

# The role of employee engagement as a mediating effect on corporate culture and human capital for enhancing defence industry effectiveness

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## Abstract

*Research on organization effectiveness has shown a significant upward trend in the recent past. The purpose of the present study is to propose a conceptual model that empirically examines the relationship between organization effectiveness and related variables that affect it such as corporate culture and human capital and also indirectly affected by employee engagement of Indonesia Defense Industry - PT Pindad Persero, PT Dirgantara Indonesia and PT Pal Indonesia Persero. A data set of managers and staff was collected from defence industries and it represents the X, Y, Z generation. It was collected through a survey instrument based on quota with random proportional samples. The collected responses were subsequently tested by using structural equation modelling (SEM).*

*The research result shows the importance of intangible dimension is a crucial factor and the most significant variable to increase defense industry organization effectiveness is to put forward employee high level working commitment through employee engagement development. Employee engagement is the binding factor in order to enhance corporate culture transformation and to absorb knowledge, competency and employee qualification through human capital development, which are lead to improve defense industry organization effectiveness in terms of productivity, adaptability and flexibility.*

*Managerial implication from this research gives the theoretical approach to the researcher and manager to apply a good employee engagement in developing creativity and innovation capability, making proper culture transformation to produce a solid team work, which is supported by high performance human capital development in order to improve organizational effectiveness. For further research, it is needed to examine other variables for measuring organizational effectiveness such as, integrity, trustworthiness and business intelligence /big data analytics. This research demonstrates the impact of organization effectiveness on the defence industry, a relatively under research in Indonesian context. The present study is an earnest effort in this direction to analyze the relationship of corporate culture, human capital through employee engagement in order to enhance organizational effectiveness.*

**Keywords:** corporate culture, human capital, employee engagement and organizational effectiveness.

## Introduction

These days, public and private organizations have faced a new challenge to reach its value-added products caused by the rise of globalization, which is characterized by the uncertain and turbulent environment. Every organization has to embrace a continuous improvement in order to reach an organization effectiveness. Similarly, defense industries are trying to produce advanced defense weapon systems. The capability of defence industry in Asia countries, such as, China, Japan, South Korea, Taiwan and Singapore have developed significantly. The Defense Industry is a complex system and mostly relates to high technology. Therefore, Indonesia defense industries need to improve its capability to become an advanced defense industry. Currently, defense industries in the world have changed the way they are doing business in order to adapt and respond to the new environment. Diversification strategy, restructuring, downsizing, merger and acquisition strategy have been done to streamline the organization. However, these strategies are not enough to enhance organization effectiveness in case that intangible aspect has not grasped effectively. Nowadays, the performance of Indonesia defense industries, such as PT Pindad Persero (Land Platform),

PT Dirgantara Indonesia (Aerospace Platform) and PT Pal Indonesia Persero (Naval Platform) have shown the good progress, however, it have faced challenges in adopting a state of the art technology. It can be argued that intangible resources considerations such as human capital, corporate culture and employee engagement are crucial prerequisites to develop defense industry effectiveness.

## Hypothesis development and conceptual model

Competent personnel are the building blocks for nurturing a performance-oriented organization effectiveness. Therefore, owning a workforce having the prerequisite capabilities is vital for effective performance. However, making such an assessment on capabilities is not an easy task. Companies seek to develop measurable, observable systems and tools through which employees' performance can be assessed and developed (Sateesh V. Shet et.al 2019). In other words, organization effectiveness should enhance employee competency based on intangible evaluation and development. As a result, both private and public organizations have shown much interest in using intangible assets as a tool for management. Hence, the objectives of this research are:

- To analyze the impact of corporate culture, human capital and employee engagement practices on superior performance; and
- To establish the correlation between those variables to organization effectiveness.

According to Amarjeev Kaul, (2018) strategy and culture produce a new model of business development. Strategy should be the driving force for every organization to be effective and culture is the foundation to reach legitimacy. Mahadevan (2017) shows the relationship between learning organization and leadership as an essential component which can shape a good commitment among employees. Golnaz, Sadri (2001) identifies culture can create value and wellbeing in the working place. Based on the research, it can be formulated the hypothesis.

### **Corporate culture and employee engagement**

Corporate culture as a strategic asset is very important because it relates to organization effectiveness. According to Kumaraguru Mahadevan, (2017) conceptual business process approach, called culture driven regeneration (CDR), it is a tool for managing change. Amir, Seyed (2014) states that business excellence (BE) as holistic capability offers an effective solution to increase organization effectiveness. According to Bolboli (2014) there is a relation between BE and culture for transforming an appropriate culture across organization. Jason von Meding (2013) examines the relationship between stakeholder management and culture and its impact to organization in the long run. Flamholtz, Eric G (2012) examine corporate culture, performance as a main factor of organization effectiveness. Lund, Daulatarm B (2003) describe corporate culture is relate to the employee commitment Based on the research above, it can be formulated the hypothesis.

H1: Corporate culture influences employee engagement.

### **Human capital and employee engagement**

According to Benon Muhumuza, (2019) explains that human capital can improve employee engagement. Humans are valuable and can increase return on investment ROI in terms of cost and benefit and it affects a high output. It can influence employees to adapt to any circumstances in the working place easily. Baron, Angela (2011) elaborates human capital is a knowledge, skill and best practices and it can disseminate value in organization. Measuring human capital is not only to measure skill and its contribution to productivity but also to measure how knowledge translates into knowledge management.. Baron, Angela (2011) have a certain view on human capital measurement that always becomes a challenge. Generally, human capital defined as an intellectual element and social capital consist of connection and network that create and transfer the knowledge, organizational capital

including company policy and procedures, patent and other knowledge owned by the company and individual. The research shows accumulation of good human capital delivers high organizational performance, caused by important and high quality decisions and the ability to minimize mistakes depends on human capital.. Based on the research above, it can be formulated the hypothesis.

H2: Human capital influence positively on employee engagement.

### **Corporate culture and organization effectiveness**

According to Mahadevan (2017) corporate culture, learning organization and leadership are the core component for organization improvement. Flamholtz, Eric G. (2012) states that corporate culture is a strategic asset, while is not manage properly can be a liability and there is significant relation between culture and performan. Thus every organizatio needs to know how to develop a culture which is a backbone of organization effect According to Hofstede, Geert (2005) culture is a share value and it can create a uniqueness from each group. Thus, culture can be described as a knowledge, value, belief, communiation and behaviour of the society that can effect organization effectiveness. Based on the research above, it can be formulated the hypothesis.

H3: Corporate culture influences positively on organization effectiveness.

### **Human capital and organization effectiveness**

According to Islam, Talat and Tariq, Jawad (2018) examines employee engagement in relational derivative study, which it describes positive working environment and competitive advantage. The research studies the relation between employee engagement and creativity which refers to extra-role behaviors. Anitha J. (2014) states that self-expression is a psychological condition for organization effectiveness. Baumruk, R (2004) describes employee engagement is a strong energy for measuring organization. In general, a conducive working environment influences innovation and cooperation among employees. As a result, organizations become effective for focusing on goals, stakeholder satisfaction and connecting with external stakeholders. According to Wan, Hooi Lai (2017) human capital influence positively on employee engagement such as satisfaction in working place, productivity, profit, employee retention and customer satisfaction Based on the research above, it can be formulated the hypothesis.

H4: Human capital influences positively on organization effectiveness.

### **Employee engagement and organizational effectiveness**

According to Zhang, Tanyu (2014) constructs employee

engagement as multidimensional and it can affect corporate culture and organization effectiveness. According to Kahn who defined employees at work as “the harnessing of organizational members” selves to their work roles, in personal engagement people employ and express themselves physically, cognitively and emotionally during role performances. According to Kahn deciding whether to engage in the workplace, people ask how meaningful it would be to enter into this performance. Sayed, Amir (2014) points out that culture is the total of the collective or shared learning of the group as it develops its capacity to survive in its external environment and to manage its own internal affairs. The study of corporate culture and how cognitive and non-cognitive factors interrelate and intertwine to influence behavior has been one of the most valuable for organization effectiveness. Based on the research above, it can be formulated the hypothesis.

H5: Employee engagement influences positively on organization effectiveness.

**Corporate culture and organization effectiveness through employee engagement’**

According Islam, Talat (2018) employee engagement is multidimensional construct in terms psychology. The involvement of employees in working place is a reflection of human existence, whether the task can give job satisfaction and produce a vigor, dedication and absorption value. Moreover, an organization needs a competent employee who is working with high creativity, productive and proactive. Thus employee engagement gives positive sentiment to create novelty with high enthusiasm. Baron, Angela (2011) measures human capital such as competency, qualification and creativity as intellectual and social capital for high performance which affect organization effectiveness. Ndinguri (2012) states that human capital is a strategic factor in production as it represents the cognitive competencies, skill, relational behavior and knowledge of individuals that enhance productive output which leads to organization effectiveness. Based on the research above, it can be formulated the hypothesis.

H6: Corporate culture influences positively on organization effectiveness through employee engagement as a mediating effect.

**Human capital and organization effectiveness through employee engagement**

According to Mention, AL and Bontis (2013) in the long run, organization needs human capital strategy to improve workforce productivity in order to obtain higher value added. To accomplish this undertaking, organizations will need to invest resources to ensure that employees have the information, skill and competencies and understand human capital development that would enhance employee satisfaction. Organizations can reach positive results by inventing, managing, sharing and diffusing information and knowledge. Durrani, TS dan Forbes, SM (2003) states that organization effectiveness relates to human capital investment and information technology which considers human development as an educated and qualified employee. Vidotto, Juarez Domingos (2017) examines the relation between human capital and organization effectiveness are significant. Cortés, Enrique Claver (2015) states knowledge as an intangible factor is a significant factor to reach value and organization effectiveness. Muhammad Shahid Khan (2018) describes human capital is significant factor for gaining competitive advantage and economic growth . . Based on the research above, it can be formulated the hypothesis.

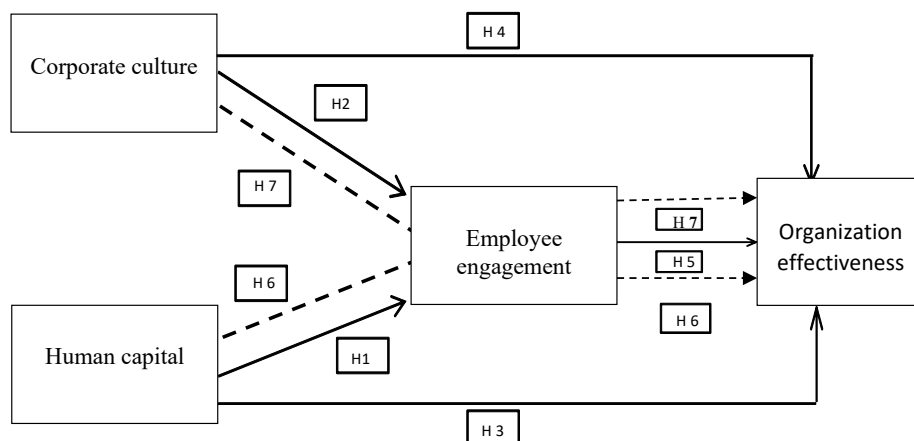
H7: Human capital influences positively on organization effectiveness through employee engagement as a mediating effect.

**Proposed model for the study**

The survey of existing literature studies led us to develop a conceptual scheme that links corporate culture, human capital and employee engagement constructs with organization effectiveness.

**Methodology**

The research is explorative to identify several factors



to predict the causes and mechanism. It is also using cross sectional design with quantitative analysis, Sekaran, U., & Bougie, R. (2016). The endogenous variable is organization effectiveness. Exogenous variables are corporate culture and human capital and employee engagement as mediating variables. Data collecting techniques is using questionnaires with five points of likert scale such as 1 = strongly disagree and 5 very agree.

**Sample:** Sample is part of the population with its characteristic. The method of non-probability sampling/ non random sample of leader and staff level from three defense industries. First, PT Pindad Persero 351 consists of 100

leaders and 251 staff. Second, PT Dirgantara Indonesia 434 personnel consist of 100 leaders and 334 staff, Third, PT Pal Indonesia 260 personnel consist of 100 leaders and 160 staff. The majority of respondents are generation Z, ages 18-30 years old in amount of 39, 8 %, generation Y ages 31-40 in amount of 34, 3% and generation X in ages 41-55 years old in amount of 25, 9%.

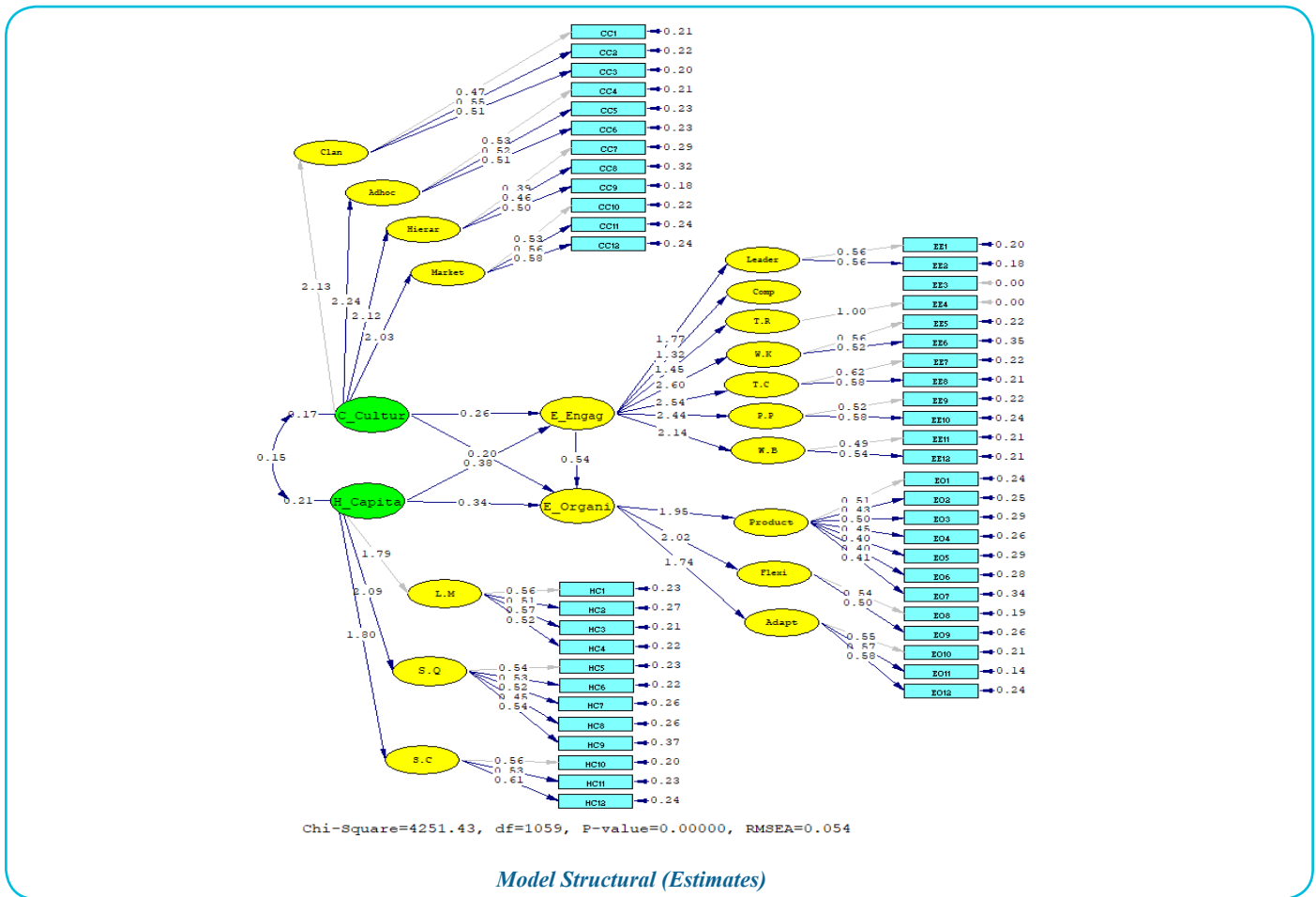
**Analysis and results**

**Instrument design**

Structural Equation Model and Hypothesis. The full

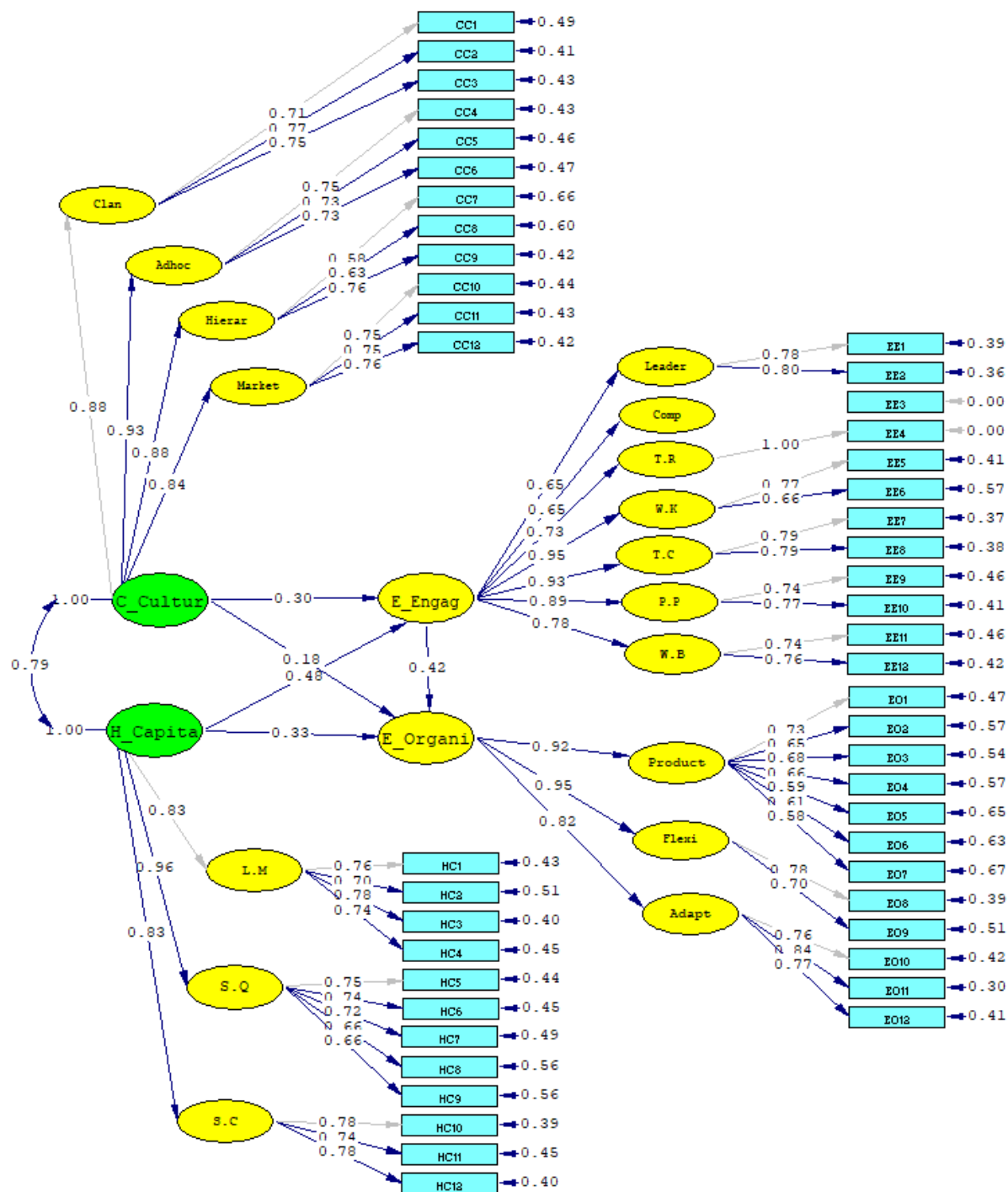
Source: Defense Industry Assessment, 2018

No	Defense Industries	Composition
1	PT Pindad Persero (Permanent Employee)	2.506 personnel
2	PT Dirgantara Indonesia (Permanent Employee)	3.343 personnel
3	PT Pal Indonesia Persero (Permanent Employee)	1.039 personnel



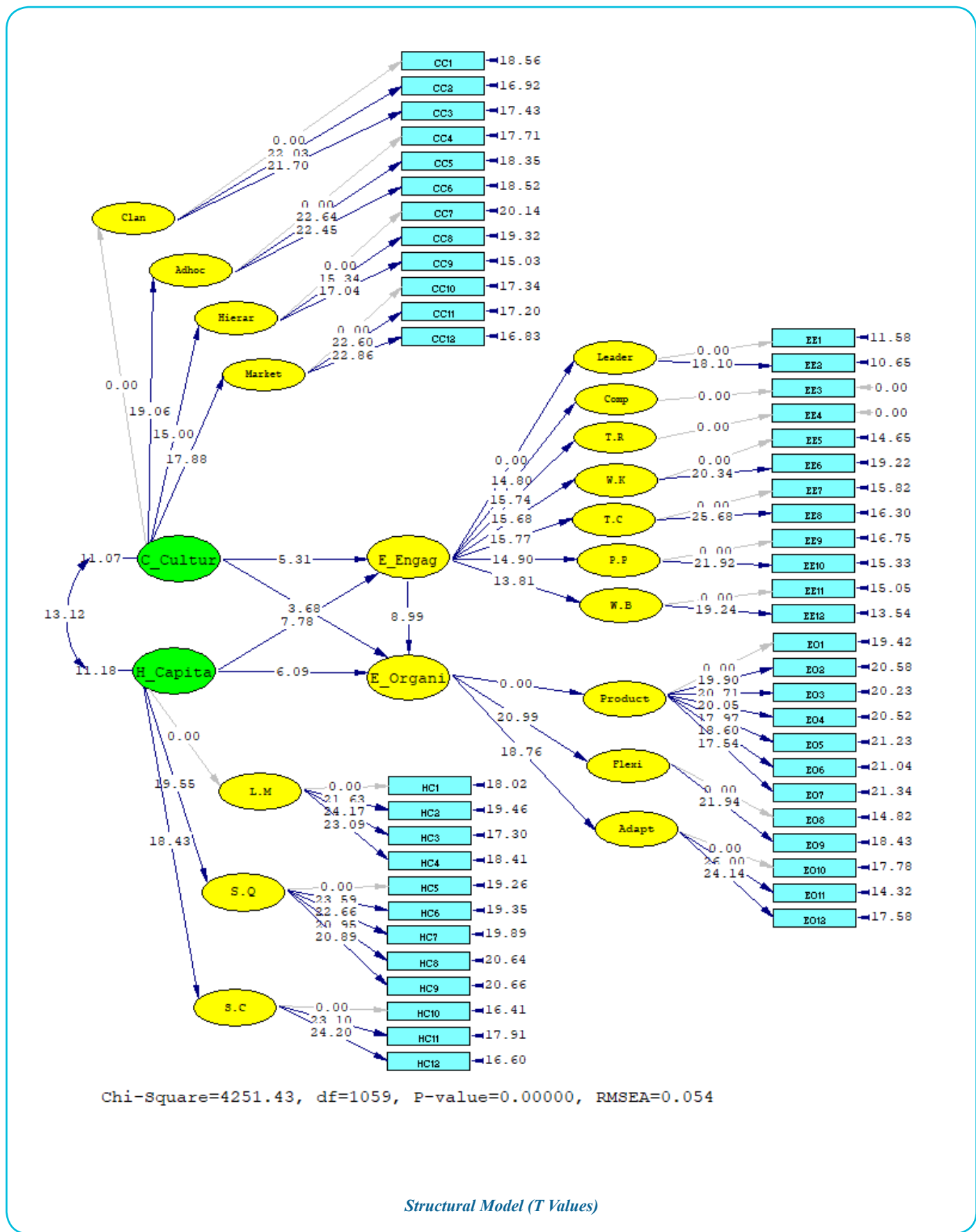
Model Structural (Estimates)





Chi-Square=4251.43, df=1059, P-value=0.00000, RMSEA=0.054

(Standardized Solutions)



SEM parameter  $\lambda$  (loading factor) measured by exogenous and endogenous model by Structural Equation Modeling (LISREL) 8.80. The measurement is to identify the scale of indicator from each construct variable; this analysis measures

t-value and structural coefficient structural, whether t-value >1, 96. As a result t-value from parameter and estimation describe in three diagram as follow;

Model Fit Index

Goodness of fit index	Criteria (cut-off value)	Result	Conclusion
X <sup>2</sup> - Chi-square	small hoped	4251,43	
Significance probability	< 0,05	0,000	Model unfit
RMSEA	≤ 0,10	0,054	Model fit
NFI	≥ 0,90	0,97	Model fit
CFI	≥ 0,90	0,98	Model fit
IFI	≥ 0,90	0,98	Model fit
RFI	≥ 0,90	0,97	Model fit

The table below can be concluded as structural coefisien model evaluation:

Path	Estimation	t-value	Conclision
Corporate culutre → Employee Engagement	0.26	5.31 > 1.96	Accepted
Human Capital → Employee Engagement	0.38	7.78 > 1.96	Accepted
Corporate Culture → Organization Effectivenees	0.20	3.68 > 1.96	Accepted
Human Capital → Organization Effectiveness	0.34	6.09 > 1.96	Accepted
Employee engagement → Organiza-tion effectiveness	0.54	8.99 > 1.96	Accepted
Variabel	The amount of influence		
	Direct	Indirect	Mediating Effect
Corporate Culture	0.20	0.14	Employee engagement
Human capital	0.34	0.21	Employee engagement
			T Value
			t = 4.83 > 1.96
			Accepted
			t = 6.78 > 1.96
			Accepted

## Discussion

According to structural model path diagram picture 4.5, 4.6 dan 4.7, which is measured by structural equation model. Organization effectiveness is an important variable in improving defence industries competitiveness in terms of productivity, flexibility and adaptability. As a matter of fact, organization effectiveness is influenced directly with other factors such as corporate culture, human capital and employee engagement variables through hypothesis from H1 to H7. The role of each variable can be described as follows; corporate culture is influenced directly by employee engagement with t-value 5.31 (t-value > 1,96). It means hypothesis one is accepted in amount of 0.26. Human capital is influenced directly by employee engagement with t-value 7.78 (t-value > 1,96). It means hypothesis two is accepted in amount of 0.38. Corporate culture is influenced directly by organization effectiveness with t-value 3.68 (t-value > 1, 96). It means hypothesis three is accepted in amount of 0.20. Human capital is influenced directly by organization effectiveness with t-value 6.09 (t-value > 1,96). It means hypothesis four is accepted in amount of 0.34. Employee engagement is influenced directly by organization effectiveness with t-value 8.99 (t-value > 1,96). It means hypothesis five is accepted in the amount of 0.54. The amount of indirect effect of corporate culture to organization effectiveness through mediating effect of employee engagement is 0,14 with t value 4.83 (t-value > 1,96). It means hypothesis 6 accepted and the amount of indirect effect of human capital to organizational effectiveness through mediating effect of employee engagement is 0.21 with t-value 6.78 (t-value > 1,96). It means hypothesis 7 accepted. Based on the research, hypothesis 5 shows organization effectiveness influenced directly to employee engagement. It is the most significant value in amount of 0,54 and it follows by hipotesis 2, employee engagement influenced directly by human capital in amount of 0,38. Others hypotheses are 4, 1 and 3 in amounts of 0,26; 0,20 and 0,34 respectively. It shows that employee engagement is a significant variable to enhance organization effectiveness, whereas hypothesis 7, organization effectiveness is influenced indirectly by human capital through mediating effect of employee engagement in amount of 0,21 and hypothesis 6, organization effectiveness is influenced indirectly by corporate culture through mediating effect of employee engagement in amount of 0,14. The research result shows the importance of intangible dimension is a crucial factor and the most significant variable to increase defense industry organization effectiveness is to put forward employee high level working commitment through employee engagement development. Employee engagement is the binding factor in order to enhance corporate culture transformation and to absorb knowledge, competency and employee qualification through human capital development, which are lead to improve defense industry organization effectiveness in terms of productivity, adaptability and flexibility

Research that has been done has identificate majority of

employees in productive age. Majority of respondents on 74,1% have represented Y generation respondents on average ages of 31-40 as 34,3% and Z generation as 25,9%. The Y and Z generation needs to become a strong point to increase organizational effectiveness in the defense industry through increasing corporate culture, human capital and employee engagement. The centerpiece for transforming organization effectiveness is generation Y and Z as a strong point for developing corporate culture, human capital and employee engagement.

Based on the research, there are several approaches to reach organization effectiveness to obtain a good character and identity in organisation. According to responden perception, market culture and clan culture are important, besides hierarchy and adhocracy culture should be addressed properly. The attributes of market culture are the ability of an organization to deal with external factors such as right repositioning, competitive behavior, product differentiation and market superiority, however, the level of stress also needs to be addressed. Second, organization needs to be transformed into clan culture. The attributes of clan culture have many indicators, such as cohesivity, team work, mentoring, and leader as a parent, a fasilitator and also a risk taker. Third. While a hierarchy culture needs to be increased, the role of leadership is being able to be a good administrator and effective coordinator. Moreover, adhocracy culture should also be addressed properly to catch up an innovation in a risk taking environment. Those culture transformations have to deal with all lines of leadership as agents of change in order to create a safe and conducive environment. These are the ability to balance between flexibility and rigidity. Second, right qualification and competency among employees can be obtained by robust human capital. Human capital has a close relation with the organizational capability in innovation and renewal of company strategy sourced from high levels of knowledge, skill, and the relation between human mind, physical and action. Respondent perception related to human capital needs to get attention are the level of satisfaction, creativity, leadership and employee motivation supported by development training programs and proper education in human resources development start from staf level, junior manager, group leader, manager and head division successively with emphasis on ages of 20 to 40. Third, employee engagement is related to the physical, cognitive and emotional aspects of employees in providing the best for the organization. Respondent perception related to the employee engagement need to get attention is the well organized working environment supported with complete working equipment. The second one, education, training and career path planning. the third one, compensation scheme to increase working spirit supported by good employee recruitment. Meanwhile, what needs to be maintained is the relationship between individuals that has been well established and involves employees in the decision making process. For the future, development employee



engagement planning starts from staf, junior manager, group leader, manager and head division successively with emphasis on ages of 20 to 40

## Conclusion

The research has shown that organization effectiveness of the defense industry needs to improve its intangible resources, because intangible assets are difficult to imitate. It relates to the character, qualification, competency, motivation and psychology aspect and these assets can give positive impact to organization effectiveness. The research result shows the importance of intangible dimension is a crucial factor and the most significant variable to increase defense industry organization effectiveness is to put forward employee high level working commitment through employee engagement development. Employee engagement is the binding factor in order to enhance corporate culture transformation and to absorb knowledge, competency and employee qualification through human capital development, which are lead to improve defense industry organization effectiveness in terms of productivity, adaptability and flexibility.

There are several recommendations to the managerial for optimizing leadership and managerial aspects, as follows; First, Organization Effectiveness. Maintaining (flexibility and quality of product); Improving (adaptation in every situation). Second, Corporate Culture. Maintaining (cohesiveness and teamwork); Improving (leader as administrator, mentor and facilitator, order, flexible and risk taker). Third, Human Capital. Maintaining (job competency, learning each other); Improving (leadership skill - visionary, inspiratory, motivator. Human capital development programs should adapt to new challenges.). Fourth, Employee Engagement. Maintaining (good relationship among co-worker, colleagues and leader); Improving (Clean working environment, compensation scheme, career path, transparent recruitment)

## Implication and limitations

Based on empirical finding from managerial implication on the efforts to improve corporate culture, human capital by mediating employee engagement to organizational effectiveness are as follows:

- Leaders need to maintain things that are good and improve things that are still lacking in an effort to increase employee engagement, corporate culture effectiveness, and organizational effectiveness.
- Regarding the indirect effect of employee engagement, the effect of human capital is perceived to be high compared to corporate culture in increasing organizational effectiveness. Efforts to improve human capital in employee engagement can be carried out by increasing employee job satisfaction with job satisfaction with the organization by increasing leadership skills, in the form of the ability to formulate a vision and a leader as an inspiration and motivation.

There are still many limitations in this research, those are:

- This research took respondents from the internal defense industry at PT Pindad Persero, PT Dirgantara Indonesia and PT Pal Indonesia Persero. Meanwhile, external stakeholders are not represented.
- This research limitate to examine the relationship between four variables, namely as follows: corporate culture, human capital, employee engagement and organizational effectiveness.

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