

Factors Affecting Personal Knowledge Management Effectiveness: A Case Study of Automotive Sales Officers in Daerah Khusus Ibukota Jakarta

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Abstract. *Shifting the economy toward a knowledge-based one that requires skilled workers encourages the implementation of personal knowledge management. The automotive industry is closely related to knowledge-based activities and its technological developments require skilled employees. This study aimed to identify factors that can increase the effectiveness of personal knowledge management among sales officers in automotive companies. A survey was distributed to 115 employees at automotive dealers that implemented knowledge management at the head office level but not at their branch offices or dealerships. The studied effectiveness factors included trust, extrinsic rewards, technology application, knowledge sharing, and learning behavior. The collected data passed validity tests, reliability tests, model tests, and hypothesis testing. Thus, data triangulation was conducted via semi-structured interviews. This study found that trust affects knowledge sharing. Moreover, it was found that extrinsic rewards do not affect knowledge sharing and that the application of technology affects learning behavior. Notably, both knowledge sharing and learning behavior were found to affect personal knowledge management effectiveness. Another impactful factor was leadership. Intrinsic rewards make sales officers feel happier and more rewarded for sharing knowledge than financial benefits. Leadership is an aspect that must be considered since good leaders can encourage and create a positive learning environment.*

Keywords: *Extrinsic rewards, knowledge sharing, learning behavior, personal knowledge management, technology use, trust*

Abstrak. *Pergeseran ekonomi menuju ekonomi berbasis pengetahuan yang membutuhkan pekerja terampil mendorong penerapan manajemen pengetahuan pribadi. Industri otomotif erat kaitannya dengan kegiatan berbasis pengetahuan dan perkembangan teknologinya membutuhkan tenaga kerja yang terampil. Penelitian ini bertujuan untuk mengidentifikasi faktor-faktor yang dapat meningkatkan efektivitas manajemen pengetahuan pribadi pada tenaga penjualan di perusahaan otomotif. Survei dilakukan kepada 115 karyawan di dealer otomotif yang menerapkan manajemen pengetahuan di tingkat kantor pusat tetapi tidak di kantor cabang atau diler. Faktor efektivitas yang diteliti meliputi kepercayaan, penghargaan ekstrinsik, penerapan teknologi, berbagi pengetahuan, dan perilaku belajar. Data yang terkumpul lolos uji validitas, uji reliabilitas, uji model, dan uji hipotesis. Dengan demikian, triangulasi data dilakukan melalui wawancara semi terstruktur. Studi ini menemukan bahwa kepercayaan mempengaruhi berbagi pengetahuan. Selain itu, ditemukan bahwa penghargaan ekstrinsik tidak mempengaruhi berbagi pengetahuan dan penerapan teknologi mempengaruhi perilaku belajar. Khususnya, baik berbagi pengetahuan dan perilaku belajar ditemukan mempengaruhi efektivitas manajemen pengetahuan pribadi. Faktor lain yang berpengaruh adalah kepemimpinan. Penghargaan intrinsik membuat tenaga penjualan merasa lebih bahagia dan lebih dihargai karena berbagi pengetahuan daripada keuntungan finansial. Kepemimpinan merupakan aspek yang harus diperhatikan karena pemimpin yang baik dapat mendorong dan menciptakan lingkungan belajar yang positif.*

Kata kunci: *Penghargaan ekstrinsik, berbagi pengetahuan, perilaku belajar, manajemen pengetahuan pribadi, penggunaan teknologi, kepercayaan*

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Introduction

The economy has recently moved toward a knowledge-based economy. Knowledge and innovation have been widely recognized as the main drivers of economic development and growth (Asian Development Bank, 2014). The main component of a knowledge-based economy is intellectual ability (Ben Hassen, 2020). A knowledge-based economy has three key factors related to its implementation: workers who have the ability, incentives, and innovation (Barkhordari et al., 2019). In this era of knowledge-based economies, Indonesia has a low human capital index (0.54), which is below average for the East Asia and Pacific region (World Bank, 2020).

The United Nations Development Program (UNDP) published Human Development Report 2019. This report aimed to identify inequality in the labor development of 189 countries and stated that Indonesia held the 111th position. This position remains below other countries in Southeast Asia. Indonesia has weaknesses in indicators related to the quality of health and education. Meanwhile, in the Global Competitiveness Index 4.0 2019 Edition, Indonesia ranked 50th out of 141 countries. This ranking decreased by five places when compared to 2018. Indonesia has the advantages of big market size and macroeconomic stability.

The Global Talent Competitiveness Index Report (Balland et al., 2019) examined issues related to talent competitiveness and the future of the world of work globally. This report stated that Indonesia's ranking rose from 77th position to 64th. This is most likely the result of Indonesia's growing economy. However, in terms of global knowledge skills, Indonesia occupied the 94th position. Indonesia has the advantage of high scientist and engineer availability.

According to one source from the automotive industry who was interviewed by the researcher, the performance of employees in the automotive industry has been good.

However, due to the COVID-19 pandemic, employee performance standards dropped due to the many prohibitions from the government to prevent the spread of the virus. For example, the target for individual sales and the collective sales target for dealers were lowered.

Following the words of the Ministry of Industry (2020), the automotive industry is experiencing increasingly strong competition. Therefore, the competition for employees within the automotive industry is also becoming increasingly competitive. Competition related to automotive industry employees is not only occurring between employees but also with the technological developments that encourage automation, which is important for competitors to remain relevant. Notably, automation is likely to have a very large influence on employee performance in the automotive industry.

Additionally, a skilled workforce is crucial in a knowledge-based economy. However, Indonesia's human capital index level is very low. The shift toward knowledge-based economies which requires skilled workers further encourages the implementation of personal knowledge management (PKM).

The objective of this study was to identify factors that affect PKM among sales officers in the automotive industry. The present study focused on sales officers within the automotive industry in DKI Jakarta because sales officers are believed to have a lot more freedom in planning and implementing their own strategies to reach their goals in comparison to other roles, which are closely related to standard procedures. DKI Jakarta was chosen because it is one of the most progressive cities and the center of many activities. In 2017, nearly 40% of overall automotive sales were made in DKI Jakarta (Rudi, 2018). However, DKI Jakarta fell to second place in the overall sales contribution in 2019 (Antara, 2021).

Personal Knowledge Management

Personal knowledge management (PKM) is the development of knowledge management. Collectively, PKM will contribute to organizational knowledge management because knowledge is a competitive advantage for organizations and individuals (Ahmad et al., 2013). PKM is a set of understandings, skills, and abilities that evolve to make an individual capable of remaining active in organizations and the social world by utilizing the knowledge they acquire and possess (Mittelmann, 2016). It can also be interpreted as the abilities and expertise required for better problem solving, better decision making, and other knowledge-based activities (Hosseingholizadeh et al., 2018). PKM is useful for creating a framework for employees to organize new information, unify, and enrich their respective knowledge to achieve goals and create new knowledge (Cheong & Tsui, 2010). PKM is also based on self-motivation (McLaughlin & Stankosky, 2010).

PKM consists of three manifests, which are solving problem time (i.e., the time used to solve work-related problems) (Giampaoli et al., 2017), use of new knowledge (i.e., utilization of gained information to solve work-related problems) (Kaba & Ramaiah, 2020), and personal performance (i.e., individual performance after gaining and understanding new information) (Payal et al., 2019; Torabi & El-Den, 2017).

Extrinsic Rewards

The forms of compensation obtained by an employee can be in the form of intrinsic rewards or extrinsic rewards (Razmerita, Kirchner et al., 2016; Zhang & Ng, 2012).

Trust

Trust can be interpreted as the willingness to be vulnerable to others' behavior based on the expectation that others would do something favorable for them (Lee et al., 2020; Wang et al., 2019). There are two types of trust: affective-based trust and cognitive-based trust (Holste & Fields, 2010; Zhang, 2014).

Affective-based trust is built through personality characteristics and emotional relationships. Cognitive-based trust is built based on others' abilities, competencies, and reliability. Trust consists of three manifests, which are ability (i.e., belief in others' competence), integrity (i.e., belief in others' fairness and honesty) (Wang et al., 2019), and benevolence (i.e., belief in non-egocentric behavior) (Lee et al., 2020).

Knowledge Sharing

Knowledge sharing is an important aspect in an organization, where every employee has to possess sufficient information and knowledge to make the correct work-related decisions (Wang et al., 2019). Knowledge sharing involves the exchange of knowledge (Razmerita, Phillips-Wren, et al., 2016). Notably, knowledge sharing is not an independent variable. Instead, it is influenced and encouraged by other factors (Rahman et al., 2016). Knowledge sharing can be influenced by personal motivation (Ding et al., 2017) and trust that is built between two or more parties (Sunardi et al., 2015).

Knowledge sharing consists of three manifests, which are individual willingness (i.e., one's will to share knowledge with others) (Ding et al., 2017), communication (i.e., communication methods used to share knowledge) (Wang et al., 2019), and openness (i.e., open behavior to receive information that might be different from existing information) (Al Dari et al., 2018; Marouf, 2015).

Technology Application

Technology application (in this study, information and communication technology) is a system that helps individuals interact with each other using many devices, such as email, video conferencing software, and numerous other tools (Hortovanyi & Ferincz, 2015). Transferring and managing knowledge can be made easier by utilizing technology (Sefollahi, 2018).

There are benefits to implementing information and communication technology. For example, knowledge can become more accessible for many employees throughout organizations, it can encourage sharing knowledge, and it is time and space-efficient (Hortovanyi & Ferincz, 2015).

Learning Behavior

Learning behavior is a set of activities performed by learners in the process of learning, including reading books or materials, answering questions, and much more (Yan & Au, 2019). Learning behavior could also be interpreted as an approach to meaning-oriented, instructed, planned, and emergent learning that an individual takes to learn in a given situation in order to grow and survive in their environment. Learning behavior is associated with organizational achievements and personal growth in skills (Kusemererwa et al., 2020).

Learning behavior consists of four manifests, which are meaning-oriented learning (i.e., understanding work experiences at a deeper level), planned learning (i.e., an approach to obtaining the necessary skills), instruction-oriented learning (i.e., directed learning from others' demands), and emergent learning (i.e., learning from unexpected opportunities that arise) (Kusemererwa et al., 2020).

Trust, Extrinsic Rewards, Knowledge Sharing, and PKM

PKM has four main steps, which can be abbreviated as GUSC (*Get, Understand, Share, Connect*). Among these steps, sharing is the most fundamental step (Assegaff, 2014). In knowledge management itself, sharing knowledge has an important role (Elianto & Wulansari, 2016). Interaction and collaboration between employees can lead to the creation of competent employees (Assegaff, 2017). Motivation, organizational culture, incentives, and access to individuals who have information and knowledge are factors that affect knowledge sharing (Wu & Zhu, 2012; Dari, Jabeen, & Papastathopoulos, 2018; Durmusoglu et al., 2014).

The rewards provided can be in the form of increased salaries, promotions, or bonuses (extrinsic) or can be in the form of praise or recognition (intrinsic) (Nguyen & Malik, 2020). This is in contrast to the opinion of Seba et al. in Dulayami & Robinson (2015), who said that the reward factor in the implementation of knowledge management should be rethought. This was said because rewards have no effect on knowledge management in Central Asia. This notion is similar to the results of research conducted by Tohidinia & Mosakhani (2010), which found that extrinsic rewards did not affect knowledge sharing. According to that research, intrinsic rewards have more influence on knowledge sharing. Notably, the rewards given to employees must be encouraging and goal-oriented. Rewards should be given according to the level of position. Notably, rewards in the form of recognition will sometimes be more meaningful to employees (Tohidinia & Mosakhani, 2010). Giving consistent rewards can encourage the development of team spirit, which can encourage learning through sharing experiences and knowledge (Swift & Hwang, 2013).

When individuals have trust in one another, they are more likely to share knowledge. This notion is supported by research conducted by Elianto & Wulansari (2016), Ng (2020), and Wang et al. (2019). Thus, the knowledge-sharing process can increase the effectiveness of PKM. Moreover, Nguyen & Malik (2020) proved that extrinsic rewards encourage knowledge sharing. This is in contrast to Tohidinia & Mosakhani (2010), who stated that there was no effect of extrinsic rewards on knowledge sharing.

Based on the explanation above, the following hypotheses were formulated:

- H1: Trust has a significant positive effect on knowledge sharing.*
- H2: Extrinsic rewards have a significant positive effect on knowledge sharing.*
- H3: Knowledge sharing has a significant positive effect on PKM.*

Technology Application, Learning Behavior, and PKM

In the research of Liu et al. (2017), the use of technology in learning activities made students more proactive in conducting discussions. Many researchers have stated that the role of technology (both information and communication technology) has great benefits for the implementation of PKM (Dennerlein et al., 2020; Liu et al., 2017; Schmitt, 2019; Värk & Reino, 2020).

The use of Information and communication technology (ICT) by organizations helps them implement knowledge management (Agostini & Filippini, 2019; Meneses-Ortegón et al., 2017; Schmitt, 2019). The application of ICT can help individual learning environments to apply their knowledge management (Meneses-Ortegón et al., 2017). In their book, Pauleen & Gorman (2011) stated that technology is a tool that can be used to make PKM effective. The application of technology can assist individuals in searching, organizing, sharing, recording, storing, and reopening their information and knowledge (Sefollahi, 2018). Technological developments in the era of the industrial revolution 4.0 are growing very rapidly and encouraging digital transformation. Learning through the industrial revolution 4.0 (technology 4.0) is an important aspect (Belinski et al., 2020). One form of the industrial revolution 4.0 is the increasingly widespread use of the internet. The existence of the internet has made it easier for people to conduct certain activities in various ways, from watching movies to reading, listening to music, taking online classes, and getting certification. Internet use also influences the field of education and learning activities. Notably, some learning activities use social media to enhance learning (Jarrahi et al., 2020).

Furthermore, the COVID-19 pandemic has also encouraged people to use technology. The pandemic has forced people to conduct activities at home and limits the space for people to move, which makes them rely on the use of technology. In the world of learning, the use of technology has been shown to positively affect a person's learning behavior in activities such as searching, reading, and browsing the internet (Ho et al., 2010) while also encouraging individual performance (Kapo et al., 2020). It is important to note that Indonesia's education technology industry has continued to grow since 2013 (The World Bank, 2020). With easy access to information and knowledge due to the use of the internet, an individual or employee can take advantage of this situation to increase their knowledge by learning. Adapted from The Jakarta Post (2020), Harvard University provides facilities for people who want to develop their knowledge during the quarantine period by providing free classes.

In 2017, McKinsey Global Institute (Bughin et al., 2017) estimated that 14% of all working people worldwide should improve their abilities before the year 2030. The COVID-19 pandemic encourages changes in one's learning behavior, namely in seeking, obtaining, and understanding information and knowledge to become new knowledge that integrates their existing knowledge (Kusemererwa et al., 2020; Yan & Au, 2019).

Based on the explanation above, the following hypotheses were formulated:

H4: The application of technology has a significant positive effect on learning behavior.

H5: Learning behavior has a significant positive effect on PKM.

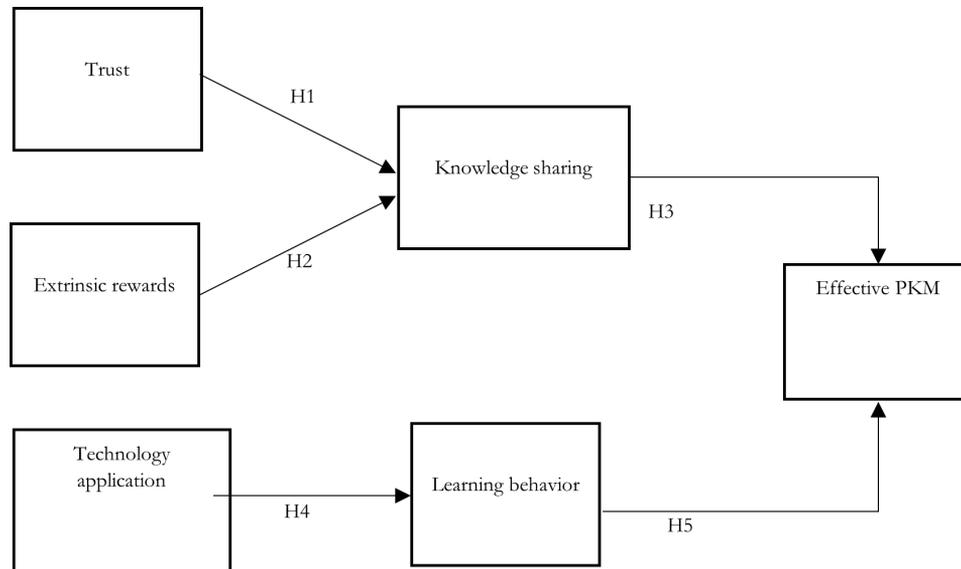


Figure 1. Research Model

Research Methodology

This research was conducted using a mixed method that involved both quantitative and qualitative methods. The quantitative method involved a survey, with questionnaires being used to collect respondents' data. Moreover, qualitative methods were used in the form of semi-structured interviews. Semi-structured interviews were used for triangulation to validate the collected data. By using a mixed method, a more complex research question can be formulated to collect broader data and evidence (Campbell & Yin, 2018). The utilized sampling technique can be referred to as non-probability sampling in the form of purposive sampling, where the sample was handpicked by the researcher and deliberately selected (Kothari, 2004). Purposive sampling was chosen to gather data and information from the determined respondents' characteristics and provide better data and information for this study.

The criterion for respondents was having worked in sales within the automotive industry for at least 1 year. This study surveyed multiple companies in the automotive industry in DKI Jakarta. In this study, the value of r was determined as 0.150 according to the number of respondents ($n=115$), with a confidence level of 90%. The 90% confidence level was chosen because the amount of data obtained in this study was relatively small (Hair et al., 2010). The reliability test used the Cronbach's alpha method, with the condition that the Cronbach's alpha value is > 0.7 . Hypothesis testing involved model testing using partial least square structural equation modeling (SEM PLS). Model testing using SEM PLS consists of both inner model testing and outer model testing. The criteria of the accepted hypothesis were $t \text{ count} > 1.65$ and $p\text{-value} < 0.1$.

Table 1.
Trustworthiness Criteria

Criterion	Strategy
Credibility	Triangulation Prolonged engagement Member check
Transferability	Thick description Purposive sampling
Dependability	Audit trail
Confirmability	Reflexivity Triangulation

Trustworthiness

In this study, trustworthiness was measured using four criteria: credibility, transferability, dependability, and conformability. Triangulation was used to prove the credibility of the results and gathered data. The triangulation phase applied several semi-structured interviews involving three experts, which are business leaders in the automotive industry that keep up with knowledge management development. This study also checked the data transcripts and themes with the respondents (member check). Prolonged engagement by observing several respondents up close was also performed in this study.

This study also gathered data from several companies in the automotive industry to generalize the gathered data. At least eight companies participated in this study. Moreover, all of the participants were based in DKI Jakarta. This step measured the transferability of this study.

This study used an audit trail performed by an independent researcher to assess the accuracy of the data and process. After a thorough analysis, the independent researcher agreed that the analysis process of the present study was in line with the model. Independent researcher also stated that this study's model could be replicated and would find similar results if it were to be conducted in another city.

The confirmability of this study was proven by findings that were not motivated or influenced by researchers' opinions. The researchers' position was neutral in every aspect. Triangulation was also conducted for the findings. In conclusion, this study was found to be trustworthy following measurements based on four criteria: credibility, transferability, dependability, and confirmability.

Results and Discussion

Among the results of the validity test, there was one invalid indicator, R7. This indicator was not included in the model test with SEM PLS. The results of the SEM PLS also found several invalid indicators, namely LB1, KS1, KS2, KS3, and KS8. According to Kante et al. (2018), the criteria for the outer model test are as follows: (1) convergent validity with the condition that the AVE value is > 0.5; (2) internal consistency reliability with the condition that the composite reliability value is > 0.7.

Trust is a very influential aspect of knowledge-sharing activities. By having trust among employees, employees will also be more open with their co-workers. Thus, they will be more willing to share information and knowledge.

Additionally, when employees trust each other, they are also certain that the information and knowledge provided will not be misused through plagiarization. The statements of the experts further proved that the trust formed will reduce a person's egocentric nature, resulting in a greater desire to share and help one's co-workers. Furthermore, experts' statements on the importance of forming and growing a sense of trust within a company are also one of the suggestions or aspects that must be considered. Thus, companies should establish facilities and infrastructure to help build a sense of trust among their employees. Furthermore, the experts explained the role of trust in knowledge sharing.

“Sales employees are not afraid that all of their strategies and knowledge will be imitated and plagiarized because they feel that their abilities are good and not all of their co-workers can imitate the same strategy.”

However, extrinsic rewards do not encourage the formation of knowledge sharing among sales employees in the automotive industry. This can be caused by respondents not caring about the form of rewards they will receive if they share information and knowledge with their colleagues. After further in-depth analysis, respondents did not expect much in return for sharing their information and knowledge with co-workers.

Thus, it can be interpreted that the respondent will be happy if he or she will receive any form of reward (e.g., money, bonus, praise, recognition, etc.). If they do not get any reward, this will not be a problem. This could be due to the influence of a sense of trust between coworkers (automotive sales employees). Since employees have a strong sense of trust, they do not need additional encouragement to help each other and share with their colleagues. Sales officers in the automotive industry are closely linked to personal sales performance. By successfully selling as many products as possible, the commission or rewards they will receive also increase in size. Furthermore, three experts explained the role of rewards in KS

“Aspects of rewards in the extrinsic form will be more closely related to aspects of motivation and employee performance. Meanwhile, the knowledge-sharing aspect is more strongly influenced by personal and group culture. Because if employees want to do well (by sharing information and knowledge), then they will not expect anything in return. Rather than rewards, the maturity of each employee is more likely to take charge in knowledge sharing.”

It can be said that knowledge sharing is closely related to all steps of PKM, which is GUSC (Get, Understand, Share, Connect). Each of these steps can take advantage of knowledge sharing to obtain, understand, share, and connect the information and knowledge owned. The behavior of sales officers who are open to all new information and knowledge also represents an opportunity for them to effectively carry out PKM. In this context, sales officers can receive new information and knowledge, even if it does not necessarily benefit them. The behavior of sales employees tending to share information and knowledge indirectly represents their desire to learn and increase their value.

Sales officers also feel that they have the freedom to share their information or knowledge. This is because sales officers are free to share with colleagues or supervisors by forming discussion forums. With the formation presented in a discussion forum, the implementation of PKM can be carried out even further. The form of communication and discussion can help sales employees form a better mindset so that they can solve their work problems independently. Furthermore, two experts explained the use of KS in PKM.

“By sharing knowledge, a standard will be formed among sales employees. Therefore, each individual is encouraged to meet these standards. For example, in today's era, digital marketing is very crucial. One of the employees shared their knowledge about the application of digital marketing, so their colleagues were also encouraged and began to use digital marketing. By doing knowledge sharing, sales officers are increasingly encouraged to learn independently.”

Table 2.
Respondent Demographics

	n	%
Time working at the current place		
< 1 year		
1 year	17	14.8
2 years	9	7.8
3 years	24	20.9
4 years	13	11.3
5 years	11	9.6
< 5 years	11	9.6
	30	26.1
Time working at other places		
< 1 year		
1 year	11	9.6
2 years	10	8.7
3 years	24	20.9
4 years	23	20
5 years	12	10.4
< 5 years	12	10.4
	23	20

Table 3.
Data Processing Results

	Hypotheses	t table	t count	P value	Result
H1	Trust has a significant positive effect on knowledge sharing	1.65	8.776	0.000	Accepted
H2	Extrinsic rewards have a significant positive effect on knowledge sharing	1.65	0.966	0.334	Not accepted
H3	Knowledge sharing has a significant positive effect on personal knowledge management	1.65	2.392	0.017	Accepted
H4	The application of technology has a significant positive effect on learning behavior	1.65	5.081	0.000	Accepted
H5	Learning behavior has a significant positive effect on personal knowledge management	1.65	3.016	0.003	Accepted

In the current digital era, companies in the automotive industry are applying technology in their daily routine activities, which include the activities of sales officers. There are technologies provided to sales employees, such as Wi-Fi, employee portals or websites, and ICT. This technology is provided by the company to be used by sales employees. Sales officers stated that they had utilized the technology and facilities provided by the company to assist them in doing their jobs and improving their performance. The application of technology has a great influence on the learning behavior of sales officers. The application of technology can make it easier for sales officers to access new information and knowledge for themselves. This is not only useful to get information, but sales officers also used technology to share information and knowledge with their colleagues. This makes it easier for sales officers to obtain information and knowledge that increases their self-worth. With the convenience of this technology, all activities are at the fingertips of sales officers. Due to this convenience, sales officers are more eager to find new information and knowledge. With these facility, it is hoped that sales officers will be more diligent and regularly seek useful new information and knowledge that increases their value, which can subsequently improve their performance. Furthermore, three experts explained the relationship between technology application and learning behavior.

“Technology is very influential and will be especially so in the future. Fast and easy movement is increasingly desired by many people. Thus, sales officers must adopt the application of these technologies. However, it does require adjustment. Because before the pandemic occurred, the application of technology was not too intense to perform. By utilizing technology, learning activities will be easier to do.”

Due to the convenience of technology, the learning behavior of a sales officer can change. The easier it is to obtain information and knowledge, the more untrue information and knowledge will be found. Therefore, the sales officers do not accept all of the information and knowledge they receive.

Sales officers attempt to comprehend the information and knowledge they obtain. Sales officers who actively assess their performance and set achievement targets can use technology to gain new knowledge or skillsets to achieve their targets. Learning behavior will certainly affect the styles or habits of sales officers when carrying out effective PKM. The behaviors or learning habits of an employee will affect how they seek or obtain information, process that information, and utilize it. Furthermore, such behaviors or learning habits affect how sales officers shape their perceptions of the information and knowledge they obtain during their work or interactions with co-workers. Learning behavior can also determine a more appropriate and accurate style for each sales officer to effectively carry out PKM. Furthermore, three experts explained the relationship between learning behavior and PKM.

“Personal behavior affects itself. Certainly, learning behavior affects independent learning. Independent learning activities themselves are indeed influenced by the behavior of each. So it can be said that learning behavior and independent learning are interrelated.”

In addition to several variables that have been mentioned in this study, the experts agreed that the aspects that will affect independent learning activities (i.e., PKM) most are the personal willingness and desire of each sales employee. If sales officers do not want to grow, then they cannot remain relevant in the automotive industry. The disciplined nature of an employee can also consistently encourage others to continue to grow and increase their value.

Organizational culture also has a major influence on the habits of employees learning independently. With an organizational culture that strives to improve and increase knowledge, sales officers who are members of the company must inevitably follow that culture. Additionally, some experts also agreed that leadership also encourages the formation of independent learning. A good leader can encourage sales officers to improve themselves for the company and themselves.

Table 4.
Content Analysis of Semi-Structured Interview with Respondents

Variable	Composition	Informant 1 (2 years)	Informant 2 (5 years)	Informant 3 (10 years)
Trust	Belief in ability, honest, and not selfish	<i>..I don't feel rivaled, it is for the success of the branch as well... but a bit hesitant if have to share with other branches.</i>	<i>...should observe, copy, and modify. Every person will show different outputs.</i>	<i>...will always share my knowledge with whoever it is.</i>
Extrinsic reward	Financial compensation	<i>...I don't expect extrinsic rewards; it's more for my satisfaction.</i>	<i>..if my shared knowledge is useful for others, I feel happy.</i>	<i>...I share without expecting anything.</i>
Knowledge sharing	Openness and willingness to share	<i>...when needed to, I found new information and knowledge. Whatever I found, I kept it first before sharing them.</i>	<i>..Others' experiences are also a great lecture...</i>	<i>Mutual sharing also leads to personal development.</i>
ICT use	Use of ICT	<i>In the pandemic era, technology helps in accessing information and knowledge.</i>	<i>Technology developments make us need to always improve and learn; it also helps in doing our job.</i>	<i>...need to follow and update on trends to keep relevant. It also helps in the marketing channel.</i>
Learning behavior	Understanding, experience, and planning	<i>...need to have the right target.</i>	<i>...learns to reach a target. Daily works are also learning.</i>	<i>...learning from daily work is better than reaching a target.</i>
Effective PKM	Knowledge used to increase performance	<i>Information and knowledge are not accepted as they are. They should be processed.</i>	<i>..this job demands us to keep updated and stay relevant. Whether you want it or not, we need to learn.</i>	<i>Flexible and innovative behavior makes you want to explore and learn more.</i>

Conclusion

This study attempts to provide an understanding of factors that affect PKM effectiveness. The results of this study have significant implications for PKM. To the best of the researchers' knowledge, no existing studies have examined the factors affecting PKM effectiveness. In this regard, the present research has revealed two such factors: knowledge sharing and learning behavior. Knowledge sharing and learning behavior were also found to be encouraged by other factors through trust, rewards, and technology application.

Trust was found to be the most fundamental aspect of knowledge sharing among sales employees. The higher the level of trust among sales employees, the more open they will be to sharing information and knowledge without having the fear of their information and knowledge being misused. This finding resonates with Evans et al. (2019), Holste & Fields (2010), Kmieciak (2020), and Ng (2020). Extrinsic rewards do not have a significant effect on encouraging sales employees to share their knowledge, which is in line with Al Dari et al. (2018).

Since sales employees have no obligation to share, this sharing activity is based on a sense of volunteerism. Additionally, sales employees feel a sense of pride because they can set an example or share success stories with their colleagues, which is a more meaningful reward. This finding contradicts that of Nguyen & Malik (2020), who found that extrinsic rewards encourage employees to share knowledge. Notably, knowledge sharing encourages the formation of PKM. With the implementation of knowledge sharing, sales employees can be motivated to learn more because they learn from experiences and knowledge that bring success from their colleagues. However, there has been no research examining this relationship to date.

The application of technology provides convenience and efficiency for sales employees to seek information and knowledge. This finding is in line with Kusemererwa et al. (2020) and Yan & Au (2019). Technology application makes learning activities easier to perform. Especially in the pandemic era, the application of technology is coercive and will affect the learning behavior of sales employees by making them more open to the situation. Learning behavior will affect the independent learning (i.e., PKM) of a sales employee. PKM is an activity based on the behavior of each sales employee. The planned learning format is more suitable for sales employees because they should have a target before they begin learning. This finding is relatively new since to the best of the researchers' knowledge there is no research examining this relationship. In a semi-structured interview with experts, leadership was found to be one aspect that can encourage the formation of PKM among sales employees. A leader must be able to help and encourage subordinates to want and continue to grow. Not only leadership, but the willingness and personal desire of an employee also become primary aspects of PKM. If an employee does not have the willingness and desire to learn and become better, then they cannot remain relevant in an increasingly competitive workforce.

This study offers insights for automotive companies on building PKM for effective implementation. A semi-structured interview with one of the experts also found that automotive companies should create learning behavior coercively. The coercive aspect implies that automotive companies should create and stage the learning environment for sales officers. Moreover, automotive companies could increase their activities and regulations related to knowledge management. Furthermore, they could create and facilitate more discussion forums among employees, to be arranged by each branch head. As previously stated, technology is helping employees learn and share information freely. Thus, automotive companies could invest in technology to help their employees.

Although this study offers new insights, these findings should be interpreted with caution since this study only used a small sample within the industry. Thus, the generalization of the findings requires future inquiry. This study was also limited to automotive companies that implemented knowledge management at the head office level but not at the dealer (branch) level.

References

- Agostini, L., & Filippini, R. (2019). Organizational and managerial challenges in the path toward Industry 4.0. *European Journal of Innovation Management*, 22(3), 406–421. doi: 10.1108/EJIM-02-2018-0030
- Ahmad, M. S., Ismail, S., & Hassan, Z. (2013). Emerging personal intelligence in collective goals: Data analysis on the bottom-up approach from PKM to OKM. *Journal of Knowledge Management*, 17(6), 973–990. doi:10.1108/JKM-08-2013-0313
- Al Dari, T., Jabeen, F., & Papastathopoulos, A. (2018). Examining the role of leadership inspiration, rewards and its relationship with contribution to knowledge sharing: Evidence from the UAE. *Journal of Workplace Learning*, 30(6), 488–512. doi:10.1108/JWL-11-2017-0105
- Antara. (2021). *Penjualan Mobil Terbesar, Jawa Barat Kalabkan DKI Jakarta*. <https://otomotif.tempa.co/read/1190387/penjualan-mobil-terbesar-jawa-barat-kalabkan-dki-jakarta/full&view=ok>
- Asian Development Bank. (2014). *Innovative Asia: advancing the knowledge-based economy*.
- Assegaff, S. (2014). Pengaruh Finansial dan Non-Finansial Reward terhadap Niat dan Perilaku Karyawan dalam Knowledge Sharing. *Jurnal Manajemen Teknologi*, 13(3), 290–303. doi: 10.12695/jmt.2014.13.3.4
- Assegaff, S. (2017). Evaluasi Pemanfaatan Media Sosial sebagai Sarana Knowledge Sharing. *Jurnal Manajemen Teknologi*, 16(3), 271–293. doi: 10.12695/jmt.2017.16.3.4
- Barkhordari, S., Fattahi, M., & Azimi, N. A. (2019). The impact of knowledge-based economy on growth performance: Evidence from MENA countries. *Journal of the Knowledge Economy*, 10(3), 1168–1182. doi: 10.1007/s13132-018-0522-4
- Belinski, R., Peixe, A. M. M., Frederico, G. F., & Garza-Reyes, J. A. (2020). Organizational learning and Industry 4.0: Findings from a systematic literature review and research agenda. *Benchmarking*, 27(8), 2435–2457. doi: 10.1108/BIJ-04-2020-0158
- Ben Hassen, T. (2020). The state of the knowledge-based economy in the Arab world: Cases of Qatar and Lebanon. *EuroMed Journal of Business*, 16(2), 129–153. doi: 10.1108/EMJB-03-2020-0026
- Bughin, J., Batra, P., Chui, M., Manyika, J., Ko, R., Sanghvi, S., Woetzel, J., & Lund, S. (2017). Jobs lost, jobs gained: Workforce transitions in a time of automation. McKinsey Global Institute, December, 1–160. <https://www.mckinsey.com/featured-insights/future-of-organizations-and-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages>
- Campbell, D. T., & Yin, R. K. (2018). Case study research and applications: Design and methods (C. Neve, K. DeRosa, G. Dickens, & S. Oney (eds.); 6th ed.). *SAGE Publications*. doi: 10.1177/109634809702100108
- Cheong, R. K. F., & Tsui, E. (2010). The roles and values of personal knowledge management: An exploratory study. *VINE Journal of Information and Knowledge Management System*, 40(2), 204–227.
- Dennerlein, S. M., Tomberg, V., Treasure-Jones, T., Theiler, D., Lindstaedt, S., & Ley, T. (2020). Co-designing tools for workplace learning: A method for analysing and tracing the appropriation of affordances in design-based research. *Information and Learning Science*, 121(3–4), 175–205. doi:10.1108/ILS-09-2019-0093

- Ding, G., Liu, H., Huang, Q., & Gu, J. (2017). Moderating effects of guanxi and face on the relationship between psychological motivation and knowledge-sharing in China. *Journal of Knowledge Management*, 21(5), 1077–1097. doi: 10.1108/JKM-10-2016-0439
- Dulayami, S. T. H., & Robinson, L. (2015). The individual and the collective: Factors affecting knowledge sharing in Saudi Arabian companies. *Journal of Documentation*, 71(1), 198–209. doi: 10.1108/JD-09-2014-0121.
- Elianto, W., & Wulansari, N. A. (2016). Building knowledge sharing intention with interpersonal trust as a mediating variable. *Jurnal Manajemen Teknologi*, 15(1), 67–76. doi: 10.12695/jmt.2016.15.1.5
- Evans, M. M., Frissen, I., & Choo, C. W. (2019). The strength of trust over ties: Investigating the relationships between trustworthiness and tie-strength in effective knowledge sharing. *The Electronic Journal of Knowledge Management*, 17(1), 19–33. <https://issuu.com/academic-conferences.org/docs/ejkm-volume17-issue1-article866>
- Giampaoli, D., Ciambotti, M., & Bontis, N. (2017). Knowledge management, problem solving and performance in top Italian firms. *Journal of Knowledge Management*, 21(2), 355–375. doi: 10.1108/JKM-03-2016-0113
- Ho, L. A., Kuo, T. H., & Lin, B. (2010). Influence of online learning skills in cyberspace. *Internet Research*, 20(1), 55–71. doi: 10.1108/10662241011020833
- Holste, J. S., & Fields, D. (2010). Trust and tacit knowledge sharing and use. *Journal of Knowledge Management*, 14(1), 128–140. doi: 10.1108/13673271011015615
- Hortovanyi, L., & Ferincz, A. (2015). The impact of ICT on learning on-the-job. *The Learning Organization*, 22(1), 2–13. <https://doi.org/10.1108/TLO-06-2014-0032>
- Hosseingholizadeh, R., Sharif, A., & Kouhsari, M. (2018). PKM tools for developing personal knowledge management skills among university students. *International Journal of Information Science and Management*, 16(1), 89–103.
- INSEAD, The Adecco Group, & TATA Communication. (2019). *The Global Talent Competitiveness Index 2019: Entrepreneurial Talent and Global Competitiveness*.
- Jarrahi, M. H., Reynolds, R., & Eshraghi, A. (2020). Personal knowledge management and enactment of personal knowledge infrastructures as shadow IT. *Information and Learning Science*, September. doi: 10.1108/ILS-11-2019-0120
- Kaba, A., & Ramaiah, C. K. (2020). Predicting knowledge creation through the use of knowledge acquisition tools and reading knowledge sources. *VINE Journal of Information and Knowledge Management Systems*, 50(3), 531–551. doi: 10.1108/VJIKMS-07-2019-0106
- Kante, M., Kipchumba Chepken, C., & Oboko, R. (2018). Partial Least Square Structural Equation Modelling Use In Information Systems: An Updated Guideline Of Practices In Exploratory Settings. *Kabarak Journal of Research & Innovation*, 6(1), 49–67. <http://eserver.kabarak.ac.ke/ojs/>
- Kapo, A., Mujkic, A., Turulja, L., & Kovačević, J. (2020). Continuous e-learning at the workplace: The passport for the future of knowledge. *Information Technology and People*, 34(5), 1462–1489. doi: 10.1108/ITP-04-2020-0223
- Kemenperin, H. (2020). *Industri Otomotif Semakin Kompetitif, Laju Kinerjanya Terus Dipacu. Kemenperin. Go. Id.* <https://www.kemenperin.go.id/artikel/22063/Industri-Otomotif-Semakin-Kompetitif,-Laju-Kinerjanya-Terus-Dipacu>
- Kmiecziak, R. (2020). Trust, knowledge sharing, and innovative work behavior: Empirical evidence from Poland. *European Journal of Innovation Management*, 24(5). doi: 10.1108/EJIM-04-2020-0134

- Kothari, C. R. (2004). *Research Methodology: Methods & Techniques* (2nd ed.). New Age International.
- Kusemererwa, C., Munene, J. C., Laura, O. A., & Balunywa, J. W. (2020). Individual learning behavior: Do all its dimensions matter for self-employment practice among youths in Uganda? *Journal of Enterprising Communities*, 14(3), 373–396. doi: 10.1108/JEC-02-2020-0012
- Lee, Y. L. A., Malik, A., Rosenberger, P. J., & Sharma, P. (2020). Demystifying the differences in the impact of training and incentives on employee performance: Mediating roles of trust and knowledge sharing. *Journal of Knowledge Management*, 24(8), 1987–2006. doi: 10.1108/JKM-04-2020-0309
- Liu, C. H., Wang, J. S., & Lin, C. W. (2017). The concepts of big data applied in personal knowledge management. *Journal of Knowledge Management*, 21(1), 213–230. doi: 10.1108/JKM-07-2015-0298
- Marouf, L. (2015). Employee perception of the knowledge sharing culture in Kuwaiti companies: Effect of demographic characteristics. *Libres*, 25(2), 103–118.
- McLaughlin, G., & Stankosky, M. (2010). Knowledge has legs: Personal knowledge strategies shape the future of knowledge work and knowledge management. *On the Horizon*, 18(3), 204–212. doi: 10.1108/10748121011072654
- Meneses-Ortegón, J. P., Jové, T., Fabregat, R., & Uribe-Ríos, M. Y. (2017). *Knowledge management for the co-creation of resources for high ability students. Proceedings of the European Conference on Knowledge Management, ECKM, 2, 673–682.*
- Mittelmann, A. (2016). Personal knowledge management as basis for successful organizational knowledge management in the digital age. *Procedia Computer Science*, 99, 117–124. doi: 10.1016/j.procs.2016.09.105.
- Ng, K. Y. N. (2020). The moderating role of trust and the theory of reasoned action. *Journal of Knowledge Management*, 24(6), 1221–1240. doi: 10.1108/JKM-01-2020-0071
- Nguyen, T. M., & Malik, A. (2020). Cognitive processes, rewards and online knowledge sharing behaviour: The moderating effect of organisational innovation. *Journal of Knowledge Management*, 24(6), 1241–1261. doi: 10.1108/JKM-12-2019-0742
- Pauleen, D. J., & Gorman, G. (2011). *Personal Knowledge Management: Individual, Organizational, Social Perspective*. Gower Publishing Limited.
- Payal, R., Ahmed, S., & Debnath, R. M. (2019). Impact of knowledge management on organizational performance: An application of structural equation modeling. *VINE Journal of Information and Knowledge Management Systems*, 49(4), 510–530. doi: 10.1108/VJIKMS-07-2018-0063
- Rahman, M. S., Mat Daud, N., Hassan, H., & Osmangani, A. M. (2016). Effects of workplace spirituality and trust mediated by perceived risk towards knowledge sharing behaviour. *VINE Journal of Information and Knowledge Management Systems*, 46(4), 450–468. doi: 10.1108/VJIKMS-06-2015-0033
- Razmerita, L., Kirchner, K., & Nielsen, P. (2016). What factors influence knowledge sharing in organizations? A social dilemma perspective of social media communication. *Journal of Knowledge Management*, 20(6), 1225–1246. doi: 10.1108/JKM-03-2016-0112
- Razmerita, L., Phillips-Wren, G., & Jain, L. C. (2016). Advances in knowledge management: An overview. *Intelligent Systems Reference Library*, 95(December 2019), 3–18. doi: 10.1007/978-3-662-47827-1_1
- Rudi, A. (2018). *Hampir 40 Persen Penjualan Mobil Nasional Hanya di Jakarta - Jabar. https://otomotif.kompas.com/read/2018/08/09/150807015/hampir-40-persen-penjualan-mobil-nasional-hanya-di-jakarta-jabar*
- Schmitt, U. (2019). Decentralizing knowledge management: Affordances and impacts. *Electronic Journal of Knowledge Management*, 17(2), 114. doi: 10.34190/EJKM.17.02.002

- Sefollahi, N. (2018). The importance of ICT on knowledge management in organizations. *Journal of Fundamental and Applied Sciences*, 10(2), 431–448. doi: 10.4314/jfas.v10i2.31
- Sunardi, O., Tjakraatmadja, J. H., & Bangun, Y. R. (2015). Human capital traits and informal knowledge sharing: The role of reciprocity norm, mutual trust, and cultural interpretation perspective. *International Journal of Knowledge Management Studies*, 6(2), 123–135. doi: 10.1504/IJKMS.2015.071759
- Swift, P. E., & Hwang, A. (2013). The impact of affective and cognitive trust on knowledge sharing and organizational learning. *Learning Organization*, 20(1), 20–37. doi: 10.1108/09696471311288500.
- The Jakarta Post. (2020). *Harvard University offers 67 free online courses for those in quarantine*. <https://www.thejakartapost.com/life/2020/04/16/harvard-university-offers-67-free-online-courses-for-those-in-quarantine.html>
- Tohidinia, Z., & Mosakhani, M. (2010). Knowledge sharing behaviour and its predictors. *Industrial Management and Data Systems*, 110(4), 611–631. doi: 10.1108/02635571011039052
- Torabi, F., & El-Den, J. (2017). The impact of knowledge management on organizational productivity: A case study on Koosar Bank of Iran. *Procedia Computer Science*, 124, 300–310. doi: 10.1016/j.procs.2017.12.159
- Värk, A., & Reino, A. (2020). Practice ecology of knowledge management—connecting the formal, informal and personal. *Journal of Documentation*, 77(1), 163–180. doi: 10.1108/JD-03-2020-0043
- Wang, W. T., Wang, Y. S., & Chang, W. T. (2019). Investigating the effects of psychological empowerment and interpersonal conflicts on employees' knowledge sharing intentions. *Journal of Knowledge Management*, 23(6), 1039–1076. doi: 10.1108/JKM-07-2018-0423
- World Bank Group. (2020). Human Capital Project Report 2019.
- Yan, N., & Au, O. T.-S. (2019). Online learning behavior analysis based on machine learning. *Asian Association of Open Universities Journal*, 14(2), 97–106. doi: 10.1108/aaouj-08-2019-0029
- Zhang, M. J. (2014). The impacts of trust and feelings on knowledge sharing among Chinese employees. *New England Journal of Entrepreneurship*, 17(1), 21–28. doi: 10.1108/neje-17-01-2014-b003
- Zhang, P., & Ng, F. F. (2012). Attitude toward knowledge sharing in construction teams. *Industrial Management and Data Systems*, 112(9), 1326–1347. doi: 10.1108/02635571211278956