

# Intellectual Capital Empowerment Through Comprehensive Intellectual Capital Management (An Interpretive Accounting Research)

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## Abstract

This study aimed to explore the IC empowerment through Comprehensive Intellectual Capital Management (CICM). This study was conducted using interpretive accounting research (IAR) especially interpretive research (IR) in management accounting. The informants of this study were managers of pharmaceutical companies, ex-managers, observers of pharmacy industry, and researchers of Intellectual Capital (IC). Data analysis technique was performed by stages, i.e. data collection, data reduction, data display, and conclusion. The result of this study indicated that there were three stages in IC empowerment, i.e. knowledge management, innovation management, and intellectual property management. Pharmaceutical companies in Indonesia were averagely still in knowledge management and innovation management stages. Only some big pharmaceutical companies have aimed intellectual property management. Empowerment could be performed on all components of IC (human capital, structural capital, and relational capital) and on all levels of CICM (knowledge management, innovation management, dan intellectual property management). IC empowerment through CICM by interpretive accounting research proved that such non-financial IC research could explore hidden assets and explore non-financial activities that could be used to develop company strategies to reach company goals and improve business performance and competitive advantage.

Keywords: Comprehensive Intellectual Capital Management, Management Accounting, Interpretive Accounting Research

## 1. Introduction

Intellectual capital (IC) according to Bontis et al (2000), IFAC (1998), Marr (2008) consists of Human Capital (HC), Structural Capital (SC), dan Relational Capital (RC). As stated by Hermawan (2013) that according to some study results, IC proves to influence business performance, improve company value, improve organization effectiveness, competitive advantage and also create welfare for companies. Some positive advantages seem not known by managers of pharmaceutical companies. According to a study by Hermawan et al (2012), the managers do not know and understand much about their IC components, do not know how to measure and manage, both IC individually and IC in integrated way. It is strengthened by a study by Sampoerno (2007) that IC management by pharmaceutical companies in Indonesia is still weak. Only 17% of pharmaceutical companies in Indonesia prove that they can compete in export market especially in Southeast Asia.

Meanwhile, IC empowerment efforts must be continuously performed because a difference occurs between the obtained advantage and existing implementation reality. One of IC empowerment efforts can be performed by Comprehensive Intellectual Capital Management (CICM) (Al-Ali, 2003). CICM consists of three stages, i.e. knowledge management, innovation management, and intellectual property management. When observing each existing stage in CICM, this concept is perfect to implement because it is complete for each stage and for each IC component. Such IC empowerment effort will be appropriate if it uses non-financial IC study as an effort to explore hidden assets, explore non-financial activities, communicate value trigger, and recognize company characteristics in CICM stages. By considering the recommendation from Hermawan (2013) that non-financial IC study more uses qualitative research with interpretive as an approach. Therefore, this study aims to explore IC empowerment through CICM using interpretive accounting research.

## 2. Literature Review

### The Resource Based Theory dan An Intellectual Capital View of the Firm

Basic theory used in this study is the resource based theory and an intellectual capital view of the firm (ICV). The resource based theory (RBT) (Wernerfelt, 1984; Barney, 1991) was used in this study because according to this theory, company would obtain competitive excellence and superior performance if it could use company resource, both tangible resource and intangible resource. However, along with developing intangible resource in knowledge economy area, the role of intangible asset is getting big, including IC. Even Belkaoui (2003) states that IC qualification as strategic asset is located on potential relationship between IC and firm performance. It means that IC is strongly related to company performance, both financial and non-financial. Meanwhile, technically ICV states that IC is an important factor for company profit in long-term and company performance in knowledge-based economy (Hsu dan Fang, 2009; dan Kong, 2010). IC also provides an important contribution for performance because its capability in using knowledge resources effectively. As a new theory or view, ICV is expected to provide a higher potential for empirical testing compared to RBV that represents certain narrower aspects connected to company competition excellence. In this way, ICV can be perceived as a complement to understand knowledge-based view broadly, as an effort to improve superior performance (De Castro *et al.* 2011).

### Comprehensive Intellectual Capital Manajemen (CICM)

Meanwhile, some theories regarding IC empowerment and management have been stated by some experts, one of them is Comprehensive Intellectual Capital Manajemen (CICM) by Neirman Al-Ali in 2003. CICM model is a model designed to manage all forms of IC through three stages, i.e. knowledge management, innovation management, and intellectual property management. The thing differentiating this model with other IC management is in the keyword of "comprehensive". It means that Al-Ali (2003) tries to provide a solution to manage IC starting from collecting and exploring knowledge resource, use it for innovation, and use it for company competitiveness and obtaining profit.

The three stages or functions of CICM are the basic of business management that will always exist in each organization. The first stage related to resource providing for operational or production. The second is the continuation of the first stage because in this stage, the existing resources will be changed with various processes to produce valuable asset. In the third stage, the resource that has been valuable will be attempted to be elevated so as to optimize for the purpose of stakeholders.

Based on the business management stage, CICM model tries to connect between business stages and function classification of IC. While the stages of IC management and development consist of:

1. Knowledge resources,
2. Innovation resources and processes,
3. Intellectual property.

In each stage, it is then processed by connecting each stage with IC components (HC, SC, and RC). The following are examples of connection between each stage of CICM with IC component presented in Table 1.

**Table 1. Types and Stages of CICM Model-Based IC**

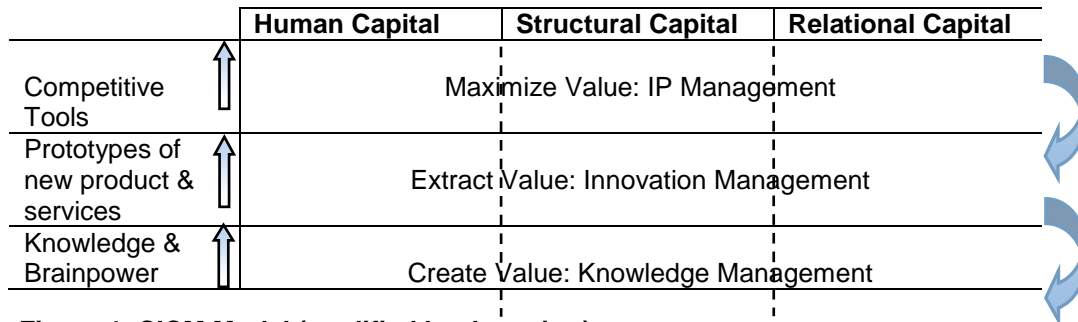
IC Stage of Development	Human Capital	Customer Capital*	Structural Capital
Knowledge Management Stage	Tacit knowledge, experience, brainpower, vision	Experience, knowledge, relations, networks	IT databases, knowledge base, best practices, culture
Innovation Stage	Ideas, product, concept, skills	Ideas, product, concept, feedback, relationship	Work systems, business processes
Intellectual Property Management Stage	Know-how, know why	Brand identity, reputation, strategic alliances	Patents, trademarks, copyrights, trade secrets

\* In this writing, Customer Capital is equalized with Relational Capital

Source: Al-Ali (2003: 64)

Based on Table 1, it can be seen that each stage of IC development is always connected to HC, RC, and SC. In each stage, maybe there are some same examples of resources, but different in context of resource providing and development. For example, experience in knowledge management state for HC and RC. Similarly in innovation management stage, there is ideas that also exists in HC and RC.

If each stage in Table 1 is explained, CICM model will appear as Figure 1.



**Figure 1. CICM Model (modified by the writer)**  
(Source: Al-Ali, 2003: 66)

Based on Figure 1, it can be seen that CICM model used to manage IC on each level in business and each stage will support the next stage. The first step, i.e. creating value by performing knowledge management on knowledge and brainpower. The first step will support the second stage, i.e. extracting value by performing innovation management on prototypes of new products or services. The last or third step is maximizing value on intellectual property management on competitive tools. Through the three stages, the distribution of each stage is clearly observable so that it is expected that overlapping of step will not occur in IC management.

Based on Table 1 and Figure 1, the next steps can be arranged related to management objectives of the three stages of IC management. Table 2 describes that matter.

**Table 2. Management Objectives and Purposes for CICM**

CICM Stage	IC Group	Purpose	Management Objectives
Knowledge Management	Raw knowledge resources	Value Creation	Recognize and leverage the knowledge resources required to sustain the organization's processes
Innovation Management	Innovation processes and resources	Value Extraction	Unleash and Reconfigure innovation resources to create new ways of doing business and new products faster
Intellectual Property Management	Intellectual property	Value Maximization	Enable the use of intellectual property to enhance the organization's competitive positioning and revenue generation

**Source: Al-Ali (2003: 66)**

Each stage will bring different management objective consequence. The objectives provide a guide for management to measure performance in each stage. The first objective is to manage good information flow and knowledge resource, i.e. to facilitate organizational learning and maintain all things related to organization (value creation). The main objective is to change a set of management objectives, i.e. in providing main knowledge resource for organization by connecting the objectives and facilitating knowledge distribution to encourage the existence of organization knowledge. Investment in this stage is not like in the other two stages because investment in this stage is a very long-term investment and unrelated to finance directly. Management innovation stage has main objective, i.e. extracting value from all existing knowledge resource for organization using innovation process. IC management challenge in this stage is how to manage innovation resource by strengthening the network inside and outside company so as to rearrange various things related innovation to gain trust from market. The last

stage, i.e. managing intellectual property is optimizing value on stakeholders using legal company property as competitiveness and marketing tools.

### **3. Research Method**

This study explored IC empowerment through CICM using interpretive accounting research. The intended meaning is the meaning of what felt and experienced by key informants on CICM concept and competitive advantage. To understand the meaning, the researcher used qualitative interpretive research approach (Strauss and Corbin, 2003) and more specifically as interpretive accounting research (IAR) or interpretive research (IR) in management accounting (Lukka and Modell, 2010). Thus, analysis unit of this study was opinion or comment of key informant on CICM concept and competitive advantage.

Data were collected in three methods, i.e. in-depth interview, focus group discussion (FGD), and documentation. In-depth interview was conducted with each informant. FGD was conducted by selecting some appropriate informants and documentation was conducted by archiving some secondary data, both existing in pharmaceutical companies and in other sources. With this method, complete data were obtained according to intended purpose of this study.

Informants of this study were managers of pharmaceutical companies (KK, ER, DS, AP informants), supervisor (NA informant), ex-managers (YAS informants), IC researchers (ZF and WH informants), and pharmacy industry observers (UA and DH informants). Thus, in this study, there were ten key informants. Key informants from pharmacy manager element consisted of HRD manager, operational or production manager, and marketing manager. The use of key informants from manager element was absolutely implemented because it was related to three components of IC, i.e. human capital that was a representation of HRD, structural capital that was a representation of operational or production department, and RC as a representation of marketing department. It was in accordance with a study by Hermawan (2013) that the three managers had important roles in IC management in pharmaceutical companies. The determination of informants in this study was conducted by judgment and snowball (Marshall, 1996). Judgment was conducted at the beginning before conducting field research, while snowball was conducted when field research was ongoing.

Data validity test was conducted by credibility, transferability, dependability, and confirmability test (Senton, 2004). Credibility test was conducted by method triangulation, data source triangulation, theory triangulation, and triangulation among researchers (Hussein, 2009; Rahardjo, 2010). Transferability test was conducted by arranging qualitative report that was understandable, clear, complete, trustworthy, and parsimony because in qualitative research, the researcher could not guarantee the level of transfer of a study on other situations. Dependability or auditability test was conducted by implementing audit process on all research processes. In this study, dependability test was conducted by senior researchers, i.e. Prof TS, Prof SS, and Dr. BP. Confirmability test was conducted by asking for comments from other IC researchers, i.e. IU, IU, SLWI, MBW, and SH.

Data analysis technique was implemented when the study was ongoing. It was in accordance with recommendation from Miles and Hubberman (1984) regarding data analysis technique for qualitative research. While the stages of data analysis were data collection, data reduction, data display, and conclusion. In data collection stage, the researcher collected all data obtained from in-depth interview, FGD, and documentation. After that, the researcher implemented data reduction by reducing some data that were not appropriate with the aim of this study. In this stage, the researcher used coding in data so that the data were divided into same themes according to the aim of this study. The next process was data display, i.e. the researcher presented the data that was reduced into same themes in form of narration so that the researcher could draw conclusion easily as the last stage in data analysis of qualitative research.

### **4. Result and Discussion**

To obtain study result that was appropriate with the aim of this study, the researcher implemented some research stages. The first stage was combining all data obtained and conducting credibility test, i.e. method triangulation and data source triangulation, at once. In this stage, the researcher collected data and testing the data validity at once. For example, the result of interview with informant A was cross-checked with the opinion of informant B or the

opinion of informant A was cross-checked with the result of documentation or the data of interview result and documentation were cross-checked with the data of FGD. It was quite possible because the qualitative researcher was the research instrument itself. In this stage, the researcher also conducted theory triangulation by comparing the result of this study and the theory used, for example, the knowledge-based theory (Sveiby, 2001), and the intellectual capital view of the firm (Brooking, 1996; Edvinsson and Malone, 1997). The second stage was implementing coding on the result of first stage process. Implementing coding facilitated the researcher to arrange same theme or concept as a result of this study. In coding process, some data were eliminated or unused because they were irrelevant with the aim of this study. While the result of this study form same data or concept from the result of data analysis are the following:

**Table 1. Same Concept or Theme**

<b>Coding</b>	<b>Same Concept or Theme</b>
A	Position of Pharmaceutical companies in Indonesia in CICM Stages
B	IC Empowerment in CICM Concept
	B1. IC Empowerment in Knowledge Management Stage
	B2. IC Empowerment in Innovation Management Stage
	B3. IC Empowerment in Intellectual Property Management Stage

**Date Source: Data Display of Coding and Data Reduction Result**

**A. Position of Pharmaceutical companies in Indonesia in CICM Stages**

When conducting interview and discussion with the informants related to CICM stages, the researcher explained first regarding management objectives of each CICM stage. The objective of knowledge management stage was to recognize and use knowledge resources needed to maintain organization process. The objective of innovation management stage was to accelerate and configure innovation resources to create new methods and new products more rapidly. The objective of intellectual property management stage was to use intellectual property to improve organization competitive position and obtain profit.

Based on description on objectives of CICM stages, the researcher asked the informants regarding which stage the average position of pharmaceutical companies in Indonesia was in. The informants responded that at that time, pharmaceutical companies in Indonesia were averagely in knowledge management and innovation management stage. Only some big pharmaceutical companies that had aimed for intellectual property management. Small and medium pharmaceutical companies were still in innovation management and knowledge management stage. It was because Indonesian pharmacy products were still *me too* products and *maklon* products. Regarding this matter was explained by informant ER as the following:

“If it is observed from the model, in my opinion, averagely still in the second stage, innovation management, and the first stage, knowledge management. Those aiming for the third stage are still few, only some in Indonesia, maybe the big ones have thought about that. But the low and medium classes are still in level 1 or level 2. Because the characteristic of products of pharmaceutical companies in Indonesia is still *me too* and *maklon* or producing medicines in other’s factory.” (Excerpt of interview with informant ER)

The statement from informant ER was the same as the opinion from informant KK, and clarified by informant AS, as the head of industry department of GP Pharmacy Indonesia, East Java. According to him, many pharmaceutical companies in East Java were still like Micro, Small, and Medium Enterprises. All activities were performed in one location, meaning that the facility for production, office, warehouse, and other was limited.

“In East Java, there are many that are medium and low level. Even there are some that are similar to Small and Medium Enterprises. So, all becomes one. For cooking, living room, bedroom still become one, that’s the parable. But, PT “I” and PT “BF” are already good.” (Excerpt of interview with informant AS)

Opinion similarity among informant ER, KK, and AS was as a part of data validity especially in credibility data of data source triangulation.

Based on the opinions of the informants, it could be known that pharmaceutical companies in Indonesia were averagely in knowledge management and innovation management stage. In knowledge management was mostly performed by low-class or small pharmaceutical companies. It was because the objective of knowledge management stage was to recognize and use knowledge resources and intangible assets needed to maintain organization process. The existence of words "maintain organization process" was the reason why the informants perceived that in this stage, companies still implement internal repair so that the business process could keep going or the company could survive.

The informants also perceived that pharmaceutical companies in innovation management were medium-level pharmaceutical companies. It was because the objective of innovation management stage was to accelerate and configure innovation resources to create new methods and new products more rapidly. The existence of words "innovation and new methods" was perceived by the informants that the companies started to find "exit" by new methods to develop products. Internal management was getting better so that the company effort to "exit" started to be implemented by innovation and new methods.

The informants also perceived that pharmaceutical companies in intellectual property management stage were high-level pharmaceutical companies. It was because the objective of intellectual property management was to use intellectual property to improve organization competitive position and obtain profit. The existence of words "intellectual property" caused the informants perceiving that the companies had had leader products and good brand image for products and companies. Similarly with words "organization competitive" meaning that the company was ready to compete in national, Asian region, and international level.

The informants' perception could not be blamed, but it was not always right. It could not be blamed because based on text meaning of objectives of each CICM stage stated that. The opinion was not always right because based on in-depth interview with the informants, it obtained some examples that high-level pharmaceutical companies was also not good in managing HC. For example, pharmaceutical company BF that could be categorized as upper medium level company, but the HC management was not properly organized. Similarly, its organization culture (SC) still did not indicate a professional culture. Its RC also did not always use marketing-oriented strategies, but mostly used sales-oriented strategies.

## **B. IC Empowerment Through Comprehensive Intellectual Capital Management (CICM) Model**

To come at a conclusion about the IC empowerment, the researchers conducted an analysis of data at the time of data collection, coding, data reduction, and data analysis along with the theory that supports the interpretation, i.e., the knowledge-based theory (Sveiby, 2001), and the intellectual capital view of the firm (Brooking, 1996; Edvinsson and Malone, 1997). It is also intended as an attempt to do a credibility test or the credibility of the data, especially on the triangulation theory. According to the knowledge-based theory, companies need to manage knowledge in the knowledge-based economic era as it is today. To do so, companies need knowledge transfer or knowledge conversion also. Alternatively, it can also performs knowledge management. Meanwhile, an intellectual capital view of the firm stated that IC is an important factor for long-term corporate profits and performance in the era of knowledge. Therefore, the IC must be empowered. In this study IC empowerment is conducted by CICM model (Al-Ali, 2003)

Efforts to manage and empower the IC component can be through the CICM. CICM concept consists of three stages, namely knowledge management, innovation management, and intellectual property management. Each stage has a different purpose. Stages of knowledge management aims to create value (value creation), the stages of innovation management aims issued value (value extraction), and the stages of intellectual property management aims to maximize the value (value maximization).

### **B.1. IC Empowerment in Knowledge Management stage**

The purpose of the knowledge management stage is to identify and exploit knowledge resources needed to sustain the process of organization or business processes as well. Keywords of this objective are to recognize, utilize, and maintain. This means, that at this stage the company is still in the stage of recognizing prior knowledge resource or intangible assets

owned by companies then use it in order to survive in the business process. Thus, it can be said also that at this early stage the company is required to perform business processes properly in accordance with generally accepted procedures or companies that are in this stage it is still doing the internal management arrangements.

At that time, FGD also discussed about the characteristics of the pharmaceutical companies that are at this stage of knowledge management. FGD implementation intention is to acquire and sharpen the data as well as to test the credibility particularly triangulation method, triangulation of source, and triangulation among researchers. Pharmaceutical companies will be easier to identify the empowerment that must be done in optimizing the IC by identifying the characteristics of companies that are in the stages of knowledge management. In the opinion of the FGD participants that pharmaceutical companies that get the knowledge management level is still limited of its resources whether its human resources, finance and capital. Consequently, the development of HC, is still limited to general theories applicable because it can not bring in outside consultants who can give planned and well business advises. That is, the pharmaceutical companies in this stage indeed does not require high competence or only have a standard competency, that is only to produce the drug alone.

The characteristics of existing HC pharmaceutical company in CICM stages can also be mapped by its hierarchy. If it is still in the knowledge management stage called personnel, whereas if it in the management innovation stage is called human resource, and that in the intellectual capital stages is called human capital. Following is AP opinion:

"If in terms of function, the tendency of the company is still at the knowledge management level of the HC is still functioning as personnel. Then when they climbed into innovation management stage then it will turn into a human resources function and eventually became human capital for intellectual property management "(AP's Opinion on FGD)

Characterize in the SC component is internal management which is still not well ordered. It means, at this stage, the company's management is still not able to perform a variety of innovations and creations because it is still confused with management of intern problems and also keep the company survive. Resource limitations, such as engines, space, and equipment led to the inability of the company to produce drugs that are detailed and need special handling, such as injection, infusion, and sterile medicines. When viewed from the product, certainly not the leader product because the company still seeing the development of the market, about what products are well sold in the market, after that they will be produce *me too* product.

Characteristic associated with the RC owned by pharmaceutical company at this knowledge management stage is the pharmaceutical market share in the lower middle level. That is, naturally formed so. Relationships with doctor only appear in sub-urban doctors or lower-level health workers such as midwives. The use of advertising media as a promotional tool also has not been conducted. Similarly, the CSR activities, which are still limited even rarely conducted.

Based on the opinions of the informants, it may be an attempt to empower HC, SC, and RC owned by pharmaceutical companies. Some of empowerment that can be done is by the improvement in the process of employee recruitment or recruitment system that must be done in the right way, the standard of training shall be provided to the employee. Other efforts can be done with the existing knowledge sharing within the company, the minimum equipment that must be met to the satisfaction of CPOB for drug production, an improvement over the company's organizational culture and also the relationship between doctors which should be improved.

This is perceived by the informants about IC empowering knowledge management in stages. Empowerment which is still in its prior stages conducts internal reforming and also recognizes its knowledge resources. The beginning process which has to be empowered is revamping employee recruitment management system. The next process is to meet the standards that must be met by pharmaceutical companies related to the number of pharmacists. The standard to be met is a minimum of three pharmacists.

The next is to optimize the empowerment training that followed by employees. Usually what happens is the pharmaceutical company sent one of his employees for training or seminars, that employee must share knowledge gained to other employees. This is called

knowledge transfer. Knowledge sharing can also be done by dividing the experience possessed by senior employees to junior employees. Knowledge sharing and knowledge transfer can use the concept of SECI (Socialization, externalization, Combination, Internalization). It is important for the repairing and improvement of knowledge, skills, and attitude which is owned by the employees. Empowerment can also be done by giving satisfaction to strengthen the employee's loyalty.

Empowerment also shall be done on the SC component in knowledge management stages. Empowerment on a lean organizational structure should make pharmaceutical companies more efficient and effective in strategic decision making. Although the internal management is not well ordered, pharmaceutical companies must also be able to utilize a variety of intangible assets owned, although it is still very limited. Optimization of empowerment infrastructure, machinery, equipment, and information technology must be able to meet the requirements of CPOB. That is, all the resources and technology organizations should be empowered to meet the drug quality standards appropriate the CPOB requirements.

Empowerment on RC components should also be made at this knowledge management stage. It is usually done is to convince the doctor that *me too* products proprietary have the same qualities as a leader product. Another empowerment is to optimize the cooperation that has been done with other health professionals, or also expand cooperation with new users according to the ability of the company.

Based on the above results, the characteristics and the IC empowerment on the knowledge management stage are as follows:

1. The company is still limited in funding and therefore contributes to the development of HC. That is, HC still struggling on its own merits so can not innovate because there is no input or advice of a consultant or has not been able to do a study out of the company. HC also still not be able to innovate because they dwell on the tasks management and company's internal housekeeping.
2. HC held still very standard or do not require high competence. At this stage the employee more positioned as personnel.
3. The product produced was not a pharmaceutical product that is complicated because it takes machinery, equipment, and technology (SC) that meets certain specifications. Product (SC) generated still join the leader product. The company at this stage is still waiting for what product demanded by the market. Once the company knows it will be made a product that is *me too* product.
4. The RC's done already segmented into lower middle market share. Similarly, the doctors who become the working partners of pharmacy, will be segmented physician grade C or also suburban doctor, midwives, and health workers in the clinic-polyclinic.
5. HC Empowerment can be improved in the process of employee recruitment or recruitment system should be done in the right way according to the standards of training that must be given to the employee. Empowerment HC can also be done with existing knowledge transfer within the company. Knowledge sharing between experienced employees with new employees, or between senior employees with junior employees.
6. SC Empowerment is conducted in a lean organizational structure optimization in strategic decision making for more efficient and effective. Optimization of empowerment infrastructure, machinery, equipment, and information technology must be able to meet the requirements of CPOB.
7. RC Empowerment can be done by always keeping the physician relationship which must be maintained to be improved and always trying to find the new users from the other health personnel.

Based on these characteristics, the HC empowerment that can be done is the improvement in the process of employee recruitment or recruitment system that must be done in the right way according to the training standards that should be given to the employee. SC Empowerment can be done with minimal equipment procurement to be met to the satisfaction of CPOB for drug production, an improvement over the company's organizational culture, and maintain the quality of the product in accordance with CPOB. RC empowerment can be done by always keeping the physician relationship which must be improved.

Based on the above description, and also based on the meaning of the text on the knowledge management stages purposes, is true that a pharmaceutical company in this stage



still perform a management arrangement, still recognizes and tries to use its limited resources. Because of the limited resources both for HC, SC, and RC, pharmaceutical companies must be able to utilize it's owned to be empowered on its role in supporting the company's operations and performance. The way to do is to knowledge management process. In the process of managing this knowledge, pharmaceutical companies must be able to recognize and utilize the explicit knowledge and tacit knowledge of the company and employees. Explicit knowledge related to visible-knowledge, such knowledge is written, archived and spread in a book or other printed form. Tacit knowledge associated with invisible knowledge, such knowledge in the form of know-how, experience, skills, understanding that employees. In this process of knowledge management, small-scale level pharmaceutical company or below can utilize the explicit knowledge for various purposes, e.g. for the development of employee skills, to improve processes and procedures, as well as materials do networking with other parties. Pharmaceutical companies can also take advantage of tacit knowledge of employees which have to be converted into explicit knowledge. The experience and skills of employees in the form of tacit knowledge can be transformed into explicit knowledge, such as various kinds of rules, operating system procedures, or modules also work to improve the performance of the employee and the company.

Utilization of knowledge can also be done through the interaction of IC components. That is, knowledge transfer between the IC components can be associated with each other. Utilization of knowledge consists of six groups, namely knowledge transfer from HC to RC, knowledge transfer from RC to SC, knowledge transfer from SC to HC, knowledge transfer from the RC to the HC, knowledge transfer from SC to RC, and knowledge transfer from HC to SC. Table 2 describes the utilization of knowledge through the interaction of the IC component.

**Table 2.**  
**UTILIZATION OF KNOWLEDGE THROUGH**  
**THE INTERACTION OF IC COMPONENTS**

Knowledge transfers from HC to RC	Knowledge transfers from RC to SC	Knowledge transfers from SC to HC
Employees who had just finished training or seminars giving advice on market orientation or changes in consumer behavior of pharmaceutical products	The marketing sections, share experiences about what is perceived by the customer about the drug quality or both the packaging and solubility	Operational or production sections provide information about the new rules and regulations that exist in CPOB so training is necessary for the production employees
Knowledge transfers from RC to HC	Knowledge transfers from SC to RC	Knowledge transfers from HC to SC
The marketing sections giving advice on med rep quality when doing presentations with the doctor, and also the quality of the sales team	Operational sections provide training on new technologies that are used for drug database system and also companies customer	Senior managers give an explanation of the organization's strategic objectives plan

Source: Hermawan, 2012.

## **B.2. IC Empowerment in the Innovation Management Stages**

The management purposes of the innovation management stage are to facilitate and re-configure the resources of innovation to create new ways and new products more quickly. There are lots of keywords in the phrase, i.e. smooth, and re-configure, resource innovation, creating new ways, and new products. It means, the company has been able to identify knowledge resources, exploit, even started to accelerate and configure them into the resources of innovation. The company at this stage has begun established in matters of internal management that have started to "come out" to innovate and create new ways and new products.

At the time of FGD also discussed about the characteristics of the pharmaceutical companies in the innovation management stages. By identifying these characteristics, it will facilitate the identification of empowerment that must be done in order to optimize the

company's IC. Some opinions of the FGD participants is the product innovation can be done by reformulating or also by producing the new products. New products in the company concerned, but it already in the pharmaceutical industry. Some are of the opinion that innovation is not only creating new products in the company, but also to develop the business into a conglomerate business.

Characteristic of innovation in this stage is the source of innovation by the company can be derived from the company's consultants or also from the marketing team. Innovation has also been carried out by a separate department, the department of research and development. Innovations are reformulated or also business development towards the healthcare business. Innovation can also be a new product in the company, but in the market has long existed. That is, a new pharmaceutical company to innovate on the drug after the drug is a very good market share. Innovation is not only related to new products are produced, but also about cost efficiency and effectiveness of work.

Based on the opinions of the informants, it can be done an IC empowering in innovation management stages. HC Empowerment on innovation management stage is to provide training that really supports creativity and innovation. The result of knowledge, skills, and attitude of employees increased so as to empower all existing enterprise resources. At this stage, the employee is no longer functioning as personnel, but rather functions as human resources. The knowledge enhancement task can be done with short courses or even sending for special education in college.

Knowledge sharing and knowledge transfer also occurs at this stage, but the existence of a management consulting owned by pharmaceutical company that make the transferred knowledge become more meaningful and useful again. Management consultants will provide advice on a variety of things that exist in pharmaceutical companies, mainly related to human resources management. Knowledge transfer can be done through in-house training and also regular meetings conducted by the Company. This empowerment is what should be used by pharmaceutical companies to improve the competence of its employees.

Meanwhile, the employee of the pharmaceutical company that specifically deals with drug is pharmacist. Surely HC empowerment should also be made for company's pharmacists. This is because the pharmacists who plays an important role in maintaining the quality of products made by the pharmaceutical companies. Indeed, this pharmacist once every five years must renew their competence to collect some credit points that must be met. Such statement was delivered by the informant M:

"So usually like this. These pharmacists in every five years must renew their competence. Well they were first had to go through a competency test, later in the five years they had to collect 60 credits. If they can not collect it then they should follow the competency test again. So from that, the pharmacist should be actively attended seminars. So there is a two points, there is a four points so we should follow and we collect, within five years shall be collected at least 60 points "(*excerpt of an interview with M*)

By constantly updating its competence, it is expected that knowledge, skills, and attitude owned by pharmacists can make pharmaceutical product quality maintained.

Empowerment is not only done on the components of HC, but also about SC owned by pharmaceutical companies. Empowerment can be done by always improving technology, culture, and organizational structure in order to provide an opportunity to constantly innovate and develop ideas on reform. Innovation in the pharmaceutical company has always been at the different department that is research and development department.

Technology has become an important part in the SC empowerment in the pharmaceutical company. This is certainly by the quality of medicines that will be generated. For the development of technological innovation, there are required as required in CPOB or innovation on the company's own desires. DS informant gives an example of rejuvenation machine to be done to meet CPOB standards. As DS informant following statement:

"That's right sir, there must be rejuvenation. For example, the washer bottle pack. First, the wash bottle, the water can be circulated. If the bottle is already on the tube so, it is quite said to be washed like it has been circulated. Now, that the new rules prohibit it. Once used to wash the bottle then the water should be discarded. Well from there then

we should replace the old machines we owned with a new ones according to the rules set by the government "(excerpt of an interview with DS)

Innovation for the development of machinery, equipment, and technology can be caused by the presence of CPOB regulations and also from within the company itself. Innovation of the company can be done on the basis of a top down and bottom up. Top-down approach is usually associated with new machines from overseas suppliers, while that bottom-up usually at the level of production and also in the relationship or marketing. Source of marketing is usually because it is based on customer needs in the market.

Empowerment can be done to the technology, machinery, and equipment is to accept product orders from other companies or by the product term "tolling". It can also be used to help improve the financial performance of the company. As M informant following statement:

"Yes, it could be like that *Sir*. So if for the product itself has been completed, the machine still idling he should receive it "tolling" product. And it can indeed help improve the financial performance. So, to add income, so others should not have to buy the machine again "(excerpt of an interview with M)

SC Empowerment including the aspects of organizational culture. That is, companies began entering or perform the steps in the innovation management has had to change the organizational culture into a culture that is able to absorb and empower creative ideas and innovative employees. To be able to build a culture of innovation, all employees must be able to exchange thoughts and ideas can come from employees.

Empowerment is not only done for HC and SC only, but also to be done on the RC component on innovation management stage. At this stage the RC components are already grow even more than on the knowledge management stage. Empowerment to do at this stage is the use of media or marketing campaign that has begun to be developed by improving relationships with doctors, change the mindset of sales oriented to marketing oriented should have started on the long-term interests. Feedback from customers also have started to be considered and addressed to then performed on a product-related innovation. The use of IT should also have been started for mass marketing. Likewise, the CSR activities have started to do for the community.

The use of appropriate media campaign has become one of the important parts in innovation management stage for OTC products. Similarly, that at this stage the company also has had to begin responds the market needs or complaints as well. For example, if there are complaints on product packaging, it should be quickly addressed by the company for then is performed an innovation on the product. Change of mindset or thinking of sales oriented towards marketing oriented should also be carried out by the company at this stage of innovation management. Company should have a long-term mindset that will have an impact on company performance. By doing marketing oriented so RC empowering will be easier to achieve because of the effort to do branding on the product has begun to appear on the innovation management stage. The use of IT as a medium for promotion and market mediation is also an important part at this stage, including the delivery of sustainable CSR also has to be considered for long-term interests.

Based on the above results, the characteristics and the empowerment of the IC on the stage of innovation management are as follows:

1. The outside company's consultants have started to be used to obtain the innovation process. Source innovation from outside the company apart from the consultant also through marketing team.
2. Innovation and creative ideas have started to grow from within the company, from the employees. That is, a culture of innovation and creative ideas has started to grow at this stage.
3. Innovation of the new or reformulated products has been developed in the research and development department. That is, companies have started using the research and development department to innovate on pharmaceutical products
4. HC Empowerment which can be done is training to grow and develop ideas, creativity, and innovation so it is rising to new ways, new more innovative work systems, and other creative aspects. To that end, the training should be focused on aspects of skill, attitude, and

knowledge. Knowledge empowerment can be done with knowledge sharing between senior employees with juniors, and between experienced employees with new employees. Increasing the number and competence of pharmacists also become the part of the HC empowerment.

5. SC Empowerment which can be done is to empower technology owned and optimize it. Technology or machinery may also be empowered to accept orders from other companies, known as "tolling" products. In addition, cultural empowerment organization towards innovative and creative culture, empowerment of research and development department is also important to do.
6. RC Empowerment which can be done is to use the mass media for optimum imaging products and companies. Strengthening the marketing team to capture innovation in the market to be brought into the company. Empowerment of customer feedback for improvement or product innovation. Empowerment through CSR that is sustainable for the long term.

Based on these characteristics, at this stage the HC empowerment which can be done is training to cultivate and develop ideas, creativity, and innovation giving rise to new ways, new more innovative work systems, and other creative aspects. To that end, the training should be focused on aspects of skill, attitude, and knowledge. Knowledge empowerment can be done with knowledge sharing between senior employees with juniors, and between experienced employees with new employees. Increasing the number and competence of pharmacists also become a part of the HC empowerment. Meanwhile, SC empowerment which can be done is to empower the technology and infrastructure owned by optimizing it. Technology or machinery may also be empowered to accept orders from other companies, known as "tolling" products. In addition, cultural organization empowerment towards innovative and creative culture, empowerment of research and development department is also important to do. RC empowerment which can be done is to use the mass media for optimum imaging products and companies. Strengthen the marketing team to capture innovation in the market to be brought into the company. There is customer feedback empowerment to get improvement or product innovation. RC empowerment at this stage is done through CSR that are still tentative.

Based on the above, and also based on the text's meaning purposes of innovation management stages, the pharmaceutical companies in this stage has begun to find the resources so that innovation can begin to create new ways and new products faster. Pharmaceutical companies in this stage have started out from the internal management problems. That is, internal management is well defined so it can begin to move "out" and do new ways more innovative and creative. Source of pharmaceutical companies innovation is more from marketing team who saw the market and also of the employees. All component of IC namely HC, SC and RC supports the creation efforts for innovation and creativity. HC has begun to develop and empower all knowledge, experience, and skills they have to create new things and new creations. SC also support the creation of innovation to start the growth of a culture of innovation and provide ample opportunity to HC for innovation and creativity. Systems and procedures also provide an opportunity for employees to dare to try new things for the sake of being created new ways more innovative and faster. Likewise, the RC has begun to be able to capture the desires and changes in markets including consumer behavior so as to provide input to management innovation company.

### **B.3. IC Empowerment in Intellectual Property Management Stage**

The purpose of the stages of intellectual property management is to be able to use the intellectual property to improve the competitive position of the organization and earn revenue. When described, there are some key words of the purpose of this stage that is using the intellectual property, improve the competitive position of the organization, and earn revenue. The meaning of "use intellectual property" is the company has to have intellectual property, for example the famous products (branded), images of good companies, have patents, trademarks, copyrights, and high competence and experienced employees. Meanwhile, the meaning of "improving the competitive position of the organization" means the company has a position and will strive to improve its position to the upper level and are also ready to compete with other companies in the same industry at the national level, regional asia, and also international.

Accordingly, the meaning of "earn" is a result of the efforts of a sustained effort by the company to improve and leverage its intellectual property.

At the time of the FGD, also discussed about the characteristics of the pharmaceutical companies in the stages of intellectual property management. By identifying these characteristics it will facilitate the identification of empowerment that must be done in order to optimize the company's IC. Some of the opinion of the FGD participants that the characteristic of the company in the intellectual property management stage is the process of selective recruitment of employees, their competency based human resource management, planning career system, efforts to continue to create brand company and brand product, a good relationship with doctors grade A, and the presence of a great marketing team. At this stage also that the company is able to work together with various parties, including the pharmaceutical companies overseas, human resources management has been doing competency-based human resource management, product innovation has led to the conglomeration in the health business from upstream to downstream, and no longer focus on drug-products.

Based on these characteristics, the empowerment of the IC can be done by pharmaceutical companies in the stages of intellectual property management. HC empowerment at the beginning of the process is when the employee recruitment process as this will affect the next employee development process. If the input is good, it will be easier to develop employees in accordance with the wishes of the company. This is because at this stage, the role of HC should really required to create, develop, and use intellectual property owned to increase the competitiveness of companies. Accordingly, the HC standard on pharmaceutical companies above this level should be really experienced in his field and also has a very good competence. This is certainly in accordance with human resource management competency that has been applied to several major pharmaceutical companies. Similarly, the process of further development of human resources. In the process, it should have a healthy company should be able to plan in career planning system. That all was well planned over each position forward. In this regard, the KK informant give its opinion:

"Ideally, the company is healthy if he never recruit certain positions from the outside. All has been planned through career planning. So that the HR director should know that this position will be retired and the level below will be ready to replace it. And need not be held rolling, the point that the employee knows that the work in this section is like this, if the QC section works like this. So he knows or has a lot of skill or multi-skill. Oh, it is turns out that the A is not suitable in this section but fit in the other sections and developing well. Then he will be forced there and plotted there. Until the highest in the section retired or resigned because there was an offer from another company, we are not confused. So it is that we prepare sir "(Opinion of KK when FGD)

Although there should be a career planning system for HC owned by pharmaceutical companies, it is possible that the quality HC taken from other pharmaceutical companies. This was used to power marketing in the pharmaceutical company. That's what the company strategy in order to achieve intellectual property.

HC Empowerment can also be done by empowering employees' brainware. That is, the company should be able to develop the ability of the brain that is owned by the employees. The results of training, education, and knowledge sharing has been done by the company should be able to be synergy in producing works or new findings both for the system work better, new ways, or innovative products. Thus, an attempt to capture and utilize intellectual property company can be done more easily.

Well, brainware empowerment becomes very important, not least with brain ware owned by marketing personnel. As a reference, the pharmaceutical company marketing personnel Foreign Investment Company (PMA) can be a very good example for HC in intellectual property management stage. This is due to product knowledge owned PMA pharmaceutical company med rep is very nice. They were able to explain much detail as possible, sometimes there is also a doctor who became MR in PMA pharmaceutical company.

HC Empowerment component can also be performed on the pharmacist to maintain product quality. As statements of M informant, which is also a board of GP of Indonesia Pharmaceutical that pharmacists of large pharmaceutical companies can achieve a number

of more than 100 people. With the increasing number of pharmacists in the pharmaceutical companies would be better ensure product quality. The following statement M informant:

"So in the pharmaceutical industry, many pharmacists are absorbed. If it is for a large company it may be up to 100 pharmacists as Dexa Medica group with it may be 100 pharmacists who are there "(*quotation of an interview with M*)

Empowerment at the stage of intellectual property management is not just for the HC components, but applied also to the SC. In the SC component is related to the branded products, patent products, and also the products sold in the market or required by society. Empowerment should be done by pharmaceutical companies to all intellectual property owned through its products. For example, empowerment for ethical products off patent is to convince doctors that the product off this patent has the same benefits to the patent product. This is to be done by pharmaceutical companies if they have a product off patent of leader product. Empowerment on products that have branded this can be via an IP portfolio. For a pharmaceutical company that produces me too on the leader product, empowerment is to convince doctors that its product has the same benefits to the leader product for me too product.

Another SC Empowerment component in the intellectual property management stage is to build and empower its data base system. The system's data base must complete all of the information related to the drug when it is produced and also when marketed and sold. Data base system is certainly very important as database support system that will be very useful for management decision making pharmaceutical companies. In so doing, pharmaceutical companies should be able to build a database system that can be used to manage intellectual property (intellectual property).

Another SC Empowerment components are also corporate culture must change and empowerment at this intellectual property management stage. The corporate culture must change to the professional culture. Empowerment professional corporate culture should be performed on all aspects of each company's activities. The corporate culture that built and empowered to all employees will be the difference between a company that one with another company. This is particularly noticeable when in the "field" to a med rep between the domestic and foreign, including in terms of its facilities.

Build and empower all matters related to the company's activities, such as building a data base system, maintain the quality of products, establishing a culture of professionalism is needed commitment and consistency of the vision and mission of the company which has been formulated previously. This is important because it is related to how the company and all its components can achieve the vision and mission. The steps that have been agreed from the beginning must be implemented in order to achieve the vision of the mission. Commitment and consistency of vision and mission is what should continue to be built and empowered in order to manage management. Several major pharmaceutical companies have implemented the balanced scorecard to map the company's strategy to do with the vision and mission of the target company. The result was remarkable, that there is a significant improvement in the performance of the company.

Empowerment on RC components should also be made at intellectual property management stage. Companies that already at this stage must be able to build and empower the use of information technology (IT) to support all the activities of the company's operations, including in terms of marketing. Performance of pharmaceutical companies including the use of information technology will greatly affect trust the other party, such as a doctor. This relates to the company's brand associated with doctors for marketing ethical products. In the pharmaceutical industry in Indonesia is also a division of grade A, B, C, and D for each company. The company's reputation greatly affect the confidence of others, including foreign investment company that is definitely highly trusted by doctors.

The company's reputation can also be built with different management strategies with other companies. One such strategy is the blue ocean strategy. The essence of the strategy is a strategy to conquer competitors by offering products or services that are not offered by other companies or also make a product or service that does not exist on the market. This is one way that should be built by pharmaceutical companies in the stages of intellectual property management. If pharmaceutical companies in developing and empowering this

strategy, it will be easier to improve the competitive position of the company, and earn as goal of intellectual property management stage. Some pharmaceutical companies are already applying the blue ocean strategy that increases performance. Another strategy is to be built and empowered the branding strategy and branding awareness. Although the strategy is very expensive, in the long run will be very useful and generating high revenues for the pharmaceutical companies.

RC Empowerment for OTC products is to utilize promotional media either print or electronic media. Advertising expenditure reached a great value to be able to achieve the desired return. That is, that the selection of advertising media and also the brand ambassador should be able to lift the OTC product into a product that is easily remembered and appreciated by the public. Giving a drug name that is easy to remember is also important that the products sold in the community.

RC empowerment can also be done in cooperation that has been done by pharmaceutical companies. Cooperation can be done by various parties, at home and abroad. Various interests can be achieved in a variety of such cooperation. For example, cooperation with foreign pharmaceutical companies have patented drug product. Indonesian pharmaceutical company can become a licensee or distributor to market the product patent.

Other RC Empowerment is the aspect of CSR activities undertaken by pharmaceutical companies. CSR conducted by pharmaceutical companies consisting of two events, the event for the purpose of short-term and long-term. Short-term CSR Event for example is working with schools, neighborhood health center, health center for free drug delivery activities, and similar activities. long-term CSR events is more on the formation activities of pharmaceutical company's brand image in order to get the name of the public good, such as cooperation for the award on the best research in the field of pharmacy. CSR activities have to be empowered so as to improve the reputation of pharmaceutical companies for short-term and long-term so that the sustainability the company is maintained.

Based on the above results, the characteristics and the empowerment of the IC on the stages of intellectual property management are as follows:

1. Several big pharmaceutical companies have implemented competency based human resource management and their career planning system. This means that HC management has done well.
2. The company already has a good information technology for the production and marketing databases.
3. good relationship with doctor grade A or doctor leader has been established. This is certainly very beneficial for ethical products of the company because it will be easier to market pharmaceutical products
4. The company has a marketing team and a team of qualified sales force. This is related to how the marketing team was building a good relationship with doctors and KPDM in the hospital.
5. The nominal amount of advertising spending is already very large, by making use of a wide variety of media. CSR activities has been carried out on an ongoing basis. Various forms of cooperation have been carried out by various parties, both inside and outside the country.
6. Empowerment of HC to be done on competency-based human resource management and career planning system that HC can really deliver the best work for pharmaceutical companies.
7. Empowerment of employee brainware, especially in the marketing needs to be done in order to spearhead the sales and marketing of pharmaceutical companies are marketing and also med rep. Likewise, the empowerment to pharmacist can be improved in terms of quantity and quality.
8. SC Empowerment can be done by optimizing the role of branded products, product leader, the product off the famous patent owned by the company. Empowerment can be done with the IP portfolio. Another empowerment in the SC can be done on information technology, machinery, equipment, and also systems that are integrated data base or also electronic data processing (EDP) of the company. Empowerment also be done on corporate culture towards a professional culture. Likewise, the empowerment of vision, mission and strategy through various means of evaluation, for example with a balanced scorecard.

9. RC Empowerment can be done to maximize the company's reputation to convince doctors to ethical products. Empowerment OTC products can be done by optimizing the role of the mass media, CSR activities. Various cooperation can be empowered to various corporate interests.

Based on these characteristics, that at this stage, the empowerment of HC can be done by constantly developing career planning system that has been owned by the pharmaceutical company. If necessary employees (HC) from outside the company, of course, quality, competence, and experience were recruited to be really on top of the average employee in the company. In addition, pharmaceutical companies always improve and develop the knowledge, skills, and brain ware owned by each employee of the company. Meanwhile, the empowerment of the SC can be done by always strive to create a leader in product, brand product, and reputation of pharmaceutical companies. If the resulting product is a product leader but off patent, should try to convince the doctor that the off product is the same benefits of this patent with patent products. The use of information technology to support the operational activities of the company is also a part that should be empowered. Empowerment should also be made to the organizational culture towards a culture of professional organizations including the commitment and consistency to run the company's vision and mission that has been announced previously. RC empowerment can be done by continuing to strengthen the quality of the marketing team and sales force team, strengthen relationships with doctor leaders or the grade A, imaging through the mass media, and perform ongoing CSR.

Based on the above, and also based on the text's meaning purposes of intellectual property management stages, that the pharmaceutical companies in this stage already have intellectual property, such as brand products have started to emerge, the brand image of the company is also well known, including the leader of the company's product. The existence of such a variety of intellectual property, pharmaceutical companies are able to obtain income (superior profit) and also capable of improving the competitive position of the company. At this stage, intellectual property owned by pharmaceutical company is not only associated with the drug alone, but already on other aspects. This means that pharmaceutical companies have a lot to diversify the product or also have a lot of business conglomerates. Diversification of medicinal products is to make the products immunity, dairy, food and beverage supplements, health drinks. The point is products that support health. Business conglomerate of pharmaceutical companies with other businesses that still have relation with the pharmacy and medicine, for example, create a pharmacy, make health clinic. In fact, there are also efforts to conduct pharmaceutical business conglomerate from upstream to downstream, for example by building manufacturer or packer medicine bag, infusion tube, capsule bag, and other pharmaceutical preparations. Pharmaceutical companies already have the intellectual property will be easier to compete and earn revenue. Leader branded product or a product which is very beneficial for the pharmaceutical companies because the existing products more easily remembered by the people, for example when a headache, people will always remember Bodrex or Oskadon. Brand image of the company also greatly affects people's perceptions, such Kalbe Farma products must be good, pharmacies of Kimia Farma definitely complete. Things like this is called intellectual property or intellectual property.

### **C. IC Research with Interpretive Accounting Research**

This IC research is designed with interpretive accounting research as been done by Hermawan (2013). This is done because the purpose of this research is to explore the IC empowerment through CICM. Thus the approach to research carried out in accordance with the purpose of the research is qualitative interpretive research. Indeed, as well as Hermawan (2013) stated that IC research can be classified into two major groups namely the IC research of financial and non-financial. Financial IC research more widely used to assess the financial performance of the company while non-financial IC research more widely used to build or explore the hidden assets for enhanced performance, competitiveness, and prosperity of the company (Hermawan, 2012, 2013, 2014). This division eventually also occur on the research method used. For financial IC research using quantitative research



approaches while non financial IC research using qualitative research approaches including this IAR.

IAR contribution of this research is to know the average position of the pharmaceutical companies in Indonesia in general when viewed from the CICM. The result is the average pharmaceutical company in Indonesia is still at the stage of knowledge management and innovation management. Only a few pharmaceutical companies only exist at the stage of intellectual property management. The results of the research is very likely to be obtained by IAR because researchers conducted in-depth interviews and focus group discussions.

The next contribution of IAR in this research is by obtaining the characteristics of the pharmaceutical companies that are at every stage of the IC, which includes knowledge management, innovation management, and intellectual property management. These characteristics inherent in pharmaceutical companies in accordance with the concept of CICM (Al, Ali, 2003). For example, the characteristics of HC on stage pharmaceutical company in knowledge management is still limited funding and therefore contributes to the development of HC. Similarly, the example of the characteristics of pharmaceutical companies on stage innovation management in the empowerment SC, namely innovation and creative ideas have started to grow from within the company. Similarly, examples of the characteristics of the stages of empowerment RC intellectual property management that several major pharmaceutical companies are already implementing competency-based human resource management and their career planning system. Examples of this IC empowerment characteristics can only be done with IAR. Because according Kong and Ramia (2010), non-financial IC research like this that explores the hidden assets, tacit, non-verbal dimension requires in-depth interviews and also the interpretation of the meaning of the key informant.

IAR in more specific research on interpretive research (IR) in management accounting (Lukka and Modell, 2010). The relation of IR management accounting with this research is that this research successfully explores the non-financial activities in the form of the characteristics of companies in the empowerment of the IC at every stage of CICM that this research is able to produce solutions to improve business performance at every stage of knowledge management, innovation management, and intellectual property management. As Hermawan (2011b) noted that the correlation IC with management accounting practices lies in the non-financial activities and provide useful information for companies to identify hidden assets, measure, communicate the value trigger that is expected to benefit the development of information systems performance measurement and resource allocation in the company.

## **5. Conclusion**

IC Empowerment can be done by CICM through three stages, namely knowledge management, innovation management, and intellectual property management. IC Empowerment through CICM perceived by informants is complete because it starts from the lowest stage to the top stage that is intellectual property management. IC research has produced findings that the average pharmaceutical company in Indonesia is still in the stage of knowledge management and innovation management. Only a few pharmaceutical companies are already at the stage of intellectual property management. When depicted as a triangle, it is divided into three parts. The bottom, and most are pharmaceutical company on knowledge management stage. The middle section is a pharmaceutical company at the innovation management stage. The number of companies at this stage are not as many as the companies at the knowledge management stage. The top part of the triangle must be have little number than two parts below. This section is a pharmaceutical company that is at the intellectual property management stage. Another finding of this research is that empowerment can be performed on all components of the IC (human capital, structural capital and relational capital) and also at all levels CICM (knowledge management, innovation management, and intellectual property management). IC empowerment can be done at all stages of CICM and at all IC components by observing the characteristics of the pharmaceutical companies in each of these stages. Meanwhile, non-financial IC research like this is very possible to be implemented with IAR because they have to understand the meaning of the key informants. Moreover, this IC research should explore the hidden assets

and non-financial activities that can be on the measurement of performance, company resource allocation, performance, and also competitiveness.

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