Abstract—In this globalization era, companies are required to keep learning and changing. In the process of changing, companies need to be adaptive and innovative. Therefore, a company needs to cultivate and maintain its knowledge. Among other ways, it can be achieved by encouraging the process of knowledge sharing within the company. Hence, this study aims to know the perception of the employee regarding knowledge sharing. An assessment of employee perceptions toward knowledge sharing was conducted by using questionnaires for employees in three consulting companies in Indonesia, namely Pusilkom UI, Altrovis and Usmart. This study concludes that the factors that encourage knowledge sharing are the intrinsic factors rather than the extrinsic factors. Organization can drive the success of knowledge sharing by providing supporting facilities.

Index Terms—Knowledge, knowledge sharing, employees, perception, consulting companies.

I. INTRODUCTION

Knowledge management is a significant competitive advantage for a company [1]. According to Eid [2], knowledge is important in the long-term sustainability of an organization. Good knowledge management also delivers a successful and timely outcome [3].

One of the most important processes of knowledge management is knowledge sharing [1]. According to Aulawi et al. [4], the most important part of knowledge management within the company is to encourage employees to share their knowledge. A knowledge sharing process also increases the knowledge accumulation within the company. In addition, the success of knowledge sharing will enhance the workers’ ability, thus making the organization’s performance better [5]. According to AlMa’aitah [6], an organization will find difficulties to maximize their value if they do not understand about knowledge sharing.

Although many organizations have realized the importance of knowledge sharing, they often get the challenges to implement knowledge sharing. Sometimes the members of the organization are reluctant to share their knowledge [1]. Another problem for implementing knowledge sharing is the employees are reluctant to accept the knowledge from the others [4]. From the management side, sometimes they do not know how to encourage their employees to share their knowledge.

In order to make knowledge sharing can run successfully, organizations need to consider the perception of their employees about knowledge sharing in order to alleviate the gap between the companies’ management and the employees. Therefore, this study aims to determine the employees’ perception of IT consulting company on knowledge sharing. We expect that we can improve the process of knowledge sharing in IT consulting companies in Indonesia.

II. THEORETICAL BACKGROUND

A. Knowledge Sharing Definition

Knowledge sharing is one of the essential knowledge management processes. All companies who want success need to encourage its members and partners to share their strategic knowledge, such as consumers, competitors, markets, and the various aspects related to its business environment [7]. According to [8], knowledge sharing is the exchange of information, skills, ideas, and opinions through collecting and donating process. Collecting knowledge can be defined if someone consults to their colleagues to obtain the intellectual property of others. While donating is defined as a communication process that involved the intellectual property of others. While donating is defined as a communication process that involved the intellectual property of others. According to [9], knowledge sharing is an interaction between people through the framework, institutions, laws, norms, ethics, behavior, and habits that voluntarily in the form of knowledge interaction. Knowledge sharing can be divided into four types, namely knowledge sharing in individual context, knowledge sharing in team context, knowledge sharing in organizational context and knowledge sharing in inter-organizational context.

B. The Benefits of Knowledge Sharing

Knowledge Sharing is implemented in various fields. In a project-based organization (PBO), knowledge sharing is necessary to avoid unnecessary reinvention. Since the experience that has been gained in one project can be used in other projects [9]. According to [10], a company that incapable to manage their knowledge will have a tendency to repeat the same mistakes. The lack of knowledge sharing in an organization also leads to waste cost and time.
According to [11], project-based organizations work on standards mechanisms. They must be competent to respond the changing of environment to achieve economies of scale, perform organizational development, and promote the organization. To address these challenges, project-based organizations need to carry out the knowledge sharing. However, the most challenge faced by project-based organizations is how to maintain the knowledge of each project.

C. Employees Perceptions of Knowledge Sharing

Employee perceptions can influence the success factors of knowledge sharing because it affects the trust among employees [10]. According to [12], there are six perceptions of employees that important to be measured related to knowledge sharing. These perceptions are the current state of knowledge sharing practice, the activities, the technologies used, the benefits, the motivation factors, and the hindering factors perceived by the employees.

III. METHODOLOGY

This research was conducted by distributing the questionnaires to three consulting companies, namely: Pusilkom UI, Altrovis, and Smart Solution. Considering the small size of employees in these three IT consulting, this research used saturated sampling method, where all the members of the population are used as samples [13].

The knowledge sharing aspects that we investigated in this research adopting the work of [12], which comprises of six categories, namely: current state of knowledge sharing practice, knowledge sharing activities, technology used in knowledge sharing, motivation factors, benefits of knowledge sharing, and hindering factors of knowledge sharing. Table I shows these aspects and their respective number of questions.

<table>
<thead>
<tr>
<th>Code</th>
<th>Category</th>
<th>#Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1-A7</td>
<td>Current state of knowledge sharing practice</td>
<td>7</td>
</tr>
<tr>
<td>B1-B5</td>
<td>Knowledge sharing activities</td>
<td>5</td>
</tr>
<tr>
<td>C1-C5</td>
<td>Technology used in knowledge sharing</td>
<td>5</td>
</tr>
<tr>
<td>D1-D5</td>
<td>Motivation factors</td>
<td>5</td>
</tr>
<tr>
<td>E1-E10</td>
<td>Benefits of knowledge sharing</td>
<td>10</td>
</tr>
<tr>
<td>F1-F9</td>
<td>Hindering factors of knowledge sharing</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>41</td>
</tr>
</tbody>
</table>

Table I shows the questionnaires structure.

The questionnaire is a set of statements that should be filled by respondents. We used 4-points Likert scale as follow: 1 – do not agree, 2 – somewhat agree, 3 – agree, 4 – strongly agree.

IV. ANALYSIS

A. Respondents

Total respondent for this study is 59 people. The compositions are 25 people (42%) from Pusilkom UI, 24 people (40%) from Altrovis, and 10 people (17%) from Usmart.

B. Validity and Reliability Test

Validity and reliability test of the questionnaire is needed to determine the quality of the data. Validity and reliability in this study are examined using Statistical Package for the Social Sciences (SPSS) version 11.

Validity test conducted to know whether our instrument could measure the concept or not [14]. If the r value (Corrected Item - Total Correlation (CI - CT)) is positive and greater than the value of r table, the question is valid. R table for the total sample of 59 (df = 57) with a significance value 0.05 is 0.2564.

Reliability test is an indication of the stability and consistency of the measurement tool. Reliability can be seen from Cronbach Alpha (CA) value. Based on Sekaran [14], if the Cronbach alpha value is less than 0.6, the reliability is bad; around the range of 0.7, the reliability is acceptable; and if more than 0.8, the reliability is good. The result of validity and reliability test results can be seen in Table II.

<table>
<thead>
<tr>
<th>Category Item</th>
<th>CI - CT</th>
<th>Item CI - CT</th>
<th>CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current state of knowledge sharing practice</td>
<td>0.750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Sharing Activities</td>
<td>0.813</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology used in knowledge sharing</td>
<td>0.806</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation Factors</td>
<td>0.764</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benefits of knowledge sharing</td>
<td>0.907</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindering factors of knowledge sharing</td>
<td>0.878</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table II, it can be seen that the question with code a1 is not valid. Therefore, items a1 was excluded from further analysis.

C. Employees Perceptions related to Knowledge Sharing

In order to analyze our collected data, we used descriptive analysis by calculating mean of each item that will be interpreted with range described as follows: 0 – 0.49 is strongly disagree, 0.5 – 1.49 is disagree, 1.5 – 2.49 is somewhat agree, 2.5 – 3.49 is agree, 3.5 – 4 is strongly agree.

Here are the findings of our research:

1) Current state of knowledge sharing practice

For the question with a2 code, in which employees are given a statement that they support the idea of applying
knowledge management in their company, the average value for this statement was 3.34, which means the average employees agree with the idea for applying knowledge management in their company.

For the question with a3 code, in which employees are given a statement that there are existing knowledge sharing activities in their company, the average value for this statement was 2.58, which means the average employees agree that there are existing knowledge sharing activities in their company.

For the question with a4 code, in which employees are given a statement that there are management support for encourage knowledge sharing in their company, the average value for this statement was 2.93 which means the average employees agree that there are management support for encourage knowledge sharing in their company.

For the question with a5 code, in which employees are given a statement that they feel the culture of knowledge sharing, the average value for this statement was 2.75 which means the average employees agree about the existing culture of knowledge sharing within the company.

For the question with a6 code, in which employees are given a statement that there are awards to individuals who conduct knowledge sharing, the average value for this statement was 2.27 meaning that employees somewhat agree when it is said that there are awards to individuals who conduct knowledge sharing.

For the question with b3 code, in which employees are given a statement that employees perform brain storming, the average value for this statement was 1.73, which means the average employees agree that they did a brain storming.

For the question with b5 code, in which employees are given a statement that employees follow the community of practice within the organization, the average value for this statement was 2.31, which means the average employee somewhat agree that they did the sharing through the community of practice.

From the description of the knowledge sharing activities that have been implemented, the most dominant activity is sharing is done through the portals, while knowledge sharing activities that are rarely followed by the employees are video conferencing and community of practice.

3) Technology Used in Knowledge Sharing
For the question with c1 code, in which employees are given a statement that the Internet and Intranet help them to share knowledge, the average value for this statement was 3.49, which means the average employee agree that the average employees agree to this statement.

For the question with c2 code, in which employees are given a statement that video conferencing helps them to share knowledge, the average value for this statement was 2.81, which means the average employees agree to this statement.

For the question with c3 code, in which employees are given a statement that knowledge portal (repository) helps them to share knowledge, the average value for this statement was 3.71, which means the average employees strongly agree to this statement.

For the question with c4 code, in which employees are given a statement that collaborative software helps them to share knowledge, the average value for this statement was 3.03, which means the average employees agree with this statement.

For the question with c5 code, in which employees are given a statement that collaborative software helps them to share knowledge, the average value for this statement was 3.39, which means the average employees agrees with this statement.

From the description of the technology that helps the employees to share knowledge, the most popular technology used is the portal (repository). While, the rarest technology used is video conference.

4) Motivation Factors
For the question with d1 code, in which employees are given a statement that recognition motivates employee to share their knowledge, the average value for this statement was 2.64, which means the average employees agree to this statement.

For the question with d2 code, in which employees are given a statement that the promotion motivates employee to share their knowledge, the average value for this statement was 2.68, which means the average employees agree to this statement.

For the question with d3 code, in which employees are given a statement that the desire to improve the work process motivates employee to share their knowledge, the
average value for this statement was 3.24, which means the average employees agrees with this statement.

For the question with d4 code, in which employees are given a statement that the desire to manage time better motivates employee to share their knowledge, the average value for this statement was 3.08, which means the average employees agree with this statement.

For the question with d4 code, in which employees are given a statement that the existing of effective communication channels motivates employee to share their knowledge, the average value for this statement was 3.07, which means the average employees agree with this statement.

From the description above, the factor that motivates employees the most to perform knowledge sharing is the willingness to improve the work processes.

5) Benefits of Knowledge Sharing

For the question with e1 code, in which employees are given a statement that knowledge sharing helps for making better decisions, the average value for this statement was 3.22, which means the average employees agree to this statement.

For the question with e2 code, in which employees are given a statement that knowledge sharing helps for enhancing capabilities (skills) and competence, the average value for this statement was 3.41, which means the average employees agree to this statement.

For the question with e3 code, in which employees are given a statement that knowledge sharing helps for increasing individual productivity, the average value for this statement was 3.39, which means the average employees agree with this statement.

For the question with e4 code, in which employees are given a statement that knowledge sharing helps for increasing group productivity, the average value for this statement was 3.41, which means the average employees agree with this statement.

For the question with e5 code, in which employees are given a statement that knowledge sharing helps for cultivating creativity and innovation, the average value for this statement was 3.15, which means the average employees agree with this statement.

For the question with e6 code, in which employees are given a statement that knowledge sharing helps for increasing work motivation, the average value for this statement was 3.20, which means the average employees agree to this statement.

For the question with e7 code, in which employees are given a statement that knowledge sharing helps for increasing job satisfaction, the average value for this statement was 3.10, which means the average employees agree to this statement.

For the question with e8 code, in which employees are given a statement that knowledge sharing helps for promoting the organization as a learning organization, the average value for this statement was 3.10, which means the average employee agrees with this statement.

For the question with e10 code, in which employees are given a statement that knowledge sharing helps for maintaining knowledge within the organization, the average value for this statement was 3.37, which means the average employee agrees with this statement.

In short, it can be seen that almost all of the benefits are perceived by the employees.

6) Hindering Factor for Knowledge Sharing

For the question with f1 code, in which are given a statement that the lack of trust in the management hinder knowledge sharing, the average value for this statement was 2.42, which means the average employee somewhat agree to this statement.

For the question with f2 code, in which are given a statement that the lack of team work hinder knowledge sharing, the average value for this statement was 2.17, which means the average employee somewhat agree to this statement.

For the question with f3 code, in which are given a statement that the lack of trust in co-workers, hinder knowledge sharing, the average value for this statement was 2.64, which means the average employee agrees with this statement.

For the question with f4 code, in which are given a statement that the lack of trust in the management hinder knowledge sharing, the average value for this statement was 2.40, which means the average employees somewhat agree with this statement.

For the question with f5 code, in which are given a statement that the lack of training hinder knowledge sharing, the average value for this statement was 2.37, which means the average employee somewhat agree with this statement.

For the question with f6 code, in which are given a statement that the lack of communication channels hinder knowledge sharing, the average value for this statement was 2.81, which means the average employee to agree to this statement.

For the question with f7 code, in which are given a statement that the lack of encouragement hinders knowledge sharing, the average value for this statement was 2.63, which means the average employee to agree to this statement.

For the question with f8 code, in which are given a statement that the lack of guidelines and rules hinder knowledge sharing, the average value for this statement was 2.63, which means the average employee agrees with this statement.

For the question with f9 code, in which are given a statement that lack of understanding about the system hinder knowledge sharing, the average value for this statement was 2.80, which means the average employees agree with this statement.

From this discussion, it is considering that the factors that hinder knowledge sharing the most are the lack of communication channels and the lack of understanding to use the system.
V. RESEARCH IMPLICATION

Based on our investigation in the three consulting companies, we concluded that these companies do not feel knowledge sharing culture. Considering this, we propose some actions that the companies can carry out to improve the knowledge sharing culture as follows:

- Organizations need to conduct activities related to knowledge sharing, for example by carrying weekly meeting for sharing among employees.
- Promoting the use of portal to share knowledge by creating a portal that can be used easily, integrated with daily activities, as well as giving the Standard Operating Procedure for the use of the portal.
- Improving employees awareness to knowledge sharing as intrinsic factors within individual are considered having more influence than external factors from the company. This is also consisten with the work of [15].
- Providing adequate communication channels and training to employees to use the system.

VI. CONCLUSIONS

Perception of employees perceived regarding to knowledge sharing is essential to know. From these measurements, it can be seen the condition of knowledge sharing in the company at a particular point of time. From this research, it was found that the factors which encourage knowledge sharing is dominate by the intrinsic factors of the employees, rather than the extrinsic factors. For driving the success of knowledge sharing, companies can provide supporting facilities both physical such as repository or non-physical facilities, such as training for the employees.

REFERENCES


Achmad Nizar Hidayanto is Head of Information Systems/Information Technology Department, Faculty of Computer Science, Universitas Indonesia. He obtained his PhD in Computer Science from Universitas Indonesia. His research interests are related to information systems/ information technology, e-learning, information systems security, change management, distributed systems and information retrieval.

Ika Chandra Hapsari obtained her bachelor degree in information systems from Faculty of Computer Science, Universitas Indonesia. Her research interests are related to information systems, change management and data mining.

Ika Alfina is a lecturer in Faculty of Computer Science, Universitas Indonesia. She obtained her master degree in computer science in 2007 from Faculty of Computer Science, Universitas Indonesia. Her research interests include software engineering, image processing and soft computing.

Yudho Giri Sucayho a lecturer in Faculty of Computer Science, Universitas Indonesia. He obtained his PhD degree from Curtin University of Technology, Australia, in 2005. His research interest are related to information system/information technology such as e-government, IT governance, information security and data mining.