

# Human capital development strategy on go-public manufacturing companies in Indonesia

Saban Echdar<sup>1</sup>

<sup>1</sup> STIE Nobel Indonesia Makassar, Sultan Alaudin Street 212, Makassar, 90223, South Sulawesi, Indonesia

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## ABSTRACT

This study analyzes the development of human capital strategy in go-public manufacturing companies, examining the several effects of variables, and also the effect of intervening variables on the development of human capital. The population consists of 151 go-public manufacturing companies listed on the Stock Exchange. The purposive sampling method was used and 12 companies were taken in which 10 of respondents from each company consisting of managers and staff, and the data were analyzed using Structural Equation Modeling (SEM). It shows that the first, the external environment has positive and significant effect on the planning and management of human resources, education and training, and the development of human capital, but has no significant effect on improving employees, employee performance and recognition, and employee satisfaction. Second, the internal environment has a positive and significant impact on the planning and management of human resources, employee improvement, education and training, employee performance and recognition, employee satisfaction, and the development of human capital. Third, planning and human resource management, employee improvement, education and training, employee performance and recognition, and employee satisfaction have a significant and positive effect on the development of human capital.

## ABSTRAK

Penelitian ini menganalisis pengembangan strategi sumber daya manusia di perusahaan manufaktur go-public, dengan pengaruh dari beberapa variabel, dan juga menganalisis pengaruh variabel intervensi pada pengembangan sumber daya manusia. Populasi terdiri dari 151 perusahaan manufaktur yang go-public yang terdaftar di Bursa Efek. Purposive sampling digunakan dan didapatkan 12 perusahaan dengan 10 responden dari masing-masing perusahaan tersebut yang terdiri atas manajer dan staf, dan selanjutnya data dianalisis menggunakan Structural Equation Modeling (SEM). Hasilnya menunjukkan bahwa pertama, lingkungan eksternal berpengaruh positif dan signifikan pada perencanaan dan pengelolaan sumber daya manusia, pendidikan dan pelatihan, dan pengembangan sumber daya manusia, namun tidak berpengaruh signifikan pada peningkatan karyawan, kinerja dan pengakuan karyawan, serta kepuasan karyawan. Kedua, lingkungan internal memiliki pengaruh positif dan signifikan terhadap perencanaan dan pengelolaan sumber daya manusia, peningkatan karyawan, pendidikan dan pelatihan, kinerja dan pengakuan karyawan, kepuasan karyawan, serta pengembangan sumber daya manusia. Ketiga, perencanaan dan manajemen sumber daya manusia, peningkatan karyawan, pendidikan dan pelatihan, kinerja dan pengakuan karyawan, kepuasan karyawan berpengaruh signifikan dan positif pada pengembangan sumber daya manusia.

## 1. INTRODUCTION

In a business situation, a tight competition has increased in which each company is required to have a competitive advantage in order to exist in the market. One potential competitive advantage lies what extent the management company can utilize, man-

age, control, and use their assets both tangible and intangible ones optimally. The recent business environment is turbulent in which human capital becomes a very strategic asset. Human capital is an important element of intangible assets in the company, including copyright, customer relations, brand

\* Corresponding author, email address: <sup>1</sup> sabanechdar@gmail.com.

and corporate image. All these become a very important factor to excite the imagination and creativity of employees for supporting the success of the business as an asset.

Martina in Rahmawati et al. 2004) stated that human capital is seen as a strategic element of the company for the management and performance of human resources contribute significantly to the creation of competitive advantage. The ability to manage human resources is an important asset to the success of companies such as skills, knowledge, abilities and behaviors of humans needed to achieve competitive advantage, because only the people who implement corporate strategy. The concept of human capital essentially considers man as a capital that is even more important than such as machinery, technology, land, money and materials. Human capital is reflected in the form of knowledge, ideas, creativity, skills, and labor productivity.

Unlike other forms of capitals, human capital can be invested themselves through various forms of investment in human resources, including formal education, informal education, work experience. For examples, health and nutrition are also essential (Fattah 2006). According to Hall (2007), human capital is a process of empowerment of human resources for the creation of human resources has a competitive advantage, sustainable = and continuously. To create sustainable human resources, companies must go through three approaches, namely (a) the management should be able to explain the process of human capital associated with organizational objectives, (b) the management should be able to make and explain the size and discipline in the process of achieving goals, and (c) makes the experience of the organization as a reference in making decisions dynamic human capital and progressive.

Recently, human resource is no longer seen as one factor of the cost, but it has been seen as a long term investment that will provide added value to the company. The success to get good human capital can be measured by: (a) the extent to which the relationship between the target organization consisting of financial strategy, customers, and others on human resources, (b) to the extent of services to the attention of quality, innovation and productivity, (c) how organizational planning and management attention to human resource development (Jac Fit-zen 2009).

In this case, Ingham (2007) cited the importance of a measurement performed in the process of human capital system which aims to contribute to the achievement of value, namely: (a) how to build a communication to explain the linkages between financial performance of human capital management,

(b) make the service system systematic to be used as a reference for taking human capital management policy. Measuring the performance of the company from a financial perspective is very accurate and that is the basis of such financial value drivers that are human capital with all the knowledge, ideas, and innovation. In addition, human capital is the core of a company. Each company consists of individuals who work together to achieve certain objectives and the organization will not run if there is no individual in it (Mayo in Rahmawati et al. 2004).

The development of human capital for the company is essentially in the form of investment in human capital. It is a strategy aimed at improving the production capacity of humans, through the improvement of health, education and training. The logical reason is that the healthy human resources, educated and skilled workforce can be productive and with the subsequent increase in productivity, it can increase the production capacity in return. This is consistent with the expression by Setyanto (2004) that human capital is the key advantage derived from the unique value, because the value of human capital cannot be depreciated. Moreover, it would be appreciated if the value is always developed and treated appropriately.

It can be argued again that human capital is important. It is a source of innovation and renewal strategies that can be obtained from brainstorming through laboratory research, dream management, process re-engineering and improvement or development of the skills of workers. In addition, human capitals add value in the company every day, through motivation, commitment, competence and effectiveness of team work. The added value that can be contributed to by workers in the form of: development of competencies possessed by the company, the transfer of knowledge from the workers to the company as well as cultural change management (Mayo in Rachmawati et al. 2004).

As stated by Barney (2007), a strategic human capital consists of four attributes, namely usefulness, behavioral uncertainty, firm-specificity and spread of strategic human capital. Usefulness of strategic human capital is said to be useful because it is important for companies to create efficiencies and allow the company to become more effective. Behavioral uncertainty of human capital is difficult for competitors to imitate when tasks and jobs that cannot be observed by competitors. Firm-specificity of strategic human capital indicates that firm-specific knowledge level high. Spread of strategic human capital is the knowledge and skills of human capital spread throughout the firm (Barney 2007).

Pin et al. (2005) stated that the company in connection with its human resources should be viewed as an investment in human capital. View of the organization that is the cost of human capital management, should be abandoned, meaning that investment in human capital is seen not as a charge current (current expenses) are borne by the company, but rather as an investment in assets that have value in the future as well as the value that has been created. The implication is that if the condition of the company experienced a decline or decrease, a cost related to human resources is no longer seen as the cost of the first to be cut.

From the above description, the employees are no longer a "cost", but they are capital with their value to the company for innovations. The result of human transformation is seen as a cost and efficiency even the indicators of success. It can be turned into a 'corporate assets', and the indicator of success is innovation and value creation. This is in line with the teachings of Islam which teaches that the human resources within an enterprise are one of the capitals, not as a cost unit. Therefore, the handling of human resources as human capital is not something new in the Islamic economic activity (Riva 2009).

The capitals of machine equipment cannot be operated efficiently if the operator is not capable and skilled to handle and run the machines. Here it takes a professional handler of human resources within the company as human capital. Therefore, the main steps that must be done is to change the mindset of manufacturing companies, from managing expenses to the creation of value for human capital knowledge and expertise invested in the company, which markets the vote to see the activities of the company. This can be reflected in the value added generated.

Nowadays, optimizing the role of human capital in the condition where the level of competition between companies is very tight. It is inevitable. Human capital in the region should play a more intelligent and challenging. It can lead to the company's better strategy, guards change and transformation actors company. Without intelligent role of the humans, any companies can go out of business because they cannot compete in the arena due to incompetent and not professional human resources. The empirical evidence shows some go-public manufacturing companies in Indonesia are not yet aware of the importance of human capitals.

The company's efforts should focus on improving the competency of human resources through training, including selective recruitment process that should also be carried out, the cost of the program, although, has increased every year. However, the

cost incurred by the company to finance the development of human resources is still regarded as a burden (cost), has not been considered as a human capital investment. In this case, Jac (2009) describes the human capital as a combination of three factors, namely: 1) Character, nature brought into the job, for example: intelligence, emotions, positive attitude, reliability and commitment; 2) The ability of a person to work, for example: intelligence, imagination, creativity and talent; 3) Motivation for sharing information and knowledge, for example: team spirit and the goals to be achieved.

In connection with the above argument, Anderson and Finkelstein (2004) also argue that one of the firm-level strategies that have not been well explored is the use of strategic resources that allow the company to continue competitive advantage. In today's competitive environment, human capital increases the company's knowledge that is as one of the intangible assets which are highly strategic for the company in achieving competitive advantage.

Key advantages derived from the unique human capital value, because the value of human capital will not be depreciated, but it will be appreciated if the value is always developed and treated appropriately (Setyanto 2004). For that there needs to be change in the mindset of go public companies manufacturing to describe and develop human resources as human capital to improve performance and achieve competitive advantage of the company.

Based on the above phenomenon, this study seeks to explain the extent to which external environmental factors and internal environment influence the development of human capital strategy in go-public manufacturing companies through intervening variables: planning and human resource management, employee improvement, education and training, and recognition of employee performance and satisfaction employees. As referred to the background, the research problem is formulated as follows: 1) Whether the external environment affects the development of human capital strategy, through intervening variables: human resource planning and management, increase employee, employee improvement, education and training, employee performance and recognition, as well as employee satisfaction; 2) Whether the internal environment affects the development of human capital strategy, through intervening variable: planning and human resource management, employee improvement, education and training, employee performance and recognition, as well as employee satisfaction; 3) Whether the planning and management of human resources, employee improvement, education and training, em-

employee performance and recognition as well as employee satisfaction affect human capital development strategy.

The purpose of this study was to determine: (1) The effect of the external environment on the development of human capital strategy, the planning and management of human resources, improvement of employees, employee improvement, education and training, employee performance and recognition, as well as employee satisfaction, (2) the effect of the internal environment on the development of human capital strategy, the planning and management of human resources, improvement of employees, employee improvement, education and training, employee performance and recognition, employee satisfaction and development of human capital strategy, and (3) the effect of human resource planning and management, the increase in employees, increased employee, education and training, employee performance and recognition, employee satisfaction on the development of human capital strategy.

This study can bring some benefits as the following: 1) For the development of science, the results of this study can be used as a good reference or information for further research and in the development of science, especially with regard to human capital development strategy; 2) For manufacturing companies, it can be used as recognition of the effect of the external and internal environment of the human capital development on the strategy through variabel intervening that can be structured model of the development of human capital; 3) For the government, the result of this study is expected for an input in formulating policy guidance and development go-public manufacturing companies in Indonesia.

## 2. THEORETICAL FRAMEWORK AND HYPOTHESES

### Human Capital

It is the fact that human capital is a key concept in a variety of theories. The role and importance of human capital for efficiency and effectiveness in organizations can be found in the three theories: (1) human relations theory, as in Hawthorne research which emphasizes the failure and success of organization, (2) economic transaction costs, including how organizations are looking for the optimal way in manage resources, depending on the relationship between transaction costs and market as well as the organization's relationship with the organization's internal operations, and (3) human capital theory, focused on the education level of employees as a source of workforce productivity and economic growth.

The great contribution of human capital in the theory of evolution can be viewed from the resource base view (RBV) and strategic human resource management that can provide the power affecting the organization's dominant position in science (Carmeli 2004).

The term of human capital, was first widely introduced by Theodore W. Shultz in his address to the American Economic Association in 1961. The concept of thinking Shultz in 1961, which was elaborated by Becker in Nan Lin (2007), defines human capital as value added to a laborer when the laborer acquires knowledge, skills, and other assets useful to the employer or firm in the production and exchange-process of human capital is the added value embedded in the laborer themselves. Typically, human capital is operated and measured by education, training, and experience"

George et al. In Daft (2007) state that human capital is the economic value of knowledge, experience, skills and abilities of employees. To build human capital, the human resources management has to develop strategies to ensure that the workforce has a superior knowledge and skills. Thus, human capital is the accumulation of capabilities, capacities and opportunities of the members of the organization. Capability is the ability of members of the organization to do something, either the capacity or the opportunity, in order to achieve the desired objectives. Capacity is more focused on what can be done by members of the organization, are more opportunities on the options available to members of the organization to receive the award, including salary, bonuses and so as a result of the use of its capacity, so that capability can be formulated as capacity x odds (Dharma 2004).

Another proponent, Setyanto (2004) states that there are six essential elements of managing human capital in order to have success in the implementation of competency-based, namely: (1) managing credible, (2) implementing a proven corporate culture, and translate into daily operations, (3) talent manager and designer of the organization, (4) strategy architecture that knows and understands to some degree the implementation of change management, (5) as a contributor to the business success of the business as a whole, (6) as the executor of operations in the region that plays in managing the daily work and organization.

There are six components of human capital according to Ancok (2005), namely: intellectual capital, emotional capital, social capital, moral capital, and health capital. The five components appear in an optimum performance when accompanied by the

leadership of capital and capital structure of the organization with which provide a supportive working vehicle.

### **External Environment**

The external environment includes all elements outside the limits that have the potential to affect the organization. This environment can be competitors, resources, technology and economic conditions that affect the organization (Daft 2007). External environment factors are outside the organization that needs to be analyzed to determine the opportunities and threats. There are two perspectives to conceptualize the external environment: first, perspective view of the external environment as a vehicle that provides resources and secondly, perspective view of the external environment as a source of information (Clark et al. 2007).

The environment facing the company needs to be analyzed, for identifying the business opportunities that need and immediately get a response and executive attention. At the same time, it can be directed to determine the threat that businesses need to get anticipation. For that the environmental analysis, management seeks to identify a number of basic variables that are beyond the control of the company which is expected to have an influence.

### **Internal Environment**

On the other hand, the internal environment is resource companies (the firm's resources) that determine the strengths and weaknesses of the company (Drucker 2005). The company's resource covers HR (human resources), enterprise resource (organizational resources) and physical resources. The internal environment, in this case, includes elements that are inside the organization, consisting of employees, management and in particular corporate culture, which determine the behavior of employees in the internal environment and how the organization is able to adapt to the external environment (Daft 2007). Organization's internal environment is the environment inside the organization and formally has a direct and specific implication on the company. The company according to the concept of the present is a collection of various kinds of resources. The capabilities and competencies can be used to form a particular market position. The HR manager is required to estimate the supply and demand for human resources.

### **Planning and HRD Management**

Planning and management of human resources in the business should be conducted to achieve its

goals. The problems faced not only lie in the management of raw materials, equipment, machines, money and work environment alone, but also involves human resources to manage the factors of production. HR is the company's most important problem, because it is through human resources, other resources within the company to function, in addition to creating the efficiency, effectiveness and productivity of the company. For that HR needs to be planned and managed properly. Mangkuprawira (2007) describes the meaning of human resource planning in the context of a longer range future is as a strategic process that seeks to ensure the number and type of employees right at the right time for the future, be able to do the things necessary for an organization can continue to achieve the goal.

Human resource planning is done to determine the quality of the human resources needed by the company short-term, medium and long term, including the amount of human resources required for the achievement of corporate objectives. The HR manager is required to estimate the supply and demand for human resources. The ultimate goal to be achieved from the planning and management of human resources are: (a) an increase in efficiency, (b) increase the effectiveness, (c) an increase in productivity, (d) low turnover of employees, (e) low levels of absenteeism, (f) the high satisfaction work, (g) the high quality of service, (h) the low complain of customers, and (i) increasing business enterprise IT (Riva 2009).

### **Increase of the Employees**

According to Chong and Tai in Wirawan (2007), the increase in employees is work ethic belief system pertaining to ideas that stress individualism or independence and the positive effect on individuals of work. Thus, Spake Considered Work is good in itself Because It dignifies a person. Making a personal effort to work hard will ensure success. As stated by Sinamo (2005) that the increase in employees is a set of positive work behaviors rooted in a strong awareness, fundamental beliefs, with a total commitment to the integral work paradigm. Any organization that has always wanted to go forward, will involve members to improve the quality of performance, meaning that every organization should have an increase in employees. Sinamo (2005) also said that there are eight employees improvement paradigm, namely (1) the work is mercy, (2) the work is trust, born of inner dialectic, (3) work is a call, (4) the work is actualization, (5) work is worship, (6) the work is art, (7) the work is a privilege, (8) the work is service.

### Education and Training

Education is a process and it deals with teaching and learning methods with the intention to transfer the knowledge from one person to another according to predetermined standards. Training is to develop people as individuals and these people are encouraged to become more confident and capable in their lives and work (Nasution 2004). Training is part of the education that involves learning to acquire and improve skills outside the education system in force in a relatively short time with a method that is more emphasis on the practice of the theory, while skills include physical skills, social skills, managerial skills, and other (Riva 2005).

Education and training is the actualization of knowledge, skills, and attitudes that enables people to achieve individual and organizational goals at present and in the future.

Each training activities should be aimed at improving the ability of employees within the organization, which in turn had an impact on the organization. Increasing the capability is also known as human resource development is the effort to improve the skills and general knowledge of employees for the implementation of the achievement of company objectives will be more efficient and effective.

### Employees' Performance and Recognition

Employee performance and recognition have become an important issue for the entire company and it always get attention in management because it is related to the productivity of the organization. Employee performance affects how much employees contribute to the organization, such as the quality and quantity of output, the output time period, attendance at work and proactive attitude. For example, Handoko (2006) stated that the performance (performance appraisal) is a process whereby organizations begin to evaluate or assess the performance of employees which in this activity can improve personnel decisions and provide feedback to employees about their operations. According Mangkunagara (2005), the performance of employees is the result of the quality and quantity of work achieved by someone employees in carrying out their duties in accordance with the responsibilities assigned to him.

There are some factors that affect performance including as follows: (1) mental attitude (innovation work, work discipline, work ethic), (2) education, (3) skills, (4) management leadership, (5) the level of income, (6) salaries and health, (7) social security, (8) the working climate, (9) infrastructure, (10) ecology, (11) the chance of achievement.

### Employee Satisfaction

Job satisfaction is considered an important key to organization. Some surveys on employee satisfaction show that the organization knows how important a properly working environment, good-value, and the positive aspects that hinder the achievement of goals and objectives of the organization. This information is very useful in improving employee satisfaction and quality of life, which in turn will increase employee productivity. Job satisfaction has a considerable influence on the development of human capital of an organization directly or indirectly.

Job satisfaction is an individual's pleasant emotional attitude and therefore he loves his job. This attitude is reflected by the morale, discipline and performance. The satisfaction enjoyed the job, off the job and the combination of inside and outside of work. This will make the employees motivated to work optimally in the end goals of the organization. This can be realized with the level of efficient and high effectiveness (Fathoni 2006). A person tends to work vigorously if satisfaction can be derived from work. As such, a job satisfaction is a key driver of employee morale, discipline, and work performance of employees in supporting the realization of the company's goals (Hasibuan 2007). On the other hand, Rivai (2009) said that job satisfaction would be obtained if there is a match between expectations and reality workers who obtained work place.

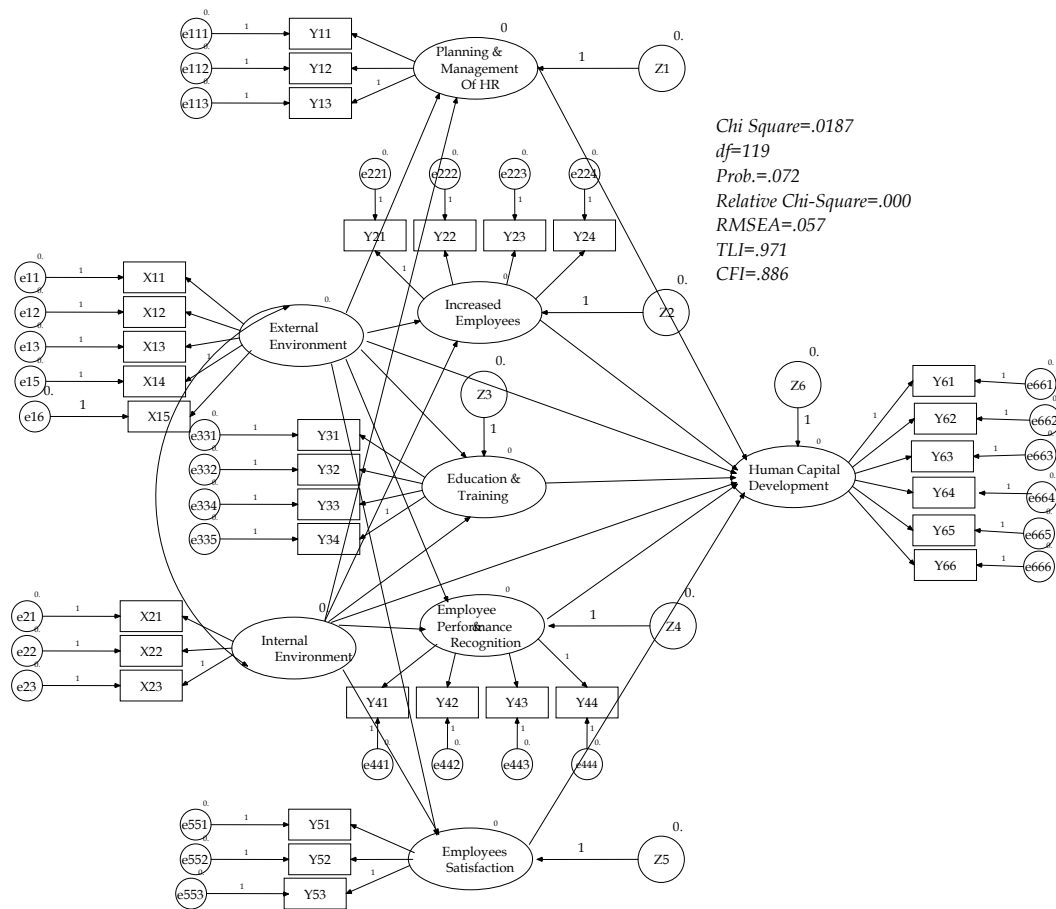
### Conceptual Framework and Hypotheses

This study analyzes the development of human capital strategy by assessing the effect of the external environment on human resource planning and training, the increase in employees, education and training, employee performance and recognition, employee satisfaction and the development of human capital strategy. Internal environment affects human resource planning and refineries, increased employees, education and training, employee performance and recognition, employee satisfaction, and also human capital development strategy. It is highly important to analyze human resources planning and training, increased employee, education and training, employee performance, and recognition, employee satisfaction and their effects on the development of human capital strategy. Based on the theoretical framework, this study proposes the conceptual framework as presented in Figure 1.

### Hypothesis

Based on the conceptual framework of the study, the research hypothesis is formulated as follows:

1. The external environment has a significant posi-



**Figure 1**  
The Pattern Scheme of Interpersonal Variables through SEM Analysis

1. External environment has a positive and significant effect on human resource planning and management.
2. The internal environment positive has a significant effect on the planning and management of human resources.
3. The external environment has a positive and significant effect on the increase in employees.
4. Internal environment has a positive and significant effect on the increase in employees.
5. The external environment has positive and significant effect on education and training.
6. The internal environment has a positive and significant effect on education and training.
7. The external environment has a significant and positive effect on employee performance and recognition.
8. The internal environment has a positive and significant impact on employee performance and recognition.
9. The external environment has a significant positive effect on employee satisfaction.
10. The internal environment of the effect on employee satisfaction.
11. External environment has a positive and significant

12. The internal environment has a positive and significant effect on human capital strategy development.
13. Planning and HR management has an effect on human capital development strategy.
14. Increased employee has a positive and significant effect on human capital development strategy.
15. Education and training have a positive and significant effect on human capital development strategy.
16. Performance and recognition of employees have a significant and positive effect on human capital development strategy.
17. Satisfaction of employee has a positive and significant effect on human capital development strategy.

### 3. RESEARCH METHOD

This study is an explanatory research, describing the symptoms caused by an object of research. It uses data pooling consisting of a merger between the data of time series and cross section, to obtain the value of

the effect of the external environment, internal environment, planning, and human resource management, employee improvement, education and training, employee performance and recognition and employee satisfaction towards the development of human capital. The data were collected by survey method to get the sample of the population as based on the stipulated characteristics.

### Population and Sample

The population includes the go-public manufacturing companies listed on the Stock Exchange, with the total number of 151 companies (ICMD 2010), based on the purposive sampling. This sample is based on considerations of certain criteria in accordance with the purpose of research (Cooper and Emory 2005).

As all are classified based on the completeness of the data and the level of activity on the Stock Exchange, and based criteria set, obtained a sample of 12 companies, namely: Aqua Golden Missipi, Multi Bintang Indonesia, Gudang Garam, Hanjaya Mandala Sampoerna, Bayer Indonesia, Goodyear Indonesia, Semen Gresik, Past Food Indonesia, Ultra Jaya, Unilever Indonesia, Bata Shoes, and Tempo Scan Pacific.

The population with the sample of 10 people, using purposive sampling method, with consideration of the selected population such as (1) their status as manager of the company, (2) staff who work at every level manager at least 5 years, (3) the manager population is 5 people, namely financial manager, marketing, production, HR and general manager, (4) staff population of 5 people who worked on the section levels.

### Methods and the Data Collection Process

The data were collected by interview technique and questionnaire. A questionnaire was used to make interviews more structured and standardized. The results of interviews and questionnaires are tabulated, analyzed with Excel and SPSS.

### Data Analysis Methods

A model equation Structural Equation Modeling (SEM) is used to determine the causal relationship between latent variables imbedded in the structural equation. The analysis instrument is essentially simultaneous with the reduced form regression with analytical framework as shown in Figure 1.

## 4. DATA ANALYSIS AND DISCUSSION

### Analysis of the Validity

Validity test is done to see which questions are worth (representative) to represent the independent variables. It uses a confirmatory factor analysis for

each latent variable with AMOS 7.0 program. If the value of the indicator loading factor is greater than 0.5, the indicator can be used to measure the variables (Chin, in Ghozali 2005). In this case, the validity test dose not merely emphasize on the quantitative research and qualitative research but more importantly on the reliability test (Susan 1998) in Sugiyono (2006).

Furthermore, if  $r$ -computed is  $>$   $r$ -table at a certain confidence level, it means that the instrument meets the criterion validity. The significance level used in this validity test 95% with a number of 120 respondents ( $N = 120$ ). The items that have a value of  $r$  computed is  $>$   $r$  table (0.196), it can be used for analysis in the study. Hershberger (2004) said that the linear model is not significant if it is below ( $t = 0.850$ ,  $p = 0:41$ ) so that SEM develops in linear.

### Test of Reliability

Reliability test is done by using composite (construct) reliability with a minimum cut-off value of 0.6 (Maholtra, in Solimun 2004). The calculations are as follows:

$$\text{Construct Reliability} = \frac{(\sum \text{Standardized Loading})^2}{(\sum \text{Standardized Loading})^2 + \sum e_i} \quad (1)$$

Limit value used to assess an acceptable level of reliability is 0.60 (Maholtra, in Solimun 2004). When the research is the explanatory value is below 0.60, it is still acceptable as long as it is accompanied by empirical reasons. After matching the model and the data as a whole are considered well, the next step is the evaluation or test of the research model fitness. The evaluation is conducted on each construct or measurement model (relationships between a latent variable with multiple variables separately observed through: 1) evaluation of the validity (validity) of the research model, and 2) evaluation of the reliability of the research model.

From calculation of reliability construct and value estimation of the external environment variables, the CR value is obtained of 0,729 and the estimate is above 0.7. This value indicates that the four indicators are reliable and valid for shaping up the external environment variables. The researcher decides to defend the four indicators and variables in the research model. Against the internal environment variables, the CR value is obtained which is above 0.904 and 0.7. This value indicates that it is reliable and a valid indicator to measure the latent variable. The researcher decides to defend the variables and the three indicators in the research model.

The calculation of validity construct and the estimate value of the variable of human resources planning and management, it obtains the CR values



of 0.703 and 0.7 that are above the estimate. This value indicates that the third is reliable and valid indicator to measure the latent variable. The researcher decides to defend the variables and the three indicators in the research model. To variable increase in employee CR values obtained at 0.723 and estimates above 0.7. This value indicates that the fourth is reliable and valid indicator to measure the latent variable. The researcher decides to retain the four variables and indicators in the research model.

From calculation of reliability construct and value estimation of the education and training variables, the CR value is obtained at 0.788 and the estimate is above 0.7. This value indicates that it is a reliable and valid indicator to measure the latent variable. The researcher decides to retain the four variables and indicators in the research model. The variables of employee performance and recognition have the CR value at 0.815 and the estimate is above 0.7. This value indicates that the fourth is reliable and valid indicator to measure the latent variable. To the researchers decided to maintain and indicator variables in the model.

From calculations reliability construct and estimation of the employee satisfaction variables have the CR values at 0.721 and the estimate above 0.7. This value indicates that it is a reliable and valid indicator to measure the latent variable. The researcher decides to maintain and indicator variables in the research model. On human capital variables CR values obtained for 0.742 and 0.7 above estimates. This value indicates that it is a reliable and valid indicator to measure the latent variable. The researcher maintains the indicator of variables in the research model.

**Analysis of Structural Equation Model (SEM)**

After the validity and reliability tests, all latent variables are proved to be valid and reliable, so that the latent variables can be further followed up by testing the suitability of the model and the significance test of causality.

**a. Goodness-of-fit test Model**

The results of testing the suitability of the model as a whole in this study are presented in Table 1. Table 1 shows the six criteria used to determine the appropriateness of a model that have been fulfilled, and they do not need modifying. It is clear that the model is acceptable.

Table 2 shows the six criteria used are feasible, good, and fulfilled, and they do not need modifying. Thus, it is clear that the model is acceptable.

Table 3 shows the six criteria used to determine whether or not a model have been good and ful-

**Table 1**  
**Goodness-of-fit test of Entire Model**

Criteria	Cut-Off	Results	Evaluation
Chi-Square	Expected to be small	0.019	Good
Probability	≥ 0.05	0.072	Good
RMSEA	≤ 0.06	0.057	Good
TLI	≥ 0.95	0.971	Good
CFI	≥ 0.80	0.886	Good
CMIN/ DF	≤ 2.00	0.000	Good

Source: Data processed (output AMOS 7.0)

**Table 2**  
**Goodness of Fit Test of External Environment Model (X1)**

Criteria	Cut-Off	Results	Evaluation
Chi-Square	Expected to be small	0.002	Good
Probability	≥ 0.05	0.072	Good
RMSEA	≤ 0.06	0.047	Good
TLI	≥ 0.95	0.972	Good
CFI	≥ 0.80	0.816	Good
CMIN/ DF	≤ 2.00	0.000	Good

Source: Data processed (output AMOS 7.0)

**Table 3**  
**Goodness of Fit Test of Internal Environment Model (X2)**

Criteria	Cut-Off	Results	Evaluation
Chi-Square	Expected to be small	0.002	Good
Probability	≥ 0.05	0.061	Good
RMSEA	≤ 0.06	0.056	Good
TLI	≥ 0.95	0.988	Good
CFI	≥ 0.80	0.811	Good
CMIN/ DF	≤ 2.00	0.000	Good

Source: Data processed (output AMOS 7.0)

**Table 4**  
**Goodness of Fit Test of the Planning and Human Resource Management Model (Y1)**

Criteria	Cut-Off	Results	Evaluation
Chi-Square	Expected to be small	0.0231	Good
Probability	≥ 0.05	0.000	Good
RMSEA	≤ 0.06	0.046	Good
TLI	≥ 0.95	0.971	Good
CFI	≥ 0.80	0.835	Good
CMIN/ DF	≤ 2.00	0.012	Good

Source: Data processed (output AMOS 7.0)

filled, and they do not modifying. It is clear that the model is acceptable.

Table 4 shows the six criteria used to determine whether or not a model has been fulfilled, and they do not need to be modified. It is clear that the model is acceptable.

Table 5 shows the six criteria used to determine whether or not a model has been fulfilled and it does not need to be modified. It is clear that the model is acceptable.

Table 6 shows the six criteria used to determine whether or not a model has been fulfilled, and it

**Table 5**  
**Goodness of Fit Test of Increased Employees Model (Y2)**

Criteria	Cut-Off	Results	Evaluation
Chi-Square	Expected to be small	0.001	Good
Probability	$\geq 0.05$	0.090	Good
RMSEA	$\leq 0.06$	0.056	Good
TLI	$\geq 0.95$	0.910	Good
CFI	$\geq 0.80$	0.870	Good
CMIN/ DF	$\leq 2.00$	0.001	Good

Source: Data processed (output AMOS 7.0)

**Table 6**  
**Goodness of Fit Model Test of Education and Training (Y3)**

Criteria	Cut-Off	Results	Evaluation
Chi-Square	Expected to be small	0.029	Good
Probability	$\geq 0.05$	0.236	Good
RMSEA	$\leq 0.06$	0.047	Good
TLI	$\geq 0.95$	0.987	Good
CFI	$\geq 0.80$	0.996	Good
CMIN/ DF	$\leq 2.00$	0.014	Good

Source: Data processed (output AMOS 7.0)

**Table 7**  
**Goodness of Fit Model Test of Employee Performance and Recognition (Y4)**

Criteria	Cut-Off	Results	Evaluation
Chi-Square	Expected to be small	0.028	Good
Probability	$\geq 0.05$	0.061	Good
RMSEA	$\leq 0.06$	0.055	Good
TLI	$\geq 0.95$	0.981	Good
CFI	$\geq 0.80$	0.966	Good
CMIN/ DF	$\leq 2.00$	0.014	Good

Source: Data processed (output AMOS 7.0)

**Table 8**  
**Goodness of Fit Model Test of Employee Satisfaction (Y5)**

Criteria	Cut-Off	Results	Evaluation
Chi-Square	Expected to be small	0.002	Good
Probability	$\geq 0.05$	0.007	Good
RMSEA	$\leq 0.06$	0.047	Good
TLI	$\geq 0.95$	0.972	Good
CFI	$\geq 0.80$	0.821	Good
CMIN/ DF	$\leq 2.00$	0.001	Good

Source: Data processed (output AMOS 7.0)

**Table 9**  
**Goodness of Fit Model test of Human Capital (Y6)**

Criteria	Cut-Off	Results	Evaluation
Chi-Square	Expected to be small	0.002	Good
Probability	$\geq 0.05$	0.057	Good
RMSEA	$\leq 0.06$	0.058	Good
TLI	$\geq 0.95$	0.972	Good
CFI	$\geq 0.80$	0.821	Good
CMIN/ DF	$\leq 2.00$	0.001	Good

Source: Data processed (output AMOS 7.0)

does not need to be modified. Therefore, it is clear that the model is acceptable.

Table 7 shows the six criteria used to determine whether or not a model has been fulfilled, and it does not need to be modified. It is clear that the model is acceptable.

Table 8 shows the six criteria used to determine whether or not a model has been fulfilled, and does not need to be modified. It is clear that the model is acceptable.

Table 9 shows the six criteria used to determine whether or not a model has been fulfilled, and does not need to be modified. It is clear that the model is acceptable.

## b. Causality Relationship between Variables

As in the data interpretation of each path coefficient, it is based on the output of AMOS 7.0 which is as the following:

### Testing of Hypothesis 1

Hypothesis 1 tested whether the external environment has a significant and positive effect on human resource planning and management. In doing this related to the effect of X1 to Y1 hypothesis, the results can be interpreted referring to the path coefficient that is positive (0.781), with the value of CR (3339) and significant profitability of 0.000 which is less than the significance level ( $\alpha$ ) as it is set at 0.05. This implies that the external environment has a positive and significant effect on planning and human resource management at 5% significance level. Therefore, it rejects H0 but accepts H1.

### Testing of Hypothesis 2

Hypothesis 2 tested whether internal environmental has a positive and significant effect on the planning and management of human resources. To test the effect of X2 on Y1, it was found that the positive path coefficient is (0.851), with the value of CR (4343) and significant profitability of 0.000 which is lower than the significance level ( $\alpha$ ) as is set at 0.05. This means the internal environment has a positive and significant effect on the planning and management of human resource at 5% significance level. Therefore, it rejects H0 but accepts H1.

### Testing of Hypothesis 3

Hypothesis 3 tested whether the external environment has a positive and significant effect on the increase in employee. To test hypothesis effect of X1 on Y2, it proves that the path coefficient is positive at (0.452), with the value of CR (0373) and profitability significantly by 0.056, which is greater than the significance level ( $\alpha$ ) as set at 0.05. This it means that external I environment has no significant and positive

effect on the increase in employees at 5% significance level. For that reason, it rejects H1 but accepts H0.

#### **Testing of Hypothesis 4**

Hypothesis 4 tested whether internal environmental positive and significant effect on the increase employee. To test hypothesis of the influence X2 to Y2, can be interpreted based on the results of the path coefficient is positive (0.715), with the value of CR (5723) and significant profitability of 0.000, lower than the level significant ( $\alpha$ ) which is set at 0.05, which means that the internal environment variable positive and significant effect on the variable increase in employees at 5% significance level Hence the decision was taken reject H0 thank H1

#### **Testing of Hypothesis 5**

Hypothesis 5 tested whether the external environment has a positive and significant effect on education and training. To test the effect of X1 on Y3 hypothesis, it can be interpreted based on the results of the path coefficient that is positive (0.978), with the value of CR (4040) and significant profitability of 0.000, less than the significance level ( $\alpha$ ) which is set at 0.05, which means external environment variable positive and significant impact on the education and training variables at 5% significance level. Thus, it rejects H0 but accepts H1.

#### **Testing of Hypothesis 6**

Hypothesis 6 tested whether the internal environment has a positive and significant effect on education and training. To test the effect of X2 on Y3 hypothesis, it can be interpreted based on the results of the path coefficient is positive (0.725), with the value of CR (2597) and significant profitability of 0.015, less than the significance level ( $\alpha$ ) which is set at 0.05, which means external environment variable positive and significant impact on the education and training variables at 5% significance level. So, it rejects H0 but accepts H1.

#### **Testing of Hypothesis 7**

Hypothesis 7 tested whether the external environment has a significant positive effect on employee performance and recognition. To test the effect of X1 on Y4 hypothesis, it can be interpreted based on the results of the path coefficient that is positive (0.221) with the value of CR (1007) and profitability significantly by 0.052, greater than the significance level ( $\alpha$ ) which is set at 0.05. This indicates that the external environment has no positive and significant effect on the employee performance and recognition at 5% significance level. Therefore, it rejects H1 but accepts H0.

#### **Testing of Hypothesis 8**

Hypothesis 8 tested whether the internal environmental has a positive and significant effect on employee performance and recognition. To test the effect of X2 on Y4 hypothesis, it was found that path coefficient is positive at (0.718) with the value of CR (3373) and significant profitability of 0.000, less than the significance level ( $\alpha$ ) which is set at 0.05. This also means that the variable internal environment and significant positive effect on employee performance variables and recognition at 5% significance level. So, it rejects H0 but accepts H1.

#### **Testing of Hypothesis 9**

Hypothesis 9 tested whether the external environment has a positive and significant effect on the performance of employee satisfaction. To test the effect of X1 on the Y5 hypothesis, it was found that the path coefficient is positive (0.346) with the value of CR (0260) and profitability significantly by 0.061, greater than the significance level ( $\alpha$ ) which is set at 0.05. This also means that the external environment has no positive and significant effect on employee satisfaction at 5% significance level. For that reason, it rejects H0 but accepts H1.

#### **Hypothesis of Testing 10**

Hypothesis 10 tested whether the internal environment has a positive and significant effect on the performance of employee satisfaction. To test the effect of X1 on the Y5 hypothesis, it was found that the path coefficient is positive (0.914) with the value of CR (4969) and significant profitability of 0.000, less than the significance level ( $\alpha$ ) which is set at 0.05. It means that the external environment has no positive and significant effect on employee satisfaction variables at 5% significance level. Thus, it rejects H) but accepts H1.

#### **Testing of Hypothesis 11**

Hypothesis 11 tested whether the external environment has a positive and significant effect on the development of human capital. To test the effect of X1 on Y6 hypothesis, it can be seen from the path coefficient that is positive at (0.922) with the value of CR (4697) and significant profitability of 0.000, less than the significance level ( $\alpha$ ) which is set at 0.05. This means that the external environment has a significant positive effect on the development of human capital variables on the real level of 5%. Therefore, it accepts H1 but rejects H0.

#### **Testing of Hypothesis 12**

Hypothesis 12 tested whether the internal environ-

ment has a positive and significant effect on the development of human capital. To test the effect of X2 to Y6 hypothesis, it can be referred to the path coefficient that is positive (0.831) with the value of CR (3582) and significant profitability of 0.000, less than the significance level ( $\alpha$ ) which is set at 0.05. This also means that the internal environment has a positive and significant effect on the development of human capital variables on the real level of 5%. Therefore, accepts H1 but rejects H0.

### Testing of Hypothesis 13

Hypothesis 14 tested whether planning and management of human resources has a significant positive effect on the development of human capital. To test the effect of Y1 to Y6 hypothesis, it can be addressed to the path coefficient is positive (0.978) with the value of CR (4040) and significant profitability of 0.000, less than the significance level ( $\alpha$ ) which is set at 0.05. It also means that planning and development of human resources has a significant positive effect on the development of human capital variables at 5% significance level. Therefore, it rejects H0 but accepts H1.

### Testing of Hypothesis 14

Hypothesis 14 tested whether the increase of employee has a positive and significant effect on the development of human capital. To test the effect of Y2 to Y6 hypothesis, it can be based on the results of the path coefficient that is positive at (0.713) with the value of CR (3182) and significant profitability of 0.000, less than the significance level ( $\alpha$ ) which is set at 0.05. This means that the increase of employee has a positive and significant impact on the development of human capital variables at 5% significance level. Therefore, it rejects H0 but accepts H1.

### Testing of Hypothesis 15

Hypothesis 15 tested whether education and training has a positive and significant effect on the development of human capital. To test the effect of Y3 to Y6 hypothesis, it can be referred to the path coefficient that is positive at (0.757) with the value of CR (3348) and significant profitability of 0.000, less than the significance level ( $\alpha$ ) which is set at 0.05. This implies that the variable education and training has a positive and significant effect on the development of human capital variables at 5% significance level. Therefore, it rejects H) but accepts H1.

### Testing of Hypothesis 16

Hypothesis 16 tested whether employee performance and recognition has a positive and significant

effect on the development of human capital. To test the effect of Y4 to Y6 hypothesis, it can be interpreted based on the results of the path coefficient that is positive (0.721) with the value of CR (3384) and significant profitability of 0.000, less than the significance level ( $\alpha$ ) which is set at 0.05. This means that the employee performance and recognition of positive and significant effect on the development of human capital variables at 5% significance level. Therefore, it rejects H0 but accepts H1.

### Testing of Hypothesis 17

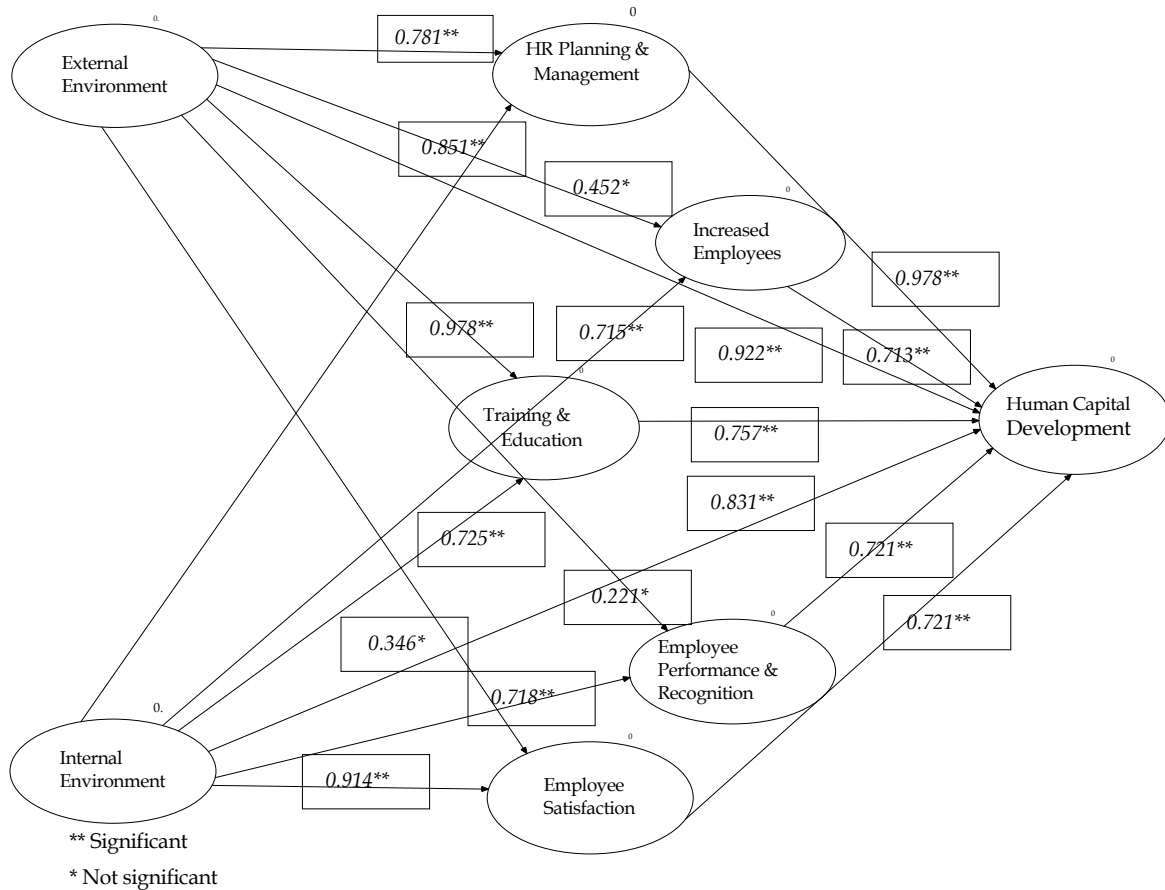
Hypothesis 17 tested whether employee satisfaction has a positive and significant effect on the development of human capital. To test hypotheses on the influence Y5 Y6, can be interpreted based on the results of the path coefficient that is positive (0.721) with the value of CR (2520) and profitability significantly by 0,012, less than the significance level ( $\alpha$ ) which is set at 0.05. This also means that the employee performance and recognition has a positive and significant effect on the development of human capital variables at 5% significance level. Therefore, it rejects H0 but accepts H1.

Based on the results of hypothesis testing and the relationship among the variables, the proposed operational framework is presented in Figure2.

### The Effects among Variables

The total effect is the overall effect of the direct and indirect effects among variables in the model. The goal is to see the degree of the direct relationship between the variables and after going through the intervening variable. As referred to Ferdinand (2002), the total effect will be totaled between direct and indirect effects. Based on the calculation and analysis, the total effect of the external and internal environment, the planning and human resource management, employee improvement, education and training, employee performance and recognition, employee satisfaction, and human capital development can be described as follows:

1. The external environment (X1) has a positive and significant effect on the planning and management of human resource (0781), education and training (0978), and the development of human capital (0.922). It shows a strong effect of the external environment on some endogenous variables, but it is weakened on the increase of employees (0452), employee performance and recognition (0221), and employee satisfaction (0346).
2. The internal environment (X2) has a positive and significant effect on the planning and management of human resource (0851), an increase of



**Figure 2**  
**Hypothesis Testing**

employees (0715), education and training (0725), employee performance and recognition (0718), employee satisfaction (0914), and human development capital (0831). This indicates a strong influence of the external environment on endogenous variables.

3. Planning and HR management (Y1) has a positive and significant effect on the development of human capital (0.978), this shows a strong effect of human resource planning and management on the development of human capital.
4. Increased employee (Y2) has a positive and significant effect on the development of human capital (0.713). It shows a strong effect of the increase in employees on the development of human capital.
5. Education and training (Y3) positive and significant impact on the development of human capital (0.757). It shows a strong effect of education and training on the development of human capital.
6. Employee performance and recognition (Y4) has a positive and significant effect on human capital development strategy (0.721). It shows a strong influence employee performance and recognition

of the development of human capital.

7. Satisfaction of employees (Y5) has a positive and significant effect on the development of human capital (0.721). It indicates a strong effect of employee satisfaction on the development of human capital.

### Discussion

Based on the analysis of the results of research it can concern the strong effect of exogenous variables on endogenous variables and human capital. The following discussion is based on the stages of the path relationships between variables in the model:

#### 1. The effect of external environment on human resource planning and management.

As it has been proved that the external environment has a positive and significant effect on the planning and management of human resources. This finding is consistent with research by Davenport (2004), Oudenhoven (2004), Saputra (2005), and Waromi (2006). Therefore, this can be argued that human resources planning and management has always to be adapted to changes in the external environment, including changes in the political and legal environment, eco-

nomics, demography, technology, and the social environment.

It also implies that human resource managers of go-public manufacturing companies think that planning and management for human resource needs to be improved by changing the external environmental conditions such as changes in economic conditions, socio-cultural, technological, political, legal and demographic aspects.

### **2. The Effect of the internal environment of the human resource planning and management.**

The internal environment has a positive and significant effect on the planning and management of human resources. This finding is consistent with research by Oudenhoven (2004) that in order to establish a human resource planning and management should strengthen the internal environment.

The implications of these findings for human resource managers of go public manufacturing companies is that planning and human resource management needs to be improved by changing the internal environmental conditions. This can be dealt with such as the availability of work and adjustment of skills and competencies of employees with work undertaken, and the creation of working conditions that motivate employee productivity.

### **3. The effect of the external environment on increase of employee.**

The external environment has a positive but not significant effect on the increase in employees. This finding is consistent with research by Sanjoyo (2004), and Baldrige (2001) that an increase in the quality of employees is not affected by the external environment, because the external environment does not develop skills and the quality of employees, and the frequency of changes in the external environment for manufacturing companies only tentative at market prices of stock.

The implications of these findings for human resource managers of go public manufacturing companies is that the quality of the employees would be enhanced by technical guidance / benchmarking if the market demand of industrial products significantly affected by changes in the external environment.

### **4. The effect of the internal environment on the increase of employee.**

The internal environment has a positive and significant effect on the increase in employees. This study is in line with the research by Moskowitz and Warwick (2004), Daft (2006), and Miller (2004) that the element of the quality of employees can be done by increasing resources, infrastructure work, and working conditions.

It implies that The implications of these findings for human resource managers of go public manufacturing companies is that improving the quality of employees can be improved by improving the internal environment, such as the preparation of working facilities in accordance with its objectives. It also focuses on the adjustment of skills and competencies of employees with real work. It should motivate the employees in work environment to increase the employees' productivity.

### **5. The Effect of external environment on education and training.**

The external environment has a positive and significant effect on education and training. This evidence is consistent with research done by Baldrige (2004), and Zee (2003) confirming that the knowledge and skills of employees can be improved through education and training, while education and training and technical guidance can be done if the external environment changes, such as changes in technology, market information, and changes market behavior.

The above bring implication that human resource managers of go-public manufacturing companies should pay attention to education and training and more focuses on employee flexibility towards the external environment. In this case, flexibility is the sensitivity and change employee behavior to environmental changes.

### **6. The Effect of internal environment on education and training.**

The internal environment has a positive and significant effect on education and training. This is still consistent with research by Honig (2009), and Peter et al (2005) that the education and training of employees are determined by the internal state of the company, in this case is the management company.

This implies that human resource managers of go-public manufacturing companies have to focus on education and training of human resources.

### **7. The effect of external environment on employee performance and recognition.**

The external environment has no significant and positive effect on employee performance and recognition. This is consistent with research by Baldrige (2004), Donnelly (2005), Rival (2005), and Sutermeister (2003), and not in line with the results of Metz (2003), and Miller (2004), because the external environment could not increase productivity.

Thus, it can be implied that human resource managers of go-public manufacturing companies should still increase employee performance and recognition despite changes in the external environment.

**8. The effect of internal environment on the employee performance and recognition.**

The internal environment has a significant positive effect on employee performance and recognition. This is consistent with research by Daft (2006), Hasibuan (2007), Rival (2005), and Merza (2007) that the employee's performance and its recognition is determined by the internal environment. In this case, it deals with the application of human resource management within the company.

It has implication that human resource managers of go-public manufacturing companies should pay attention to employee performance and recognition continuously. This can be monitored in order to motivate and support the achievement of reputation management.

**9. The effect of the external environment on employee satisfaction.**

The external environment has a positive effect but not significant on employee satisfaction. This is consistent with research by Yurniwati (2003), Anwar (2009), and Waromi (2006) that employee satisfaction is not determined by the external environment. However, this finding is not significant because the external environment and the macro informational only indirectly provide benefits to the needs and desires of employees. The employee satisfaction is in fact associated with the utility of compensation and benefits earned by the facility, as well as meeting the needs of employees obtained after providing employment services to companies.

It implies that human resource managers of go-public manufacturing companies should improve job satisfaction of employees, despite changes in the external environment, such as still meeting the needs of employees, prepare the working facilities, as well as ask the participation of employees in work management.

**10. The Effect of internal environment on employee satisfaction.**

The Internal environment has a significant positive effect on employee satisfaction. It is consistent with research by Merza (2007), Robbins (2006) and Daft (2006) that the internal environment such as corporate strategy, organizational structure, culture, marketing, information systems, and control systems, and physical resources influence on employee satisfaction. For example, when the company can optimize the use of these resources, all stakeholders, including employees will feel satisfied.

It also implies that human resource managers of go-public manufacturing companies have to increase employee satisfaction. It should be to maintain the internal environment, such as meeting the needs of

employees, prepare the means of labor, employee participation in workplace management.

**11. The effect of external environment on development of human capital.**

The external environment has a significant and positive effect on the development of human capital which is still consistent with research by Martina, Antonius and Rachmawati (2007), Wyatt (2004) that the development of human capital is determined by the external environment. For the go-public manufacturing companies, the main orientation should be on the investors to enter the capital in the company, both domestic investors and foreign investors.

It implies that human resource managers of go-public manufacturing companies need to increase human capital development strategy for example by changing the external environmental conditions such as changes in economic conditions, socio-cultural, technological, political or legal, and demographics.

**12. The effect of internal environment on the development of human capital.**

The internal environment has a positive and significant effect on the development of human capital and this is still consistent with research by Martina, Antonius and Rachmawati (2007) and Sugiyanto (2007) that human capital development strategy can be done through strengthening the internal environment, such as increased knowledge, expertise, and managerial skills. It can be done by strengthening the internal environment in the formulation of corporate strategy, systems and procedures, information systems, and control systems.

This implies that human resource managers of go-public manufacturing companies should improve their human capital development strategy based on a strong management support when formulating human resource development strategy.

**13. The Effect of HR planning and management on human capital development.**

Planning and management of human resources has a significant and positive effect on human capital development strategy, and therefore, it is still consistent with research by Saputra (2005), Monson (2004), and Syahrial (2004), that the development of human capital can be done by a good planning and management of human resources.

Thus, it can be implied that human resource managers of go-public manufacturing companies should also improve their human capital development strategy from the process of recruitment, placement office, education and training, and compensation.

#### **14. The effect of the increase in employee on development of human capital**

The increase in employee has a positive and significant effect on human capital development strategy and thus it is still consistent with research by Naibaho (2006), Rival (2009), Fit-zent (2009), Sugiyanto (2007) that one of the human capital development strategy is determined by the increase in employees.

This implies that human resource managers of go-public manufacturing companies still need to improve employee in the selection process, placement, education, and job training as stipulated in the business strategy.

#### **15. The Effect of education and training on development of human capital**

Education and training has a positive and significant effect on the development of human capital. So, it is also consistent with research by Monson (2004), Syahrial (2004), and Sugiyanto (2007) that the development of human capital is influenced by education and training.

It implies that human resource managers of go-public manufacturing companies have to improve their human capital development strategy through education and training, managing employee behavior, improve cognitive, affective, and psychomotor.

#### **16. The Effect of employee performance and recognition and the strategy of human capital development.**

The employee performance and recognition has a positive and significant effect on the development of human capital. Therefore, this is still consistent with research by Monson (2004), Idayanti (2003), Nurmala (2006), Sugiyanto (2007) that human capital development strategy can be done by increasing the productivity of continuous work. The relationship between performance and human capital is very close because not all employees have a value that is seen as the capital.

Thus, it also implies that human resource managers of go-public manufacturing companies should improve their human capital development strategy through monitoring and continuous evaluation of employee performance.

#### **17. The Effect of employee satisfaction on Human capital development strategy.**

The employee satisfaction has a significant and positive effect on the development of human capital. Thus, this evidence is also consistent with research by Purba (2008), Merza (2007), Sugiyanto (2007), Zee (2000), Cooper (2004) that the employee satisfaction positive striving towards the development of human capital. Job satisfaction has a strong influence on the development of human capital.

It implies that human resource managers of go public manufacturing companies that the strategy of the development of human capital can be increased by should increase their employees' satisfaction, through fulfillment and improvement of quality of life for themselves and their families.

#### **5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATION**

Some conclusions that can be drawn are :

- 1) The external environment has a positive and significant effect on the planning and management of human resources, education and training. Manufacturing company must always pay attention to changes in the economic environment, socio-cultural, technological, political / legal and demographic, and is associated with changes in human resource planning and management. Specifically, in the planning, it deals with such as scheduling and technical training, technical supervisor by technicians from abroad and always adapt to the trend of technological development, industrial, and the market with the education and training of employees to improve the quality of human resources, capabilities, and competencies.
- 2) The external environment has a positive and significant effect on the development of human capital strategy, because some foreign investors directly put management and labor on the company to synchronize the management and transfer of technology.
- 3) The external environment has no significant effect on employee satisfaction, employee performance and recognition, and an increase in employees, because of the general management of the company still hold the company's initial strategy in response to in stock prices, both in bullish condition and stock price correction in the bearish conditions.
- 4) The internal environment has positive and significant effect on the planning and management of human resources, improving the quality of employees, the implementation of training, increase employee performance and recognition, employee satisfaction, and the development of human capital in go-public manufacturing companies.
- 5) Planning and management of human resources can improve the quality of employees, the implementation of training, increase employee performance and recognition, fulfillment of employee satisfaction and significant positive effect on the development of human capital in go-public manufacturing companies.
- 6) Among the external environment, education and training is the most influential while in the internal environment, the employee are the most influential.



In the development of human capital, the planning and management of human resources is the most dominant one.

There are some suggestions as based on the results of this study it is important to do as the following:

1) To develop human resources into human capital, leadership go-public manufacturing companies should develop Human Capital Master Plan (HCMP) that is a framework strategy of gradual development of human capital for the next period.

2) to prepare a good planning and management of human resource, employee quality improvement, implementation of education and training, improving employee performance and recognition, employee satisfaction and fulfillment of human capital development strategy in go-public manufacturing companies. All these should still be strengthened by taking into account the support of the internal environment such as the preparation of the Strategic Plan of human resource development.

3) The companies must start a tradition capital system by aligning the activities of human resources management system and optimization of the flow of human capital framework among the employees. Thus, strengthening human capital system and the acceleration of continuous performance improvement of human resources needs to be done, so it can increase the competence and performance of HR significantly to support the achievement of corporate goals.

4) The go-public manufacturing companies in Indonesia must also establish a new systemic approach in developing human capital strategies, as well as human capital management as a system designed to improve the performance of the employee and the company, as well as, to create competitive advantage through sustainable human development (sustainable).

This study is limited to changes in the external environment and internal environment in order to develop human capital. Beside, this study did not discuss more the flexibility of the company's strategy in the development of human capital in go-public manufacturing companies. For the following studies, the researchers can conduct further study on the company's strategy of flexibility in the empowerment of human capital on go-public manufacturing companies in Indonesia.

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