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Analysis The Success of Knowledge Management in Agile Team Study Case: Ecommerce in Indonesia

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Abstract

Information in organizations needs to be managed to gain a competitive advantage in competitions. E-commerce, one of the most prominent industries in Indonesia, has dynamic market conditions that frequently change requirements and recent layoffs, which can harm the companies if not correctly managed. Knowledge and information usually stored in a knowledge management system (KMS) are essential to negate this, and Agile software development methodologies can manage frequent requirement changes. However, a study about KMS's success in Agile teams, primarily e-commerce, needs to be conducted to know if KMS can help companies sustain their business in Indonesia. This research analyses the KMS success in Indonesia's e-commerce companies that use Agile as their software development methodologies. This study used a quantitative approach with 31 respondents who worked or previously worked in an e-commerce company in Indonesia, using Agile as software development methodologies and experienced using KMS daily. Data was processed and analyzed using the Partial Least Square-Structural Equation Modeling (PLS-SEM) and SmartPLS tools. The results of this study indicate that KMS net benefits in Agile teams in E-commerce in Indonesia are influenced by the user's intentions to use and user satisfaction when using the KMS.

A. Introduction

Information that organizations and individuals create when working on something. Knowledge Management (KM) is essential to store, acquire, and organize knowledge so all relevant organization members can use it to make new knowledge and prevent the same mistakes from happening to gain competitive knowledge [1]. The benefit of KM is substantial to the organization, and it is essential to maximize the advantage of KM for the prosperity of the organization in the future. KM is also beneficial to share all the information with all employees because knowledge sharing via the person is not feasible.

Agile has four values, one of which is prioritizing the working software over comprehensive documentation. This value does not mean any documentation in Agile development [2]. However, documentation is built around the working software. The documentation in Agile needs to be more detailed in other approach documentation, such as the waterfall approach. Because documentation is not detailed, it needs to be refined at regular intervals, usually when there is an update on the working software via an increment. However, in the software development process, the Agile approach lacks documentation and traceability [3]. One of the methods to fix the issue is storing knowledge in every cycle of Agile by using a Knowledge Management System (KMS).

The E-Commerce market has a dynamic condition where changing business requirements after customer feedback and usage of Agile methods are needed by the e-commerce industry [4]. Feedback and adaptability of new requirements into e-commerce can give a significant advantage over other competitors in the market. E-commerce has a significant portion of Indonesia's digital economic value, contributing US$ 53 billion in 2021 and is predicted to be US$ 104 billion in 2025 [5]. Indonesia's internet penetration also increased year on year from 64% in 2018 and now is 77%, thus making Indonesia the biggest market for digitalization [6]. E-commerce and internet penetration growth in Indonesia shows us how big the e-commerce industry impacts Indonesia now and in the future.

At the end of 2022, e-commerce companies in Indonesia mainly consist of startups, such as GoTo [7], Shopee Indonesia [8], and JD.ID [9] due to unpredictable global macroeconomic conditions in the coming years. These layoffs impact hundreds, even thousands, in some companies. The news is suddenly announced to the employees, and those impacted by the layoff wave are dismissed immediately after the announcement. With sudden layoffs and a short time to hand over all the knowledge to those still in the company, the layoffs also impact the entire company's business. Usage of the KMS can make these unprecedented events harm the business and affected teams and simplify knowledge transfer.

Much literature describes how much KMS is needed in an organization and KMS in an Agile project. However, it needs to discuss knowledge management's impact on the e-commerce company, especially in Indonesia. So, there needs to be more empirical evidence about KMS in e-commerce due to e-commerce's unstable condition in current conditions and possible future layoffs so the business can be sustained. Also, e-commerce has unique traits, where requirements frequently change due to market conditions and user behavior. Companies need to manage the knowledge to make a competitive advantage in the e-commerce industry because it is needed to build a better system, thus needing good KMS in the e-commerce

companies. Based on this, the following research question has guided this research: **Is the Knowledge Management Activity in The Agile Teams in Indonesia's E-commerce successful?**

B. Research Method

In this section will presents related theoretical background, hypotheses formulation, and research method for conducting research of KMS success in agile team in the e-commerce industry, based on previous research that has been done about KMS success in various environment and organization. Previous related research collected via online database such as, ACM Digital Library, IEEE Xplore, ScienceDirect, Scopus, Google Scholar, and ResearchGate.

Previous Research

KMS usage in the organization is advantageous if appropriately managed. Recent research has addressed KMS success in the organization specifically or research about KMS success in some industries. For evaluating the KMS success, previous research used the Delone and McLean Information System Success Model (DMISM), and some used an improved model developed by Jennex and Olfman using DMISM as a base, called Jennex and Olfman KMS Success Model (JOKMSM). JOMKSM was introduced in 2003 [10] and improved in 2006 [11] . A summary of the related research using DMISM or JOKMSM to evaluate KMS can be seen in Table 1.

Table 1. Summary of Previous Research

Researcher	Summary	References
Razaque, A.; Eldabi, T.; Chen, W.; (2019)	Using DMISSM in one of Hypothesis to know physician's decision based on virtual communities' result using Social Capital Theory dimensions.	[12]
Mohammed, A. (2022)	Using JOKMSM, an improved DMISSM in conducting the research as a base to build the research hypothesis model with goal to assess success of KMS in Iraqi higher education for data analysis, the research using covariance based (CB) - SEM.	[13]
Cheak, A.; Chong, C.; Yuen, Y. (2022)	Using some DMISSM dimensions as a factor in the research model along with other theories in attempt to assets KMS adoption intention within semiconductor industries.	[14]
Wang, M.; Yang, T. (2016)	Investigating success of KMS in Taiwan's SME using JOKMSM to build research model and using PLS-SEM to evaluate the model and hypothesis.	[15]
Al-Hattami, H.; Kabra, J. (2022)	The KMS researched in this publication is about accounting information system about management control effectiveness and research focusing on SMEs in Yemen, Hypothesis is adopted and modelled from JOKMSM, model evaluation is using PLS-SEM.	[16]
Bashir, K.; Rehman, M.; Bashir, A.; Kanwal, F. (2022)	Using JOKMSM as a base to build research model in assessing collaborative knowledge management framework for leaf disease detection to evaluate the hypothesis the research is using Pearson Correlation.	[17]
Halawi, L.; McCarthy, R.; Aronson, J. (2008)	Using JOKMSM as a base to build research model in investigating KMS success to evaluate the model the research use pearson correlation and the data collection using the researcher build the survey research.	[18]

Agile

Agile is a set of values and methods for managing and delivering projects [19]. The agile approach is created to solve where the project works have high uncertainties and where the project has high risk, rates of change, and complexity via implementing short cycles and quickly adapting to project changes [20]. In recent times, especially in startup companies, a project with high uncertainties is more common because of the need to gain stakeholder feedback when delivering a product frequently. The feedback will incorporate into the next release of the products, and the cycle will always continue.

One of the advantages of Agile is that at the start of a project, the project owner or customer cannot specify every detail in the project but have the general requirement [21]. The agile implementation also helps to adapt the project requirements based on constantly changing customer needs as long the general project goal can be achieved. These changing requests are adding more complexity to the project by introducing uncertainty. Project requirements need to be fulfilled using current knowledge and technology to reduce the project's complexity and minimize the changes when the project is running [20]. In Agile, the documentation and knowledge need to be managed by the organization to gain competitive advantage. One of the tools to achieve this is a KMS.

Knowledge Management System

Knowledge has two forms: tacit knowledge, which is hard to express, and implicit knowledge, which is easy to express via writing, drawing, and audio [3]. Knowledge in the organization must be appropriately managed to gain a competitive advantage and to prevent the same mistakes happening again. To manage it organizations, need to understand how knowledge is created, developed, and shared across the organization [22]. Software engineering is knowledge-intensive, and the assets are knowledge held by the people who built the software [23]. When building, fixing, and running software in the organization, knowledge is created. The need to manage this knowledge is so that knowledge can be shared and accessed by relevant people to make better software in the future. To achieve this, the organization needs to use KMS for all knowledge created within the organization and support knowledge transfer across organization.

Knowledge Management System Success Models

Various research has been done to identify information system (IS) success measures via developing a model. One of the models still used for knowing IS success in an organization is a model developed by Delone and Mclean in 1992 called Delone and McLean IS Success Models (DMISM). The measurement of this model consists of multidimensional and interdependent variables [24]. According to DMISM, the influencing variables for IS success are system quality, information quality, use, user satisfaction, individual impact, and organizational impact. Figure 1 shows the DMISSM and relationship between factors in the model that have been revised in 2002. Even though the model was published in 1992 and focused on IS systems in general, DMISM are still used by related research to evaluate KMS in various study cases [12] [14].

From DMISSM that developed in 1992, in 2003, Jennex and Olfman developed the model further, into knowledge management success model (JOKMSM) [10], and Jennex revised the model in 2006 [11] and later in 2017 [25]. The difference between the JOKMSM and DMISM is that in the JOKMSM, the system, information, and service quality dimensions are expanded to integrate and add other relevant factors. The information quality in the DMISSM model is renamed knowledge quality because the JOKMSM focuses on using knowledge in the organization. Aside from that, other dimensions are still the same as DMISM but with more detailed dimensions in system quality, knowledge quality, service quality, and net benefits.

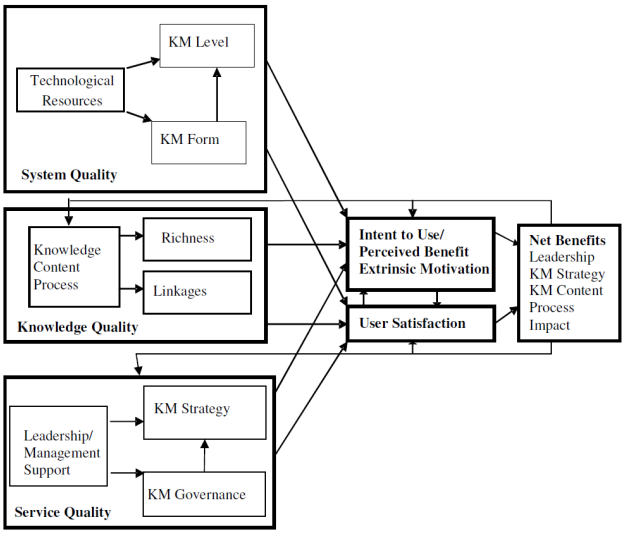

Figure 1. Jennex and Olfman Knowledge Management Success Model [25]

As figure 1 shows, the JOKMSM has a system quality dimension that defines how KMS performs in knowledge creation, storage, transfer, and application. This dimension is constructed of technological resources, the form of KMS, and the level of the KMS. Knowledge quality describes how the relevant user can capture and access proper knowledge. This dimension expands into knowledge strategy, richness, and linkage between knowledge. The service quality dimension ensures that relevant people can access and utilize KM effectively. Service quality is constructed by management support, KM strategy, and KM Governance. Even though The KM success model was developed and revised many times, but the model is based on DMISSM models and for the JOKMSM itself used by related research to determine KMS success in various cases [13] [15] [16] [17] [18]. Therefore, use of the JOKMSM can evaluate KM success in this research.

Partial Least Square-Structural Equation Modelling (PLS-SEM)

Structural equation modelling (SEM) is an approach to focus on describing the model that model concepts as the latent variable (LV) or unobserved variable from multiple observed variables that offer flexibility to perform model relationship among multiple predictors and criterion variables, construct unobservable latent variables, model errors measurement in observable variables, and do confirmatory analysis [26]. One of the techniques to do SEM-based analysis is partial least square (PLS). PLS's main objective is to predict the LVs and can handle complex models

with hundreds of variables, new models where the model is not well-formed, and where the data is not evenly distributed [26]. With the advantage of PLS-SEM in contrast with other SEM-based approaches, PLS-SEM can be used in many research types, especially in the social domain approach (i.e., survey) where researchers cannot tell where the data is evenly distributed or not and with the small sample size.

The sample size used in PLS-SEM can be determined using various methods, such as inverse square root, monte carlo, gamma-exponential, 10-times rule, a minimum r-squared method with the smallest sample size is 20 using 10-times rule method and using inverse square root method is 40 [27]. When using PLS-SEM, three steps must be followed, started by model specification to set up inner and outer models, outer model evaluation via running the PLS-SEM algorithm after that evaluate the validity of the construct measures in the outer model, the last step is the inner model evaluation to evaluate the hypothesized relationship between outer and inner model [28]. With low sample size and minimum steps to implement, PLS-SEM can evaluate the model based on relevant theories from the sample.

Scientific Model and Research Hypotheses

The scientific model built on this research evaluates KMS's success in various agile teams in several e-commerce companies in Indonesia. KMS itself is an information system that relevant employees can access to make decisions, work on their tasks, prevent the same mistakes from happening, and fix issues they encounter. At the same time, maintain and develop the company application and system. In evaluating the KMS usage success in the study case, this research will use JOKMSM in combination with DMISM based on previous related research. Model and hypothesis formulation will focus on the dimensions and the relationship between each dimension acquired from DMISSM. Data collection for the research survey will consider all the constructs related to each dimension defined by JOKMSM. The scientific model used in this research is presented in Figure 2.

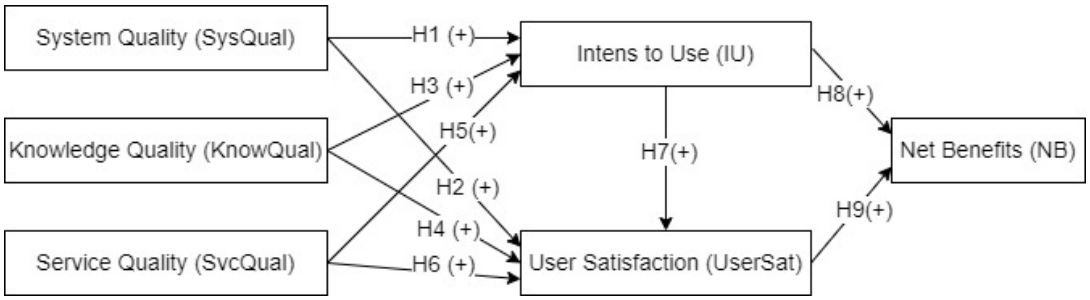

Figure 2. Scientific Model

There are total of six dimensions, the first dimension is System Quality (SysQual). SysQual in KMS is constructed by three factors, which are technological resources to enable the KM in the organization, KM forms refer to the extent to which the knowledge is integrated and computerized, and KM level defines the ability to use knowledge in the KM in the day-to-day operation [25]. Research done by Mohammed [13] shows that SysQual directly influences the perceived usefulness of KMS but the hypothesis about SysQual positively influence user satisfaction (UserSat) is rejected. Based on another previous research done by Al-Hattami and

Kabra [16], SysQual directly influences intents to use (IU), UserSat, and net benefits (NB). Research by Bashir et al. [17], Halawi et al. [18] and Wang and Yang [15] supported the hypothesis that SysQual directly influences IU and NB.

The next variable is Knowledge quality (KnowQual) in KMS ensures the proper knowledge is captured and available for the right users at the right time and constructed by three factors, three factors, KM strategy/process, knowledge richness, and linkages between knowledge [25]. Mohammed's research [13] hypothesizes that KnowQual positively affects IU and UserSat, but the KnowQual and UserSat hypothesis is rejected. Another previous research done by Bashir et al. [17] found that their hypotheses about KnowQual affecting IU and UserSat are accepted. These findings are supported by previous research by Wang & Yang [15], Halawi et al. [18], and Al-Hattami & Kabra [16].

The service quality (SvcQual) dimension in KMS ensures that KM has sufficient support for relevant users to utilize KM effectively and is constructed by management support, User KM support, and IS KM support [25]. User KM support itself is focused on support by the organization and IS KM support is support by the IS provider to the KM user. On the SvcQual dimension, previous research [13] [15] [17] found that SvcQual positively affects IU and UserSat dimension.

The intent to use (IU) dimension in KMS is to measure the perceived benefit of the KM by the user and is suitable for predicting continued KM use when KM is voluntary [25]. Research by Wang and Yang [15] shows IU dimension is influencing NB positively. This finding is also supported by research done by Al-Hattami & Kabra [16]. Aside from NB, research done by Bashir et al. [17], Halawi et al. [18], and Mohammed [13] found that the IU dimension also positively affects UserSat dimension.

User satisfaction (UserSat) in KMS is a dimension that measures KMS's user satisfaction as a complementary measure with IU because KM may not be used frequently and can still be called effective [25]. According to JOMKSM, UserSat is positively associated with IU and NB. These findings are also supported by previous research by Bashir et al. [17] and Al-Hattami & Kabra [16]. Research done by Wang and Yang [15] also supports the finding about UserSat is positively associated with NB.

The net benefits (NB) dimension defines that KM's use by a member of the organization will positively impact their work and collectively will bring positive impacts to the organization [25]. The benefit of the NB is associated with the whole process of KMS, so JOMKSM propose the feedback loop to IU, UserSat, KnowQual, and SvcQual. Because most PLS-SEM tools have limitations to assuming the model is recursive, and there cannot be any circular feedback loop [29]. So, in this research NB dimension is the last dimension in the proposed research model. On Table 2 are the hypotheses based on previous research and scientific model.

Table 2. Research Hypotheses

Code	Variables	Hypotheses
H1	SysQual -> IU	System quality positively associated with intents to use.
H2	SysQual -> UserSat	System quality positively associated with user satisfaction.
H3	KnowQual -> IU	Knowledge quality positively associated with intents to use.
H4	KnowQual -> UserSat	Knowledge quality positively associated with user satisfaction.

Code	Variables	Hypotheses
H5	SvcQual -> IU	Service quality positively associated with intents to use.
H6	SvcQual -> UserSat	Service quality positively associated with user satisfaction.
H7	IU -> UserSat	Intents to use positively associated with user satisfaction.
H8	IU -> NB	Intents to use positively associated with net benefits.
H9	UserSat -> NB	User satisfaction positively associated with net benefits.

Based on previous studies and model representations in figure 2, there are a total of six dimensions that can be used to conclude nine hypotheses on table 2. The indicators for six dimensions are constructed from previous studies. The constructed indicators are divided into construct, questionnaire item, and references can be seen in Table 3.

Table 3. Dimensions, Questionnaire Item, and References

Dimension	Questionnaire Item	References
System Quality	SQ1. KMS helps to search for both information and people.	[15]
	SQ2. Whenever we search using KMS, the retrieved result is always what we need.	[15]
	SQ3. Whenever we search using KMS, the retrieved result link directs us to the right information.	[15]
	SQ4. Whenever we search using KMS, the retrieved result is displayed promptly.	[15], [18]
	SQ5. KMS is easy to use.	[15]
	SQ6. KMS is not subject to frequent problems or crashes.	[15]
	SQ7. KMS have the most organizational information/knowledge.	[15]
	SQ8. All related organizational and work knowledge is in KMS.	[15]
	SQ9. Our KMS can have complex queries to search for needed information/knowledge.	[15]
	SQ10 We can find most of the needed information and knowledge online.	[15]
Knowledge Quality	KQ1. KMS provide needed information/knowledge.	[15]
	KQ2. KMS provide information/knowledge that uses recognized vocabulary than highly specialized terminology.	[15]
	KQ3. KMS provide the necessary information/knowledge to complete a task.	[15]
	KQ4. KMS knowledge is available when needed.	[18]
	KQ5. KMS provides contextual knowledge so we can understand how the knowledge is applied.	[15], [18]
	KQ6. Knowledge/Information stored in KMS is up to date.	[15], [18]
	KQ7. KMS guides us to connect to know-how people for whom information/knowledge we seek.	[15]
	KQ8. The organization always updates the people in the KMS so we can easily locate newly hired or acquired expertise.	[15]
	KQ9. The organization always updates the KMS so that we can access current and document data.	[15]
	KQ10. KMS helps to modify knowledge and settings to present the information we create.	[15]
Service Quality	SeQ1. Whenever we have difficulties in the KMS usage, there is specific person/group to help.	[15]
	SeQ2. We have sufficient time to dialogue online (via comments or other means) about important problems and solutions.	[15]
	SeQ3. Exploration and experimentation of knowledge are encouraged by peers.	[15]
	SeQ4. Exploration and experimentation of knowledge are encouraged by supervisors	[15]

Dimension	Questionnaire Item	References
	SeQ5. The organization actively endorses knowledge discussion to discover new ideas and working methods.	[15]
	SeQ6. Issue and question via KMS solved by the specific person/group promptly.	[18]
	SeQ7. KMS help group/person is dependable.	[15]
	SeQ8. KMS help group/person have working hours that are convenient to reach.	[18]
	SeQ9. Overall, KMS help group/person service meets our needs.	[18]
Intensions to Use	IU1. Knowledge/Information in the KMS has consistently increased.	[18]
	IU2. Using KMS, our team has received efficiencies and financial returns benefits.	[18]
	IU3. KMS assists us in recording our knowledge/information.	[13]
	IU4. KMS assists us in making decisions.	[13]
	IU5. KMS help to share our knowledge/information.	[13]
	IU6. KMS enables us to systematically administer knowledge for the tasks and store it for further usage.	[15]
	IU7. KMS is used before starting and in doing the task.	[15]
	IU8. KMS is used to document any information, knowledge, policies, and guidelines regarding the task and our daily work.	[15]
	IU9. KMS is used for task design	[15]
	IU10. Our organization encourages knowledge storing and sharing between and within teams.	[15]
User Satisfaction	US1. KMS in our organization is very effective.	[18]
	US2. KMS in our organization is very efficient.	[18]
	US3. KMS meets the knowledge needs of our area of responsibility.	[18]
	US4. The use of KMS improves the efficiency and quality of our work.	[13]
	US5. Overall, we are satisfied with KMS in our organization.	[15], [18]
Net Benefits	NB1. KMS helps to detect work-related problems	[15]
	NB2. KMS enlightens new ways of thinking	[15]
	NB3. KMS changes the way we do things in a way beneficial to the organization's overall interest.	[15]
	NB4. KMS improve decision making.	[15]
	NB5. KMS helps to make fewer mistakes.	[15]
	NB6. KMS allows better knowledge transfer and reuse.	[15]
	NB7. KMS reduces duplicate work.	[15]
	NB8. KMS allows fasters problem resolutions.	[15]
	NB9. KMS helped to meet customer needs.	[18]
	NB10. KMS helped to create innovative ideas.	[18]

The research will be done using a quantitative approach to gather the data. The quantitative approach used by this experiment is survey design. Survey design provides a quantitative or numeric description of a population's trends, attitudes, or opinions by gathering data from a population sample [30]. The research methods that will be used in this research are survey methods that will be distributed via the Internet.

The research data collection method will be conducted using web surveys using Google Forms. Use of Google form because of rapid data collection, fast data processing, and enablement of online survey distribution so can reach a broad demographic. Distribution of the survey using social media widely used by the public, such as Instagram, LinkedIn, and WhatsApp. The criteria of respondents are an employee of e-commerce organizations based in Indonesia, such as Tokopedia, Shopee, and Blibli, who use KMS in their work and use Agile software development methodologies, such as Scrum, Kanban, and Agile Unified Process (AUP).

After data collection ended, the next part of the research was data analysis. In the data analysis of the research, data will be analyzed using PLS-SEM and SmartPLS version 4.0.8.5. as a tool to help with data analysis. Justifications for using PLS-SEM in the research are nonnormal data, small sample size, and formatively measured constructs [28]. In the PLS-SEM, the process is the model specification, outer model evaluation, and inner model evaluation [28]. The outer model evaluation consists of convergent validity, discriminant validity, and reliability validity [31]. The next step is inner model evaluation to check the proposed hypotheses in the research. Every evaluation in each stage has an acceptable level and is measured with different parameters. The result of the data analysis will be described in the next section.

C. Result and Discussion

The results of the research indicators are processed using SmartPLS, using PLS-SEM multistage processes. The first process is the model specification already presented in Figure 2. The next step is outer model evaluation, and the last is outer model evaluation.

Evaluation of the outer model in PLS-SEM consists of convergent validity, discriminant validity, and reliability validity. Convergent validity is used to check that a measure correlates positively with alternative measures of other constructs of latent variables and is measured by standardized loading factor/outer loading with an acceptable level > 0.7 and average variance extracted (AVE) parameters with an acceptable level ≥ 0.50 [31]. Discriminant validity is the test to check if a construct is different from another construct by empirical standards. The cross-loading parameter measures it, and the acceptable level on each variable is below 0.7 for another latent variable [31]. The last one is reliability validity, which measures the consistency of each variable that builds latent variable and is measured by Cronbach alpha (α) with an acceptable level of more than 0.7. The other parameter is composite reliability (CR), with an acceptable value of more than 0.6 in exploratory research, and for the advanced stage of the research, is between 0.7 and 0.9. value over 0.9 is not desirable [31].

Table 3 shows outer model validation for indicators collected using an online survey. If there is an unacceptable level, mainly because outer loading is <0.7, these variables will be removed to ensure validity in the later stage. The indicators used for the System Quality dimension are SQ1, SQ2, SQ3, and SQ4. In the knowledge quality dimension, the indicators that satisfy the outer loading value (>0.7) are KQ3, KQ4, KQ5, and KQ8. There are five indicators in intent to use dimension used in this research, which are IU3, IU5, IU6, IU8, and IU10. All indicators in the user satisfaction dimension are used. Lastly, net benefit dimension indicators that fulfil the outer loading requirements are NB1, NB4, NB6, and NB8.

Table 4. Outer Model Evaluation

Variable	Indicator	Outer Loading	CR – rho_a	AVE	α
System Quality (SQ)	SQ1	0.77	0.844	0.669	0.836
	SQ2	0.841			
	SQ3	0.846			
	SQ4	0.813			
Knowledge Quality (KQ)	KQ3	0.838	0.864	0.697	0.854
	KQ4	0.899			

Variable	Indicator	Outer Loading	CR – rho_a	AVE	α
	KQ5	0.848			
	KQ8	0.747			
Service Quality (SeQ)	SeQ2	0.717	0.792	0.618	0.791
	SeQ6	0.848			
	SeQ7	0.738			
	SeQ8	0.833			
Intents to Use (IU)	IU3	0.849	0.889	0.691	0.888
	IU5	0.873			
	IU6	0.859			
	IU8	0.763			
	IU10	0.809			
User Satisfaction (US)	US1	0.847	0.846	0.603	0.835
	US2	0.730			
	US3	0.784			
	US4	0.795			
	US5	0.72			
Net Benefits (NB)	NB1	0.858	0.842	0.674	0.837
	NB4	0.767			
	NB6	0.762			
	NB8	0.889			

Path coefficients represent interrelationships between variables. The path coefficient value is between -1 and +1, with -1 referring to a strong negative correlation and +1 being a strong positive correlation between variables. In PLS-SEM, to do the hypothesis testing, the procedure is bootstrapping. For this research, the settings used in SmartPLS using 5000 subsamples, with a two-tailed test type and significance level of 0.05 based on the recommendation of the PLS-SEM guidelines authored by Hair et al. [31]. Table 5 presents the inner model evaluation for each of the research hypotheses.

Table 5. Inner Model Evaluation

Hypotheses	Path	T-Statistics	P – Values	Result
H1	SQ -> IU	1.796	0.073	Rejected
H2	SQ -> US	1.100	0.271	Rejected
H3	KQ -> IU	0.514	0.607	Rejected
H4	KQ -> US	0.824	0.410	Rejected
H5	SeQ -> IU	1.832	0.067	Rejected
H6	SeQ -> US	1.184	0.236	Rejected
H7	IU -> US	2.242	0.025	Accepted
H8	IU -> NB	4.342	0.000	Accepted
H9	US -> NB	3.390	0.001	Accepted

The accepted model path coefficient value for two-tailed tests for a significance level of 5% is 1.65. Higher values conclude there is a significant error probability; it is rejected [31]. To determine the model's predictive power, the variable used is the coefficient of determination (R2). R2 predictive accuracy value is between 0 and 1, with 0.75 indicating significant accuracy, 0.5 referring to moderate accuracy, and 0.25 as weak accuracy [31]. Based on the inner model evaluation, the net benefit variable R2 is 0.772, which indicates significant accuracy, and this variable is affected by intention to use and user satisfaction. Figure 3 also shows the final research model.

For H1 to H6, the data did not provide sufficient evidence to establish a significant relationship between dimensions. These dimensions include statement system quality (SQ), service quality (SeQ), and knowledge quality (KQ), which are not directly associated with IU or US. This lack of statistical significance suggests that the H1 to H6 might not be prevalent in the study cases. Possible reasons for this include sample characteristics, measurement errors, or the complexity of relationships. These non-significant results highlight the need for further exploration in future research.

This research aims to know if the knowledge management activity in the agile teams in Indonesia's E-commerce is successful. Based on previous research, the success of KMS can be derived from the net benefits (NB) dimension of JOKMSM. In contrast, the Hypotheses validation result using PLS-SEM shows that H7, which intends to use (IU) is positively associated with user satisfaction when using KMS and H8, the net benefit of the KMS, is also positively associated with IU. User satisfaction is also positively associated with the net benefits of KMS usage, which is H9. These significant relationships underscore the importance of user satisfaction and intentions to use dimension so companies can gain maximum value from KMS usage.

D. Conclusion

This research aims to analyze the success of knowledge management systems (KMS) in e-commerce companies that use agile methodologies in their development. The research is done to prove KMS benefits to prevent the negative impact of changing requirements and recent layoffs, especially in Indonesia, where startups are still growing. The study uses Jennex and Olfman's knowledge management success model (JOKMSM) to evaluate the KMS in the study cases. Based on the JOKMSM theories and previous studies, KMS's success can be associated directly with the net benefits dimension.

From the research findings, hypotheses H1 to H6 needed more evidence to establish the relationship between dimensions that might not be prevalent in the studied population. These non-significant results highlight the need for further exploration in future studies. In contrast, hypotheses H7 and H9 imply that net benefits are positively associated with intentions to use and user satisfaction. H8 also supported where user satisfaction is positively associated with intentions to use. So, H7 to H9 were supported by the data, indicating that the relationship between the dimensions is significant and provides valuable insights into which dimension can contribute significantly to the overall effectiveness and success of the KMS success in e-commerce, which uses agile methodologies in the development.

The study results imply that e-commerce companies need to ensure satisfaction and usage of KMS is encouraged in the organization, thus maximizing the KMS net benefits. Without proper education and awareness of the KMS system, user's intentions to use KMS will not increase. However, the study also finds that regardless of system, service, and knowledge quality, it only partially affects user satisfaction and intent to use the KMS. Aside from those factors, other factors influence the employee's KMS usage in the organization. So, in the following research about KMS, we need to use JOKMSM and another model to define KMS

success in similar situations. Using another model in further study can define which additional factors affect the intent to use and the user satisfaction factor.

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