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Identifying Key Factors Associated with Integration Issues in Enterprise Resource Planning System Usage

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Abstract. In the current situation, where technology continues to rapidly evolve, and as we move towards the era of Industry 4.0, organizations are facing an urgent need to become faster, more efficient, and effective in their business operations. To achieve these objectives, many companies have adopted the concept of Enterprise Resource Planning (ERP) systems. It is expected that ERP systems will enhance employee productivity, improve company performance for optimal profitability and benefits, and provide accurate and real-time data and information to stakeholders and management. The integration capabilities of ERP systems are particularly crucial in achieving these goals. However, Despite the integration capabilities of ERP systems, many unidentified issues persist that need to be addressed. This research aims to identify new factors related to integration problems in ERP system usage. This research aims to identify new factors related to integration problems within the ERP context. The study focuses on the ERP Integration component and employs a questionnaire-based data collection method, primarily targeting end users of ERP applications. The collected data will be analyzed using Exploratory Factor Analysis with the SPSS statistical software. The methodology employed in conducting factor analysis (EFA) using a quantitative method involved the acquisition of primary data through a questionnaire. Subsequently, data processing encompassed the collection of respondent demographics, reliability testing, the Kaiser-Meyer-Olkin (KMO) test, anti-image matrix testing, and the deduction of new factors through a rotated component matrix. By using this method, the research aims to discover new factors that contribute to the persistent integration issues observed in the usage of ERP systems. The research's findings will facilitate the identification of the root causes of these integration problems and provide valuable insights for management to assess and evaluate their organization's ERP systems effectively. Additionally, the results of this study can assist companies planning to implement an ERP system by offering a comprehensive risk analysis assessment. The newly identified factors can serve as crucial considerations for making informed decisions during the ERP adoption process. Overall, this research aims to illuminate the relationship between these new factors and ERP integration issues, assisting organizations in optimizing the performance and functionality of their ERP systems.

Keywords: ERP, Integration Problem, Exploratory Factor Analysis, Fast, Efficient, and Effective Business Activities, ERP Software, Realtime Data and Information

1. Introduction

ERP (Enterprise Resource Planning) is a comprehensive software system that serves as a central hub for managing and integrating an organization's core business processes. In a research study focusing on ERP system implementation and current trends in ERP, several key aspects of ERP systems were identified. ERP systems are designed to streamline and automate a wide range of business functions, including finance, human resources, procurement, inventory management, and customer relationship management. They enable data s the implementation of ERP systems is a complex and resource-intensive process. It involves defining business requirements, selecting the appropriate ERP software, customization, data migration, and training of personnel. The success of ERP implementation is influenced by various factors, including organizational readiness, leadership support, and effective change management.haring across departments, ensuring consistency and accuracy of information. Moreover, ERP systems play a crucial role in data-driven decision-making. They provide executives and managers with access to real-time data and analytics, allowing for informed choices that can enhance efficiency and profitability. In addition to their internal benefits, ERP systems also facilitate external collaboration with suppliers and customers. They enable seamless communication and data exchange, leading to improved supply chain management and customer satisfaction. (Kenge and Khan 2020).

In the usage of ERP systems, especially after the go-live phase, there are still many issues related to utilization of the ERP system. These issues can occur within a single module or involve problems across modules or third-party applications, commonly known as integration issues. Integration problems, in most cases, do not indicate a reduction and tend to fluctuating. This results in a gap in management's expectations, especially regarding the ERP system's use in making business processes efficient and effective. Ideally, in the use of ERP applications, integration issues should steadily decrease until their occurrence becomes almost negligible. Integration problems arise every day, with the underlying causes of these issues still unknown. As a result, the flow of business processes is disrupted due to constraints within the ERP system being used. Management is uncertain about which areas require improvement. This research aims to identify new factors related to integration issues so that management can consider and focus on the necessary improvements.

The following data belongs to a company that utilizes an ERP product. The challenge lies in the helpdesk ticketing system that monitors ERP usage, and management expectations represent the hopes for the ERP system's utilization within a one-year timeframe

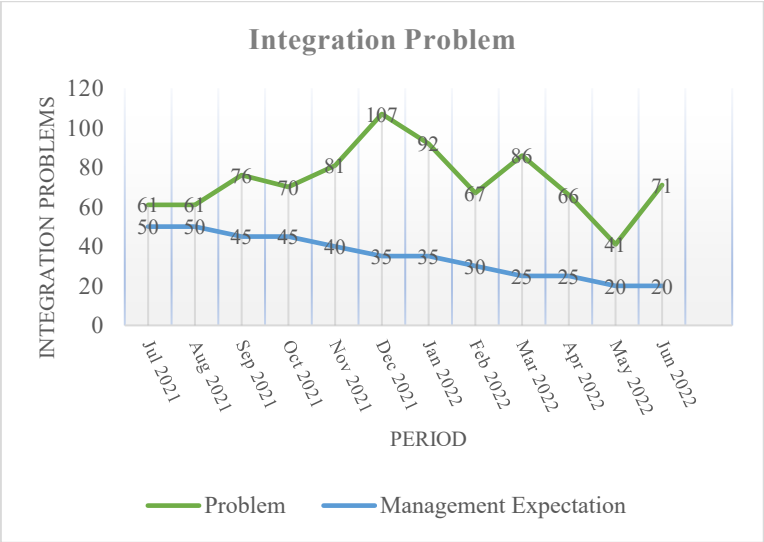

Fig. 1. ERP Integration Problem

2. Literature Review

2.1. Enterprise Resources Planning

ERP is a collection or set of business applications or several interconnected modules such as finance, accounting, manufacturing, human resources that are integrated into a similar platform to provide the overall flow of data information within an organization.(Wijaya, -, and Utomo 2021). The advantage of using an ERP system is that ERP offers integration, with this integration, it can improve decision making, ERP helps management not only in terms of monitoring, but with an ERP system, management can plan, design strategies for the future and to improve the quality of its business processes, ERP helps maximize human resources, supply chain management and day-to-day operations. ERP implementation is different from the implementation of information system applications in general. Required readiness of business processes, scope, clear requirements. According to Nzuki et all (Nzuki 2018), it is necessary to adjust business processes so that the ERP function can run well when the ERP system is implemented. There are 4 components that must be considered in the use of an ERP system in figure 2.

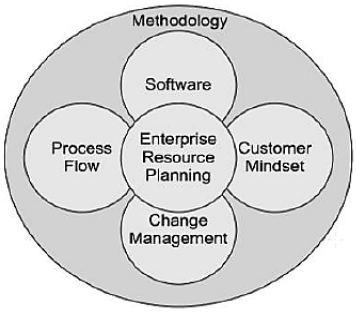

Fig. 2. ERP Integration Components

2.2. ERP Integration

Integration in ERP refers to the integration of systems and the extent to which different applications and information systems will connect effectively. Implementing modules in ERP is the chosen means to achieve organizational integration, allowing data, information, and applications to be used and shared within the organization to support its activities. Integration also involves dealing with data, where data is managed by the same protocols, enabling data exchange between applications without limitations within an organization, despite differences in applications. Applications or information systems can communicate, facilitating data exchange. Application products that utilize ERP concepts such as SAP, Odoo, and Microsoft Dynamics generally consist of several information system components or modules. Common modules include Sales and Distribution, Material Management, Finance and Controlling, Project Systems, and Fund Management (Gagnon 2023).

Integration in ERP can impact improvements in information flow, better data management, seamless integration, and consistent data usage across divisions or functions. Moreover, with ERP, all data is real-time, which also enhances management reporting. Complex reporting no longer requires extended periods to prepare, as data is already real-time. If done manually, it might have taken several days to prepare reports. However, with ERP, that is no longer the case.

ERP allows for Business Process Engineering (BPR), where ERP best practices can help organizations evaluate how their business processes align with ERP's offered best practices. This enables organizations to modify, evaluate, and align all business processes with ERP's best practices to achieve efficiency and effectiveness (Caserio and Trucco 2020).

2.3. ERP Critical Success Factor

Based on previous research, there are several key factors that can be used for identifying integration issues, which are useful for this study. The following is a summary table of the key factors:

Tabel 1. Key Factors Related to Integration in ERP Use

Key Factors	Explanation	Reference
Modules	The various functional components or sections within the ERP system, which are designed to handle specific business processes or tasks	(Kouriati et al. 2020)
Ease System Use	User-friendliness and intuitiveness of the ERP system, ensuring that it is easy for users to navigate and perform their tasks efficiently	(Seres et al. 2019)
Data	The quality, accuracy, and availability of data within the ERP system, as data is crucial for informed decision-making and operational processes	(Menon 2020)
Testing and Conversion	Focuses on the processes of testing the ERP system before implementation and converting existing data and processes into the new ERP system.	(Seres et al. 2019)
ERP System	ERP software itself, including its features, capabilities, and compatibility with the organization's needs.	(Seres et al. 2019)
Modification	Addresses the extent to which the ERP system can be customized or modified to suit the specific requirements of the organization.	(Wijaya et al. 2021)
Standardized	The degree to which the organization adheres to standardized processes and procedures, which can affect ERP implementation.	(Barth and Koch 2019)
Business Process Reengineering (BPR)	Involves redesigning and optimizing existing business processes to align them with the capabilities of the ERP system.	(Talluri and Vasu Deva Reddy 2019)
Requirement	Encompasses the organization's specific needs and expectations from the ERP system.	(Hankin, Almanei, and Salonitis 2021)
Scope	Refers to the breadth and depth of ERP implementation within the organization, including the number of functions and departments covered.	(Seres et al. 2019)
Training (BPR)	Involves educating employees on how to use the ERP system and adapt to new business processes resulting from BPR.	(Talluri and Vasu Deva Reddy 2019)
Monitoring	Encompasses the ongoing surveillance and evaluation of the ERP system's performance and effectiveness.	(Epizitone and Olugbara 2020)
Communication	The effectiveness of information sharing and communication within the organization, especially during ERP implementation	(Akhzan, Pontoh, and Arifuddin 2021)
Management Support	The active endorsement and backing of ERP implementation by top-level management.	(Talluri and Vasu Deva

		Reddy 2019)
Cultural	The organizational culture and its alignment with the ERP system and changes it may bring	(Almigheerbi 2020)
Timeframe	The allocated time for ERP implementation and how well it aligns with the project's requirements.	(Jamil and Qayyum 2019)
Project Management	Involves the planning, execution, and control of ERP implementation as a project.	(Fadelelmoula 2018)
External Preasure	External factors and influences, such as industry regulations or market competition, impacting ERP implementation.	(Chatzoglou et al. 2016)
External Expert	Involves seeking external consultants or experts for guidance and support during ERP implementation.	(Epizitone and Olugbara 2020)
ERP Internal Expertise	Relates to the presence of in-house expertise and knowledge regarding the ERP system.	(Bekhet and Sofian 2018)
Training	Performing transfer knowledge and ERP knowledge to all user that use ERP System.	(Kouriati et al. 2020)
Knowledge Mangement	Encompasses how well the organization manages and utilizes knowledge, including ERP-related knowledge.	(Ghafoor, Nawab, and Shafi 2021)
User Involvement	Indicates the extent to which end-users are actively engaged and participate in the ERP implementation process.	(Hankin et al. 2021)
Performance measurement	Involves the metrics and criteria used to evaluate the performance and effectiveness of the ERP system once it's operational.	(Reitsma, Hilletofth, and Mukhtar 2018)

3. Methodology

3.1. Research Model

This research use an ERP component model as previously described in the literature review. The study employs the Exploratory Factor Analysis method to define new factors or variables that are useful for management. This model will be used as the basis for developing the research instrument. The following is the model that will be used for this research:

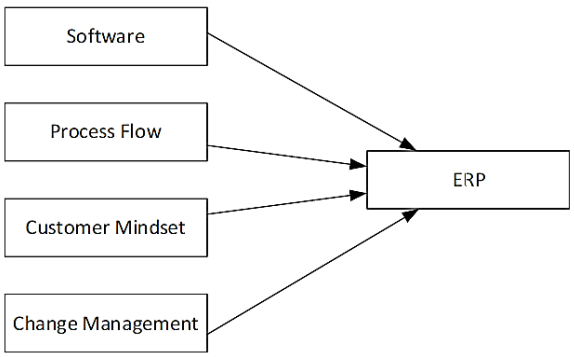

Fig. 3. Research model

In Figure 3, the model generated from ERP integration components from literature review. Software,

process flow, customer mindset and change management. Software is an ERP-based application utilized by organizations as their primary system. Customer mindset encompasses requirements, communication methods, and expectations regarding the usage of the ERP system. Change management serves as the agent responsible for overseeing changes, while Process Flow represents the current state of business processes Software. The following are Research Instrument :

Tabel 2. Key Factors Related to Integration in ERP Use

Factor	Indikator	Research Question
Software	Modules (S1)	ERP is an integrated system consisting of multiple modules, and the more active modules there are, the higher the potential for integration issues.
	Ease System Use (S2)	The ease of using the ERP system can help end-users quickly understand its functions, thereby reducing integration problems.
	Data (S3)	Accurate data can minimize integration issues.
	Testing and Conversion (S4)	Testing and converting data from legacy systems can help ensure data accuracy and minimize integration problems.
	ERP System (S5)	Choosing a suitable ERP system for the organization can help minimize integration problems.
	Modification (S6)	The complexity of business processes can lead to the inability to apply ERP-offered best practices, resulting in numerous program modifications and potential integration problems.
Process Flow	Standardized (P1)	Following ERP-offered best practice standards is expected to reduce integration problems.
	Business Process Re-engineering (BPR) (P2)	Business Process Reengineering (BPR) can assist in aligning business processes with ERP-offered best practices, thereby minimizing integration problems.
	Requirement (P3)	Clear and comprehensive communication of organizational business processes can minimize integration problems post-implementation.
	Scope (P4)	A clear scope and well-defined implementation goals can help reduce the risk of integration issues in ERP system usage.
	Training (P5)	Conducting training for business process changes helps end-users understand these changes and is expected to minimize integration problems in the future.
	Monitoring (P6)	Monitoring and reviewing the use of the ERP system can help minimize integration problems.
Customer Mindset	Communication (C1)	Effective communication between departments or divisions can minimize potential integration issues.
	Management Support (C2)	Strong management support can facilitate the smooth usage of the ERP system.

	Cultural (C3)	An organizational culture that encourages employee development and learning about how the system operates can prevent integration problems.
	Timeframe (C4)	The ERP implementation timeframe, if not aligned with the complexity of business processes, can affect the occurrence of integration problems.
	Project Management (C5)	The ERP implementation team, as part of project management, significantly influences the potential for integration problems later on.
	External Preasure (C6)	External pressures from outside an organization can impact ERP system usage and lead to integration problems.
Change Management	External Expert (CM1)	The presence of external expertise can help minimize integration problems in ERP system usage.
	ERP Internal Expertise (CM2)	Internal ERP teams can assist in addressing and reducing integration problems in ERP system usage.
	Training (CM3)	Training and refreshment training can aid end-users in understanding the operation of the ERP system, thereby minimizing integration issues.
	Knowledge Mangement (CM4)	Effective knowledge management can reduce recurring integration problems.
	User Involvement (CM5)	Active user involvement can help reduce integration problems.
	Performance measurement (CM6)	Measuring the performance of individual end-users can assist management in making informed decisions to ensure efficient and effective ERP system usage.

3.2. Data Analysis Method

Through the application of the exploratory factor analysis (EFA) method, all the indicators previously conducted by researchers can be reduced, and new groupings of all the variables described above can be formed. The new variables will be beneficial for the organization in considering newly discovered factors to address integration issues.

This research uses a quantitative method. Respondent responses will be analyzed using the Exploratory Factor Analysis method. The total population used in this study consists of 137 peoples, and the minimum threshold, calculated using the Slovin's formula, indicates that 105 respondents are sufficient for data processing. Several stages in the factor analysis method, conducting data reliability testing using SPSS version 19, by examining the Cronbach's Alpha value > 0.70, performing KMO and Bartlett’s Test, by checking the KMO value > 0.5 and Bartlett’s Test with a significance value < 0.5, conducting image matrices testing, at each stage, the MSA value for variables should be greater than 0.5. If there are variables that do not meet the criteria, they must be eliminated, factor rotation, using the varimax method to generate factors with high loading factors and low loading factors for the processed variables. This is done to facilitate the interpretation of the new factors, determining new names for the new factors that represent a group of variables in those new factors.

4. Result

Based on the collection of respondents, 105 respondent answers were obtained. In terms of gender distribution, males dominate with 71%, while females account for 29%. Regarding age groups, 20-30 years old represent 33%, 31-40 years old make up 55%, 41-50 years old constitute 12%, and those above 50 years old make up 0%. Based on respondents' experience in using ERP concept systems, those with less than 2 years of experience account for 17%, more than 10 years for 5%, 2-4 years for 46%, 5-7 years for 27%, and 8-10 years for 4%. This is a summary table describing the demographic characteristics of the respondents:

Tabel 3. Demographics Respondent Data

Category	Variable	Percentage	Summary
Gender	Male	71%	100 %
	Female	29%	
Age	20 - 30 years	33%	100%
	31 - 40 years	55%	
	41 - 50 years	12%	
	Above 50 years	0%	
ERP Knowledge and Experience	< 2 years	17%	100%
	> 10 years	5%	
	2-4 years	46%	
	5-7 years	27%	
	8-10 years	4%	

4.1. Reliability Test

From the data collected from the respondents, the reliability of the data will be tested using the SPSS application. Reliability testing is a measure of consistency for a measurement tool to assess a variable. The reliability testing uses Cronbach's Alpha, with a total of 105 respondents. The data will be considered acceptable if the Cronbach's Alpha value is > 0.70.

After conducting reliability testing using SPSS, out of the total respondents with 24 indicators, the Cronbach's Alpha value as shown in Table 3 is 0.919. This indicates that the variables to be used in this research instrument are reliable.

Tabel 4. Reliability Test Results

Reliability Statistics

Cronbach's Alpha	N of Items
.919	24

4.2. Validity Test

The Kaiser-Meyer-Olkin and Measure of Sampling Adequacy (KMO-MSA) test is a validity assessment of the research sample regarding the correlation between each variable. The analysis will proceed if the KMO-MSA value is > 0.5. Additionally, the significance value (sig) should be < 0.5. Based on the KMO-MSA test conducted on the sample data collected through respondents using the SPSS application, the results obtained, as shown in Table 4, are a KMO-MSA value of 0.804 and a Sig value of 0.000. Therefore, based on these results, it can be concluded that this sample data can proceed for further analysis. Total Variance Explained.

Tabel 5. Validity (KMO) Test Results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.804
Bartlett's Test of Sphericity	Approx. Chi-Square	1571.225
	df	276
	Sig.	.000

4.3. Total Variance Explained

In assessing the importance of factors on the variable, it is necessary to consider the eigenvalues. To optimize the distribution of variables in the formation of new factors, the author has chosen to create three new factors. The cumulative component variance extraction should be greater than 50%. The cumulative component variance value, as shown in table 5, is 56.471%.

Tabel 6. Total Varianced Explained

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.682	36.175	36.175	8.682	36.175	36.175	4.658	19.409	19.409
2	3.270	13.625	49.799	3.270	13.625	49.799	4.564	19.015	38.424
3	1.601	6.671	56.471	1.601	6.671	56.471	4.331	18.046	56.471
4	1.360	5.666	62.136						
5	1.057	4.403	66.539						
6	.915	3.811	70.351						
7	.858	3.574	73.924						
8	.823	3.429	77.353						
9	.712	2.966	80.319						
10	.662	2.760	83.079						
11	.594	2.474	85.553						
12	.491	2.046	87.599						
13	.466	1.942	89.540						
14	.424	1.766	91.307						
15	.368	1.533	92.839						
16	.328	1.366	94.205						
17	.269	1.119	95.324						
18	.237	.986	96.310						
19	.220	.918	97.228						
20	.177	.736	97.965						
21	.161	.670	98.635						
22	.129	.539	99.174						
23	.117	.488	99.662						
24	.081	.338	100.000						

4.4. Rotated Component Matrix

The final analysis involves using a rotated component matrix analysis with the aim of identifying new factors based on the grouping representation of variables. These three new factors are Organization Rules, Best Practice, and Incompetent Team. Organization rules can be understood as a set of indicators that depend on the internal policies of the organization, which are bound by the established rules and

regulations. This factor represents these variables: requirement, scope, training, monitoring, communication, management support, cultural, and timeframe. The second factor is "Best Practice," and it is named so because it comprises a group of indicators that represent the behavior of using the ERP system. This factor is a representation of these variables: module, ease system use, data, testing and conversion, ERP System, modification, standardized, and Business Process Re-engineering (BPR). The last factor is Incompetent Team, and this name reflects how the team's capabilities need improvement in using the ERP system, as this system is different from others. It represents these variables: project management, external pressure, external expert, ERP internal expertise, training, knowledge management, user involvement, and performance measurement.

Tabel 7. Rotated Component Matrix

Rotated Component Matrix[a]

	Component		
	1	2	3
S1		.503	
S2		.848	
S3		.761	
S4		.758	
S5		.715	
S6		.682	
P1		.738	
P2		.718	
P3	.703		
P4	.668		
P5	.811		
P6	.736		
C1	.775		
C2	.771		
C3	.500		
C4	.580		
C5			.587
C6			.748
CM1			.570
CM2			.756
CM3			.666
CM4			.695
CM5			.724
CM6			.638

4.5. Regression Analysis

From the exploratory factor analysis, regression analysis can be performed, where the variables independent is the result of calculating factor scores during the factor analysis. The dependent variable utilizes the results from the respondents, which is their understanding of the ERP concept.

The results of this regression analysis are as follows:

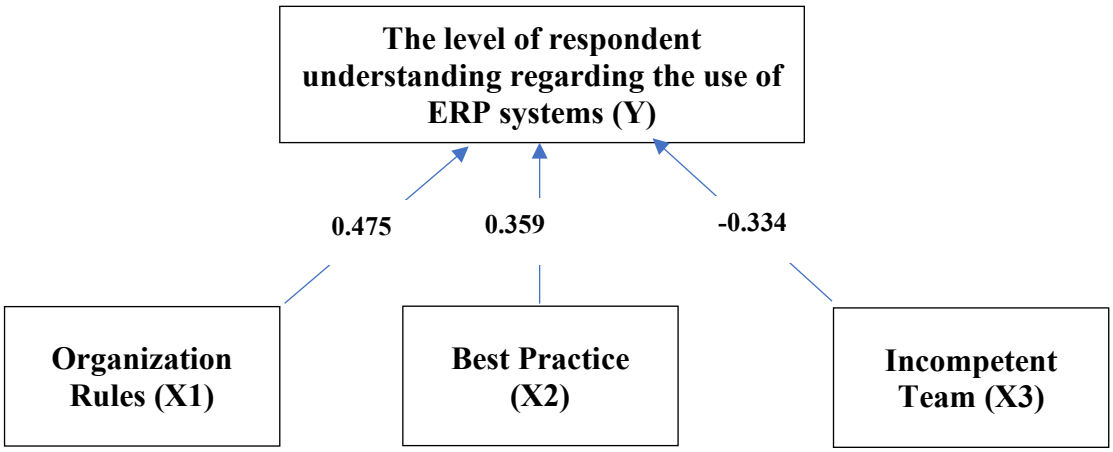

Fig. 4. Research model

From the above figure, it can be concluded that:

1) The first factor, organization rules, has a contribution of 0,475 to the understanding variable in the use of ERP systems
2) The first factor, organization rules, has a contribution of 0,359 to the understanding variable in the use of ERP systems
3) The first factor, organization rules, has a contribution of -0,334 to the understanding variable in the use of ERP systems

If represented in its mathematical model:

$$\mathbf{Y = 6.762 + 0.475\ X1 + 0.359\ X2 - 0.334\ X3}$$

With Condition:

$$-3.573 \leqslant \mathbf{X1} \leqslant 1.711$$
$$-3.136 \leqslant \mathbf{X2} \leqslant 1.613$$
$$-2.936 \leqslant \mathbf{X3} \leqslant 2.386$$

5. Discussion

Regression analysis yields a model that can represent the level of understanding for each newly discovered factor based on respondent data. This model serves as a simulation to provide the management with a comprehensive view of how these new factors influence the situation, enabling them to prioritize improvement measures. In the simulation, as shown in the table below, there are three outcomes: normal conditions with a Y value of 6.762, extreme conditions with a Y value of 3.142, and ideal conditions with a Y value of 9.134. The following table explains the simulation results:

Tabel 8. Simulation Result

Variabel / Condition	Y	β_0	X_1	X_2	X_3
Normal	6,762	6,762	0	0	0
Extreme	3,142	6,762	-3,573	-3,136	2,386
Ideal	9,134	6,762	1,711	1,613	-2,936

Here is an explanation of each simulation:

1) Normal condition, in which the understanding of ERP usage is at a scale of 6.762, indicating a reasonably good level of comprehension. This signifies the current state before conducting research on integration issues regarding the utilization of ERP systems.

2) Extreme condition: In this scenario, it is explained that if the company does not pay attention to the three newly identified factors, the level of understanding in ERP usage will decrease to 3.142, indicating a very poor comprehension level. In this context, the company or organization needs to take several actions. Firstly, they should enhance awareness of organizational culture to ensure greater adherence to organization rules. Regarding the second factor, the company or organization should place greater emphasis on its business processes to align them more closely with the best practices offered by ERP-based applications. Concerning the third factor, the organization should improve its internal capabilities team to reduce the number of incompetent team members within the organization. Neglecting these three factors can lead to ongoing integration problems in ERP system usage
3) Ideal condition: In this scenario, it represents the expected state where the understanding of ERP system usage increases, and integration problems decrease. If the organization pays attention to these three new factors, the level of understanding in ERP system usage will increase to 9.134, indicating an excellent level of comprehension. Efforts that the company should undertake to achieve this ideal value include maintaining and focusing on the first factor, Organization Rules. The organization needs to implement clear rules that align with the implemented ERP system. These rules serve as a support system for smooth day-to-day operations. Additionally, the organization should encourage all employees to adhere to and maintain compliance with the established rules. Concerning the second factor, Best Practice, if the company has already implemented an ERP system, business development should consider the alignment with the ERP system for smooth operations. This means that when designing new business processes, they should adhere to the best practices of the ERP system in use. Deviating from these practices could lead to numerous enhancements in the ERP system, potentially causing integration issues in the future. The third factor is Incompetent Team. The organization needs to enhance the skills of its internal team members and work to reduce competency limitations among its employees in using the ERP system. Several approaches, such as training, workshops, and certification programs, can be employed to minimize the lack of competency. The organization should focus on the three newly discovered factors to reduce integration issues and make improvements to business processes that align with best practices. Additionally, it is essential to be supported by well-established organizational rules. Furthermore, efforts are required to mitigate an incompetent team, ensuring that the team's capabilities are sufficient to address integration issues promptly without disrupting business processes.

6. Conclusions

From the results of the completed research on integration issues in the use of ERP systems, involving 105 respondents, several findings have been identified as follows. Three new factors that influence integration issues in the use of ERP systems have been discovered. These factors are Organization Rules, Best Practice, and Incompetent Team. These three new factors represent various variables as follows Organization Rules, this factor represents variables such as requirements, scope, training, monitoring, communication, management support, culture, and timeframe. For organizations facing integration issues in the use of ERP applications, it is advisable to make changes to their internal standard procedures, especially within the IT division. They should establish standards for defining new business processes, clearly define the scope of new requirements in the ERP application, prepare necessary documentation templates, evaluate new enhancements based on a reasonable timeline (not too rushed to allow for sufficient testing), and deploy enhancements to the production server while considering bug fixing, which can be done in parallel with transactions. Regulations regarding training, handover, and knowledge transfer should also be considered. In most cases, training is overlooked due to additional costs, which means users do not gain a full understanding of the enhancements and their

impact on integration. Best Practice, this factor represents variables including modules, ease of system use, data, testing and conversion, ERP system, modification, standardization, and Business Process Re-engineering (BPR). To mitigate integration issues, ERP system development should adhere to best practices offered by ERP-based applications. This involves ensuring that experts review the blueprint, understand the flow of business processes, and align them with ERP system best practices. In many cases, best practices are not followed, but ERP applications are forced to conform to user preferences. Incompetent Team this factor represents variables like project management, external pressure, external expertise, ERP internal expertise, training, knowledge management, user involvement, and performance measurement. An incompetent team can create various integration problems, some of which may be more serious. Incompetent teams may disregard the effects of transactions, impose specific conditions to resolve errors that shouldn't exist, and create additional constraints on other modules or external applications. Addressing team incompetence requires providing guidance, offering user manuals, conducting in-house training, and monitoring and evaluating employee performance. The model that represents the gap in integration issues and the expectation of problems occurring in the use of ERP systems was used in a simulation. The results showed the following values: normal condition value for ERP understanding is 6.762, extreme condition value is 3.142, ideal condition value is 9.314.

The level of problems occurring in the use of ERP systems, leading to unmet expectations, is influenced by the values of Organizational Rules, Best Practice, and Incompetent Team. The organization should focus on the three newly discovered factors to reduce integration issues and make improvements to business processes that align with best practices. Additionally, it is essential to be supported by well-established organizational rules. Furthermore, efforts are required to mitigate an incompetent team, ensuring that the team's capabilities are sufficient to address integration issues promptly without disrupting business processes.

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