK PK and the management at DUDI. On this basis, a marriage-based vocational education management model can be constructed.

Managerial actions in the form of planning, implementation, monitoring, and evaluation of vocational education are based on marital ties between the management of SMK PK and the management of DUDI. Based on the marriage bond, the management of SMK PK and DUDI took the following managerial actions.

1. Vocational education planning

- a. The management of SMK Kristen 2 Tomohon as the implementer of the SMK PK program and the management of BNI and Alfamart as a married couple carried out managerial actions for planning vocational education.
  - b. The management of Christian Vocational School 2 Tomohon as the implementer of the Vocational School PK program and the management of United Tractor as a married couple carried out managerial actions in planning marriage-based vocational education.
  - e. The management of SMK Kristen 2 Tomohon as the implementer of the SMK PK program and the management of the Aryaduta hotel as a married couple carried out managerial actions for planning marriage-based vocational education.
2. Implementation of vocational education
- a. The management of Christian Vocational School 2 Tomohon as the implementer of the SMK PK program and the management of BNI and Alfamart as a married couple took managerial action in implementing vocational education.
  - b. The management of SMK Kristen 2 Tomohon as the implementer of the SMK PK program and the management of United Tractor as a married couple took managerial action in implementing marriage-based vocational education.
  - c. The management of SMK Kristen 2 Tomohon as the implementer of the SMK PK program and the management of the Aryaduta hotel as a married couple took managerial action in implementing marriage-based vocational education.
3. Monitoring and evaluating vocational education
- a. The management of SMK Kristen 2 Tomohon as the implementer of the SMK PK program and the management of BNI and Alfamart as a married couple carry out managerial actions for monitoring and evaluating vocational education.
  - b. The management of SMK Kristen 2 Tomohon as the implementer of the SMK PK program and the management of United Tractor as a married couple carry out managerial actions for monitoring and evaluating marriage-based vocational education.
  - c. The management of SMK Kristen 2 Tomohon as the implementer of the SMK PK program and the management of the Aryaduta hotel as a married couple carry out managerial actions for monitoring and evaluating marriage-based vocational education.

## CONCLUSION

This research concludes that the planning of marriage-based vocational education by the management of SMK PK (SMKS Kristen 2 Tomohon, SMK Negeri 2 Bitung, and SMK Negeri 1 Manado) and DUDI (BNI and Alfamart, United Tractor, and Aryaduta hotel) is demonstrated by managerial actions through planning is prepared based on rules, and is a process and produces strategic plans and budget and expenditure plans. In addition, the implementation of marriage-based vocational education by the management of SMK PK (SMKS Kristen 2 Tomohon, SMK Negeri 2 Bitung, and SMK Negeri 1

Manado) and DUDI (BNI and Alfamart, United Tractor, and Aryaduta hotel) is demonstrated by managerial actions through implementation setting personnel tasks, setting the curriculum, budgeting, managing time, and the existence of obstacles/challenges, namely the insufficient budget for facilities and infrastructure. Monitoring and evaluation of marriage-based vocational education by the management of SMK PK (SMKS Kristen 2 Tomohon, SMK Negeri 2 Bitung, and SMK Negeri 1 Manado) and DUDI (BNI and Alfamart, United Tractor, and Aryaduta hotel) are demonstrated by managerial actions through monitoring periodically by the school principal and the Ministry of Education and Culture as monitors and evaluation as an evaluator based on reports manually and online via the application.

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