Linking human capital and enterprise sustainability in Indonesian medium-sized food manufacturing enterprises: the role of informal knowledge sharing practice

O Sunardi

1 Department of Industrial Engineering, Krida Wacana Christian University, Jakarta 11470, Indonesia
oki.sunardi@ukrida.ac.id

Abstract. Medium-sized food manufacturing enterprises in Indonesia are significant in a number of contexts, in terms of their part to the national production (GDP) and their establishment to the employment. In term of their role to national production, manufacturing sector contributes the highest GDP by 85%. In this sector, food manufacturing subsector contributes the highest GDP. Nevertheless, they faced the same common problems: quality of human capital and sustainability issues. Previous government supplementary programs have been established to expand the human capital capability amongst medium enterprises. Adequate amount of fund has been apportioned to develop human capital, though, the medium enterprises sustainability is still in question. This study proposes and examines the human capital role from informal knowledge sharing perspective. By conducting qualitative approach through interviews to four informants in Indonesian medium-sized food manufacturing enterprises, a set of hypotheses is derived from this study for future quantitative study. This study indicates that human capital traits (diverse education background, employee skills, and employee experience) could leverage the practice of informal knowledge sharing. Constructs such as mutual trust and reciprocal intention could play as mediating variables, and cultural interpretation perspective could act as moderating factor to informal knowledge sharing effectiveness. In final, informal knowledge sharing is indicated to play as moderating variable for human capital policy and practice to support enterprise sustainability.

Keywords: human capital, informal knowledge sharing, sustainability, medium enterprise.

1. Introduction

Medium-sized enterprises in Indonesia are significant in a number of contexts, in terms of their part to the national production (GDP) and their establishment to the employment. As twice the economic crisis hit Indonesia in 1997 and 2008, medium enterprises have indicated their ability to endure better than small and large enterprises [1][2]. In term of their role to national production, manufacturing sector contributes the highest GDP by 85%. In this sector, food manufacturing subsector contributes the highest GDP. This underlines the important of manufacturing sector to the development of Medium Enterprises, and the stability of Indonesian economic as a whole.

Previous studies as regards to medium enterprises have revealed that the quality of human capital still become the key problem to most Indonesian MEs [3][4][5]. Adequate amount of fund has been apportioned to many programs to develop human capital within medium enterprises. The programs included of training and development in production, quality management, general management, and entrepreneurship. Nevertheless, sustainability still become a difficult target.
The development of human capital amongst medium enterprises still become the main objective of the Indonesian Ministry of Cooperative, Small, and Medium Enterprises (Kemenekop). The strategic plan stresses that the human capital development programs will be focusing on education and training, in terms of basic production, technical support, entrepreneurship, and managerial development. In agreement with Kemenekop development policy, the Ministry of National Development Planning (BAPPENAS) recommends to increase the negotiation capability of medium enterprises by accelerating technical proficiency and entrepreneurial ability of human capital. The key interest of the plans is to assist medium enterprises to develop and sustain. Three success parameter were grouped from 70 previous findings on the relationship between business success and human capital: profitability, business size, and growth [6]. However, previous findings neglected to see ‘sustainability’ as a criterion of success, while sustainability should be considered as fundamental criterion to any business achievement [7][8][9], especially for Small and Medium Enterprise.

Most of Indonesian enterprises, specifically medium scale enterprises, tend to fully implement what so called “the western human resource management models” in order to manage their human capital [10][11]. The main motivation is to be able to competitive in global competition. Previous study found that the improvement of intense economic actions in the Asia-Pacific zone emphasized the imperfection of today’s Western Human Resource Management (HRM) approaches [12]. The approval of HRM initiatives is rather to management fashion than research, both by practitioner and academics. In fact, today’s HRM models are greatly constructed based on large enterprises in UK and USA [6][12][13].

In fact, people management model and practices cannot be generalized between one nation and another, because each nation has its own environment characteristic, which is different one to another [11][14]. It is observable that the need for comprehensive human capital model in medium enterprises is perceived, since most human capital studies relied on resource-based view of the firms, which examine human using every element of production factor, product life cycle theory, strategic management, financial management and accounting, economics perspective, technology management, and organizational ecology [6][15][16][17][18].

Therefore, this study proposed a more comprehensive model of managing human capital for medium-sized food manufacturing enterprises in Indonesia from knowledge-based perspective. By examining previous studies, this study characterizes essential human capital programs and policies within medium-sized food manufacturing enterprises. These programs and policies are then synthesized to a model that simplifies how human capital can be managed in relation to enterprise sustainability through informal knowledge sharing practices [19].

The structure of this paper is constructed as follows. First, conceptual model regarding the relationship between selected human capital traits and informal knowledge sharing is examined to form the research framework. Second, research framework is then reorganized by addressing the issues concerning with human capital policies and initiatives, with regards to enterprise sustainability. Third, a set of hypotheses is derived by using qualitative approach. The final part of this paper incorporates conclusion and implications for further studies.

2. Human Capital Traits and Informal Knowledge Sharing

Previous work [19] conceptualizes another perspective in knowledge sharing initiative by involving certain human capital traits to informal knowledge sharing activity. The study suggests that particular human capital traits, for example: employee experience, education background, and employee skills will likely influence the effectiveness of informal knowledge sharing. Furthermore, the work provides four major propositions regarding the relationship between these human capital traits and informal knowledge sharing. Thus, this study tries to explore more of the propositions in order to build a research framework. The exploration is piloted by conducting interview to three informants from one leading medium-sized food manufacturing enterprise. The informants consist of individuals from all organizational level: top manager, middle manager, and staff. The use of these different level of employment aims to obtain views from different perspectives.

First proposition discusses that “when individuals in the organization reciprocally focus on building each other’s new skills, the exploration of employee skills amongst individuals affect positively to the informal knowledge sharing process”. The first proposition suggests that knowledge sharing should be
seen from the perspective of individual behavioural intention. ‘Skill’ is defined as “the ability to master the concepts of a discipline or domain, and to apply this knowledge appropriately in new situations” [20]. ‘Reciprocity’ indicates that individual who involves in informal knowledge sharing will attempt the best to discover the skills other individual has, and attempts to take benefits to each other’s necessities. The clarifications to the proposition are as follow:

“There is no free lunch... If you have reliable skills, people will come to you. In my experience, others will exchange theirs for mine” (Informant 1, Production Staff).

“I would say, knowledge sharing related to skills exploration is mostly done outside formal occasions. Lunch times, sport sessions, shift breaks, and locker rooms become the most preferable time and place. Interestingly, I never see more than two people discuss their skills together in one group. It seems that this knowledge sharing activities become transactional and reciprocal, though conducted in informal ways. To me, it doesn’t matter, as long as they can perform better in their works....and they do” (Informant 2, Factory Manager).

The above discussion also confirmed that if an organization provides supporting environment to any knowledge sharing activities, it will encourage interaction and collaboration among individuals, which is very important to enable knowledge flow, and supports individuals with the ability to self-organize their networks and share knowledge [21]. The discussion also confirmed the previous finding [22], which argues that informal conversation might be the most effective mechanisms of transferring individual’s tacit knowledge. The above discussion concludes the following set of hypotheses:

Hypotheses 1: Employee skills have positive direct effect to reciprocal intention
Hypotheses 2: Reciprocal intentions have positive direct effect to informal knowledge sharing process

The second proposition argues that “when mutual trust exists among individuals in the organization, the use of employee experience improves the quality of knowledge shared in the informal knowledge sharing process”. The argument reflects that individuals is taking a risk while sharing their experience to others. The sharer could be in position of being taken advantage. Nevertheless, in order to gain trust, each individual should take the risk, so that he or she could also gain benefit of others’ experience.

“Often I think, my accumulated experience becomes my key source of knowledge. Any knowledge from formal education doesn’t significantly contribute. This is also a limitation for me. Since I didn’t attend college, I must compete with others just using my skill and experience. Skill and experience become my ultimate weapons. However, many times I must share my experience to other younger workers. Many times I let my co-workers to learn specific skill by themselves. I only share small portion of knowledge to them. Nevertheless, I have two or three friends in this company to whom I’ll be willing to share the best of my experience. Only two or three.....because I trust them. And because I believe they trust me also....and we share our knowledge usually not at the work station, because I don’t want other people take advantages of it. We usually share our experience in the weekends.....at lunch time after we play soccer”. (Informant 1, Production Staff)

The opinion portrays that risk emerges by trusting other party in any interactions. In reciprocity perspective, individual would deliver certain benefits to others if he/she judges that the opposite is dependable, and able to offer what he/she need [19]. Further, knowledge quality depends on the level of trust within interacting individuals. The following hypotheses are derived:

Hypotheses 3: Employee experience has positive direct effect to the enhancement of mutual trust.
Hypotheses 4: Mutual trust has positive direct effect to informal knowledge sharing.

Third proposition believes that “reciprocity norm and mutual trust have a reciprocal positive effect one to another”, while “when level of trust increase within individuals, reciprocity level will also increase, and both promote the proper level of informal knowledge sharing process”. The arguments
believe that mutual trust can be leveraged if individuals have the eagerness to provide benefits to others. These arguments also implied that trustworthy individuals will leverage the trust of among partners. The next discussions reflect the supporting facts:

“In my experience, if we can boost the trust level to mutually trust stage, personal relationship will be built. In many cases, not every employee has the ability to build a good interaction environment. For example.....myself....I’m not a good at creating a lively interaction with my co-worker...but I always try to show them that I’m a useful person, an individual they can rely on something. That way, I can gain their trust. That will be the starting point to ask back from them. I do it slowly. If they respond, I make sure that if they give what I need, they will get the best of what I know.....Don’t ever expect this condition will be built through formal meetings. I do it 100% outside the office hour.....and it takes one to two years to be in this stage. Many times, it costs me some money”. (Informant 1, Production Staff)

“At first, I don’t believe that trust should be mutually built before any ‘knowledge exchanges’ are made. In my experience, sometimes one individual share his knowledge because he wants to show others that he is a good person...and competent. This individual doesn’t care whether he will receive benefit or not. I do that also. However, when we do it in formal interaction, the responds tend to be positive. But when we do it in informal occasions, the other parties tend to negatively responded. They said that I do that because I have hidden agenda. I’ve tried this many times....and the outcome is obvious, they don’t like me”. (Informant 2, Factory Manager)

The discussions support the next hypotheses:

**Hypotheses 5: Mutual trust fosters reciprocal intention of individuals.**

The next proposition suggests that “when organizations consist of employees from diverse educational background, the use of cultural stories, examples, and metaphors improve the knowledge formulation in the informal knowledge sharing process”. The proposition reflects that in formal knowledge sharing, people often challenged with complication to interact with others, particularly with individuals whose education background are different. The difference of education background can be in form of cultural background during education, education level, and or geographical area. The proposition implies that diversity of education background would affect informal knowledge sharing. The following dialogue discovered the following information:

“This is interesting. And it happens most of the time. Our employees come from many different areas in Indonesia: Sulawesi, Java, Sumatera, Madura and some from Eastern part. Well, I must be frank with you.....we have diverse level of ability to absorb new things, because the education level and type in each area is different...and you cannot force them to understand at the same pace one to another. In fact, you cannot force them to learn new thing in formal training. You need to do it step by step......and informal occasions are the best time. Yes.....in informal occasions. And you must use stories and examples so that they can understand better and faster. It is difficult....but it is effective. I’ve done it many times. And the most important thing is...diverse education background means diverse skills. And we need that...” (Informant 2, Factory Manager)

The dialogue shows that diverse education background (education level, education type) plays important influence to the reliability of knowledge. It affects the study and resources capacity of individuals. The analysis is constructed the next hypothesis:

**Hypotheses 6: The diversity of education background has positive direct influence to informal knowledge sharing.**
Hypotheses 7: The cultural interpretation perspective moderates the positive direct influence of diverse education background to informal knowledge sharing.

Hypotheses 8: The more diverse education background, the richer variation of skills is acquired by individuals.

3. Linking Human Capital Policies & Initiatives and Organizational Sustainability: the role of Informal Knowledge Sharing

In Indonesian perspective, specifically in small and medium scale enterprises, the adoption of “western human resource management models” tend to be widely acceptable. However, previous studies also revealed that human capital is still the main problem to enterprise sustainability issue [10][11]. This condition justify the previous argument [14] which reflect that current human resource management models view a human as an object (as one of the factors of production), not an actor. In other words, there is a need to develop a more comprehensive model that is more suitable to Indonesian condition.

Previous studies revealed that many enterprises still not aware of the importance of governing human capital traits and organizational knowledge in relation to enterprise sustainability [16][23][24], though, in the knowledge economy era, knowledge becomes the key enablers to many organizations. Previous studies regarding Indonesian small and medium enterprises revealed that “poor human capital management initiatives” become the most critical issue. Moreover, the Indonesian Ministry of National Development Planning (BAPPENAS), stated that the government schemes to leverage the negotiating capability of Indonesian Medium Enterprises (MEs), purposely, by assisting the entrepreneurship skill and technical competence of the MEs [25]. And again, the government focus is still in the area of skill training, instead of developing a more appropriate human capital management system.

Indonesian medium-sized manufacturing enterprise still adopt the generic human resource management model in governing their human capital. Interestingly, previous study [25] revealed that only certain human capital related policies and initiatives were truly necessary, such as: corporate social responsibility policy, compensation policy, personnel administration initiative, and training and development initiative. The study also suggest that “where human capital experience is acquired into organisational knowledge, the use of knowledge management framework will help the process of knowledge acquisition, and therefore will directly impact the enterprise sustainability”. This is stimulating argument because most medium-sized enterprises were not sure of the benefit of employing knowledge management initiatives.

“Yes, we have many policies and programs in our company. But, I don’t think we really apply all of those. We usually sharing our skills or experience or idea in relations to training. For some managers, sharing knowledge is also in relations to development program. I don’t see any relations between knowledge sharing and CSR or personnel administration. With compensation policy......well, maybe.” (Informant 3, Senior Production Staff)

“I see no connection between human capital programs and knowledge sharing, except with training. But, I think compensation policy could matched, since it is a delicate area. In practice, top management once discussed the bonus policy with me during lunch. I gave them suggestion based on my experience, and happily, they acknowledged my thinking. Yes, it could work.” (Informant 2, Factory Manager)

“I believe if compensation policy is also discussed through informal occasions, the acceptance level will be increased, and the spirit of people will be better. It’s good for the company. I think training program should be also accompanied by many informal and relaxing discussions to be effective. I believe the innovativeness of people can be better.” (Informant 4, QC Manager)

The dialogues reflect two preliminary evidences. First, the informants suggest that only particular practice and policy related to human capital are relevant to be exposed informal knowledge sharing: compensation policy and training and development program. Second, innovativeness of individuals is a crucial outcomes of informal knowledge sharing, in relation to any training program. This judgement is
related to previous findings [26], which claims that innovation is correlated with knowledge sharing. Though, in manufacturing perspective, enterprise ability to adapt is unavoidable [27]. In manufacturing sector, which involves continuous technological changes, must retain the capacity to deal with fast evolving environment, in line with the ability to reconstruct and upgrade enterprise capacity to grow. The dialogues support the following hypotheses:

**Hypotheses 9:** The relationships between enterprise sustainability and human resource policy and initiative is strengthened by employee perceptions of informal knowledge sharing.

Figure 1 represents the research framework, based on the propositions, discussions, and theories.

![Research Framework](image)

The interview sessions occasionally provide the researchers with some fascinating outcomes of informal knowledge sharing practice. For example, when Informant 2 met with a local mechanic in the rest room, Informant 2 mentioned about the incapability of Taiwanese mechanic to solve troubleshooting of CNC machine. The local mechanic explained (while urinating) that the repair order was not correct. Further, the suggestion from the local mechanic was then informed to the Taiwanese mechanic by Informant 2. Curiously, the Taiwanese followed the suggestion and in only 10 minutes, the troubleshooting was fixed.

Another example of how informal knowledge sharing helps the organization to sustain occurs in “candy factory”, the organization of Informant 4. Formally, the candy factory conduct monthly formal meeting to discuss about new candy product. Optimally, six new designs were introduced. When the new factory manager joined the organization, 40 new designs are introduced to market, without any formal meetings. The key is that each production staff is encourage to experiment and discuss the experiment during lunch. In fact, lunch time is more effective to exploit employees’ ideas compare to formal meetings when most of top management are present.

**4. Conclusions**

This study proposes a set of hypotheses for future research. Important finding that differentiate this study from previous one [19] is that ‘mutual trust’ should be considered as enabler to the formation of ‘reciprocal intention’ amongst individuals in organization. The direct positive effect of ‘employee skills’ to informal knowledge sharing is believed to be intervened by ‘reciprocal intention’ of people in the
organization, by first developing mutual trust within them. Another interesting finding is that in order to be effective, ‘employee skills’ is also influenced by ‘education background’ of the individuals within the informal knowledge sharing network.

Moreover, this study also reveals that among people in Indonesian medium-sized food manufacturing enterprise, ‘compensation policy’ and ‘training & development program’ are believed, practically, the most influential policy and initiative to them. By delivering informal knowledge sharing practice, the effect of compensation policy and training related programs to innovativeness of the enterprise is believed to be more advantageous. Future study will examine the interrelation between human capital policy and initiative, enterprise sustainability, and informal knowledge sharing, using quantitative approach. Future study will focus on how these hypotheses can describe the nature of informal knowledge sharing practice amongst medium-sized sustainable enterprises. Next study will employ quantitative survey to nearly 32 confirmed sustainable Indonesian medium-sized food manufacturing enterprises.

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