

## **Effective Elements of Industry-Training Center Collaboration in National Dual Training Systems (NDTS) Program**

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### **Abstract**

Currently, National Dual Training System (NDTS) program in Malaysia based on job training concepts in the industry still at a low level due to the lack of involvement from the industry. The governments have made an effort to involve high finance allocation in encouraging industry participation but the result is still disappointing. Hence, this reviewed paper describes the industry participation challenges of current NDTS program in Malaysia and takes into consideration based on issue of previous industry involvement, industry awareness and industry governance that influence the participation of industry in training programs.

**Keywords:** Industry participation, awareness, governance, incentive, National Dual Training Systems (NDTS)

### **Introduction**

The Government of Malaysia has implemented clear policies since the early 1990s to stimulate research and development (R & D) cooperation between educational institutions and industry, after realizing that the activities carried out R & D has important functions in driving innovation. In terms of R & D companies shows that they enjoying more benefits when collaborate in training program. Even companies that collaborate also able to produce a quality product at competitive costs. According Rast et al., (2012), the interaction between research institutions and industry has been considered as a strategic tool for innovation, competitiveness and economic growth of the country and the region.

### **NDTS Program**

Collaboration between training centers and industry should be enhanced to ensure the continuous efforts from the government gets the expected results. Based on the decision of the

Cabinet on May 19, 2004, NDTs first introduced in 2005 in accordance to develop human capital in Malaysia who are highly skilled and knowledgeable. NDTs programs is not only provides space and opportunity to youth and existing employees to improve their career, but also benefit the company in the event of skilled workers to work in the company. NDTs implementation in Malaysia is an adaptation of dual system which has been implemented in Germany (MLVK, 2005). To accelerate the development of a highly skilled workforce, world-class and high-income economy in Malaysia, TVET reform program through NDTs program shall be supported by public and industrial training institutes (Rashidi, 2013). This is because the government hoped that the industry can collaborate with TVET institutions through the sharing of resources in the NDTs program. In fact, in line with the approach NDTs program, each of the skills training should be carried out in TVET institutions and in industry.

At the beginning of its implementation, the scope of NDTs training only focused on four (4) areas of work, namely the automotive sector, production technology, industrial electronics and oil & gas. Field work was extended to the areas of work include the areas of automotive manufacturing, printing-press equipment manufacturing, installation of steel and other sectors covered by the National Occupational Skills Standard (NOSS). As of December 2014, a total of 63,002 apprentices have been trained under the program NDTs while 3,747 companies have been joined the National Dual Training System (NDTS Q-fact, 2014). Because it is a new system of skills training, the government has allocated substantial financial resources in implementing NDTs. Incentives in a form of monthly payments given to apprentices, training centers and industries involved. In addition, the industry is also entitled to get double tax deduction under the Income Tax Act 1967 or claim for the exercise of Human Resources Development Fund (HRDF) in accordance with the conditions a predetermined for companies or employers who are eligible (MLVK, 2005).

NDTs implementation method involves in two learning situations, namely 20% - 30% of the theoretical at training institutions and 70% - 80% practical training in industry either for day-release or block-release (DSD, 2011). With the concept of student centered and implemented in industry for practical training, provided an opportunity for apprentices to gain a better understanding of the theory as well as application of technical skills learned in real work situations. In this regard, the involvement of industry is needed in order to produce highly skilled workers to meet the requirements of Vision 2020 to become a high-income developed countries. Through collaboration with industry is to be hoped that the implementation of NDTs remain applicable in Malaysia like in Germany, while apprentices NDTs continued demand among employers. According to the Master Plan training and Malaysian Occupational Skills Development 2008-2010, the efforts to expand implementation of NDTs program is expanding the incentives to other companies or industries, integrating with Scheme Human Resources Development Fund (HRDF). It recognizes training programs in the industry specifically for experienced skilled workers by improve the image and status of skilled workers. It also develop NDTs training programs to reduce dependence on foreign workers, develop the more flexible format and method of execution to attract companies, individuals, communities, associations.

In addition, to strengthen the skills flow, the government has been enforcing the 652Act on September 1, 2007 after it was gazetted on June 29, 2006. This Act is a new sketch of skills training

in Malaysia since it was created specifically and exclusively for training and skills development and represents one of the most significant developments in the history of skills training. Indirectly industry involved in this Act clarify the importance and rules to be followed if the industry involved in skills training in Malaysia (DSD, 2008). Based on this, the Department of Skill Development (DSD) as the responsible department for policy formulation, planning and coordinating all training programs as well as skills development and training (SDT) have a very important role to promote the development of knowledge workers (k-Workers) with the expectation to achieve sustained economic growth and remain competitive at the global (DSD, 2008). NDTs Program is a collaborative program between industry and training centers which are voluntary (DSD, 2012a). Accordingly, the industry involved in the NDTs program should be voluntary and willing from the organization of industry itself. Based on the history of the NDTs program onset, incentives given by the government and policies established clearly shows various efforts have been made to encourage industry participation.

Nevertheless with the present industry scenario causing the gap to the problems of industry involvement in NDTs program currently. Therefore, the focus of this study is to describe industry participation challenges of the current NDTs program in Malaysia and takes into consideration of factors which are built based on the previous industry involvement, industry awareness and industry governance that influence the participation of industry in training programs.

### **Industry Involvement Issue**

Lack of industry involvement in NDTs program are not new. According to Ahmad Othman (1992), National Apprenticeship Scheme (NAS) provides a systematic training system based on the standard of craftsmanship, and is controlled by Industrial Training Institute (ITI) for a period between 3 to 4 years. NAS is a joint effort between government and industry to meet the needs of the skilled workforce. According to a report released by the Ministry of Labour and Employment in 1980, the industry benefited from this scheme. Aware of the benefits enjoyed by the industry through this scheme, the government has increased the capacity to build more ITI while improving the capacity of existing equipment and targeting output of 5,500 apprentices. However, due to lack of industry participating, only 73 apprentices finished their study in 1987 compared before the ITI build in 1979, the output of apprentices are 219. As a result, the participation of apprentices for this program is getting less and eventually NAS program terminated. The Ministry of Labour and Manpower Reports in 1980 state that NAS are terminated due to lack of industry participating in a training collaboration with the ITI. It shows that the industry still not ready and not see the government's efforts in promoting skills-based training in Malaysia (DSD, 2012b).

According to a study conducted by the World Bank in 1995, which involved a sample of 3,378 manufacturing companies throughout the country in which a total of 2,318 responded. The focus of this study was to determine whether the employer in Malaysia still lack to invest in training as has been previously reported. The study found that employers are still less invested in employees training. Only 20% provide formal or structured training, while the rest either provide on-the-job or informal training and not provide direct training (World Bank, 1997). The results of this study support the assumption that employers in Malaysia still lack invested in training, particularly in

formal and structured training (EPU, 1991) and most employers do not allocate sufficient funds for training (Tan, 1991). The reasons why employers do not participate in training is the lack of skills in use of the latest technology, lack of knowledge about training methods, and limited resources for training (World Bank, 1997).

Governance issue is one of the dominant factors in NDTS program. This is because NDTS program is a joint program between the two entities and governance should be an important element. Ansell, C. & Gash, A. (2008) in the study meta-analysis of 137 studies of governance cooperation, found the governance of an organization influences the involvement of these organizations to work together. The study found that among the variables that affect the governance of the organization's work is leadership, commitment, trust and coordination. According to Md Deros et al. (2012) survey report, most of the companies that participated in, the person incharge is very busy with daily tasks such as work orders, review and coordinate the work plan, teach methods of work, provide the working procedure as well as terminate and monitor the operation of the system. This is one of main reason why the organization governance must manage to ensure the training program can run smoothly.

Despite the obstacles mentioned, the successful cooperation between TVET institutions abroad should become inspired. Industry voluntary participation indicates that the industry abroad are committed to a exists cooperative relationship (DSD, 2012a). Training exercise in Germany is evidence of industry involvement in training Dual System very successful. As is known, NDTS program is adaptation of Dual System in Germany. Industry in Germany has traditionally played an important role in the delivery of training compared to the industry in Malaysia (MLVK, 2005). According to Kim (2010), through his study of cooperation between industry and training center barriers in South Korea, one of the most important issues related to collaborative is the behavior of different organizations. However, international competitive strategy in different countries can help to bridge the gap that exist (See Finegold D. & D. Soskice 1988). Thus, for industries involved in collaborative with TVET institutions, should be born of desire itself and needs to prepare aspects of the industry organization itself. If the behavior of the organization in industry are not positive will cause the industry has no intention to engage in a NDTS program.

Based on reports, studies and information that have been discussed, it can be concluded that industry commitment to collaboration consistently in training is still not encouraging. Many efforts have been implemented by the government. In fact, the government is committed to helping the industry as providing monthly incentive, promotion exercise, Double Tax Deduction Incentive (DDIT) scheme, help support in training curriculum, provide expertise of training implementation, advisory and strengthen the involvement of industry to ensure industry collaboration in NDTS program succeed. However, the continuous efforts from government still not get the expected results. The researcher believes that there should be a further study that focuses on the organization in the industry so that more obvious factors affect industry involvement in NDTS program can viewed. It is becoming a critical requirement for a scientific explanation concerning factors affecting the involvement of industry, especially for NDTS program.

### **Finding**

The theory explains about the factors that affect an organization interested in collaborative relationships have been proposed by previous researchers. However, there is no specific theories and models that can be the basis of a successful collaborative relationships (Gray 1991). This is because any established cooperation has different objectives and situations. However, based on previous studies, various factors influence the success of a cooperative relationship. This reviewed paper describe one model and two theory namely Commitment – Trust Model, Self Determination Theory and Coordination Theory. The relationship exists between industry participation challenges of the current NDTs program in Malaysia and takes into consideration of factors which are built based on the organizational governance, organizational motivation, organizational behaviour factors that influence the participation of industry in training programs.

Commitment-Trust Model proposes that trust and relationship commitment are the key mediators in the exchange between participants, which basically prompt building a social co-operation. The development of different types of relationship has placed trust in an inside stage for the most part as a result of the conviction that trust is crucial in building up cooperative relationships (Handfield and Bechtel, 2002). Commitment has been seen as the willingness or intention of a party to rely on a partner's competence, reliability/credibility and promptness to continue maintaining the relationship into the future. Commitment is key to every relational exchange amongst industry and its different accomplices in a long-term partnership between two or more organizations to accomplish particular business (NEDO, 1991). Trust likewise connected with the continuation of the relationship identified with the commitment concept. Trust includes one party having confidence in another party to satisfy its commitment. Parties' desires can be a decent indicator of the level of trust. At the point when the level of trust is high, the expectations can be dependably anticipated since it makes parties feel secure in their connection. Nonetheless, when trust is low, expectations will be blurred by instability. In a relationship of trust, industries can spare time overseeing and checking business accomplices, in this manner lessening the costs required with participation (Williamson, 1975). Relationship Commitment is characterized as a persevering desire to keep up a valued relationship, whether done independently or organization (Morgan and Hunt 1994). Involvement needs commitment to sharing the vision, mission and results between the industry and the other parties involved in the implementation of the NDTs program.

Involvement is the main result set to be affected specifically by both relationship commitment and trust. An accomplice focused on the relationship will collaborate with another part as a result of a yearning to make a relationship work. All these results contribute to overall network performance. Such activities will empower businesses and their systems to appreciate practical upper hands over their opponents and their systems in the worldwide commercial center. The commitments will directly affect the assurance of commitment in making decisions about the industry's involvement in the implementation of the NDTs program.

Incentive is an awareness that form an injection of motivation given by the government to the industry involved in the implementation of the NDTs program. Injection of motivation will encourage a self to create desire. Strong motivation came not only from the internal (intrinsic)

but also from the external stimuli (extrinsic). Motivation is the driving force in the process of making a decision, because it can affect the intention and movement of behavior (Bettman, 1979). There are various constraint that faced by the industry to be involved in the implementation of the NDTs program. Thus, to create the awareness, the injection of extrinsic motivation is needed as an incentive. The government began offering incentives to the industry to be involved in the implementation of the NDTs program when an early stage of implementation is not encouraging industry participation. Only two industries involved in the first year of NDTs implementation where the NDTs first batch are composed of 29 apprentices who trained under the Daimler Chrysler Company (Germany) and 14 apprentices of Automotive Mechatronics trained under Naza Automotive manufacturer.

Based on self-determination theory that was introduced by Deci and Ryan in 1985 stated that, over the life of a person, an individual trying to achieve integration and solidarity of new ideas and interests both within themselves and others. Self-determination theory is a social cognitive theory of motivation that emphasizes the way people interpret the meaning of events will affect the quality of their participation in it. Deci & Ryan (1985) states that the basic needs for competence and self-determination is more assumes the role in shaping behavior motivated. For example, the industry is conscious and without any external pressures choose to work in collaboration because it will help him to succeed. The industry is acting according to the basic needs for competence and self-determination, but the main choice is based on extrinsic reasons. However, Deci & Ryan (1985) assume that the basic requirements relating to the personal explain why someone switch from external to internal goals.

Extrinsic motivation is a motivation that comes from external stimuli or from others. It is easier to be seen because the output shown can be viewed in the near future. The motivation comes when a person gets the benefit and interest of the action taken. For example in the implementation of NDTs program, the government has given various incentives to the industries involved. Industry desire to get a better value, the desire to earn praise from others or the desire for reward are among the reasons why the industry are interested in collaborating. Encouragement from the outside will motivate the industry to achieve their wishes even in themselves are not satisfied with what they have done. Indirectly, extrinsic motivation can reduce the effect of intrinsic motivation. In the implementation of the NDTs program, extrinsic motivation is more powerful influence than intrinsic motivation.

Extrinsic motivation is still dominating the behavior and actions of the industry in Malaysia to engage in skills training programs. There is ample evidence that past studies have shown that incentives becomes one of the driving elements to the industries to work together. One of these is decreasing very significant industry participation from 642 industries involved in the implementation of the NDTs program in 2009 to 46 industries were involved in 2010 (Q-Fact NDTs, 2010). It is closely related to discontinuation the monthly allowance incentive to the industries in 2010. Indirectly, give the impression that the incentive is one form of extrinsic motivation for industry to be involved in the implementation of the NDTs program. However, the excessive of extrinsic motivation may affect the industry motivation continue to engage.

Indirectly, it shows that awareness associated with intrinsic motivation is still low (Tan, 1991; World Bank 1997)

NDTS program is a collaboration program amongst industry and training center which are voluntary. The industries must cooperate with the training center in which government has been organizing various assistance and incentives in the implementation of the NDTS program. In this study, coordination in governance happens just when industries, training institutions and the other parties are involved in the NDTS program. Definition of coordination is the act of managing interdependencies between activities performed to accomplish an objective. Coordination Theory are defining as a group of principles about how activities can be coordinated, that is, the act of working together harmoniously. There must be one or more actors, performing some activities which are directed toward some ends. These components and the coordination processes associated with them are summarized in Table 1 (Baligh, 1986; Baligh 1981; Malone 1987; Malone 1988; McGrath 1984).

Table 1 : Components of Coordination

Components of Coordination	Associated Coordination Processes
Goals	Identifying goals (e.g., producing several different lines of automobiles)
Activities	Mapping goals to activities (e.g., goal decomposition)
Actors	Selecting actors Assigning activities to actors (e.g., people)
Interdependencies	"Managing" interdependencies (resources; e.g., an assembly line)

For instance, NDTS program which work together training institution with an automobile manufacturing company might be thought of as having a set of goals (e.g., producing several different lines of automobiles) and a set of actors (e.g., individuals) who perform activities that accomplish these goals. These activities may have different sorts of interdependencies, for example utilizing the same resources (e.g., a mechanical production system) or waiting be done in a specific request (e.g., an auto should as a rule be composed before it is manufactured).

**Suggestion and Recommendation**

Based on review above, researcher found that various factors will contribute to the involvement of the industry to engage in skills training programs. For the purposes of this study, researchers will focus on three potential factors namely Organizational Governance, Organizational Motivation and Organizational Behavior as summarized in Table 2.

Table 2 : Main factors influencing effective industry’s collaboration/ participation

Potential Factors and Element	Content/ Context	Researchers
<p>Organizational Governance</p> <ul style="list-style-type: none"> <li>• Leadership</li> <li>• Commitment</li> <li>• Trust</li> <li>• Coordination</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership is viewed as an important ingredient in bringing the parties to work together to negotiate and reach an agreement on collaborative.</li> <li>• The commitment of the organization is an important variable to clarify the success or failure of a collaborative.</li> <li>• History of successful collaborative will build trust in a successful relationship should work together better again.</li> <li>• Collaborative process will fail if no strong action steps coordination to represent all parties involved in collaborative.</li> </ul>	<ul style="list-style-type: none"> <li>• Chrislip &amp; Larson (1994); Smith (1998); Huxham &amp; Vangen (2000); Margerum (2001); Gunton &amp; Day (2003); Frame, Gunton &amp; Hari (2004); Heikkilä &amp; Gerlak (2005)</li> <li>• Alexander, Comfort &amp; Weiner (1998); Margerum (2001); Gunton &amp; Day (2003); Tett, Crowther, &amp; O'Hara (2003)</li> <li>• Ansell, C. &amp; Gash, A. (2008)</li> <li>• Schuckman (2001)</li> </ul>
<p>Organizational Motivation</p> <ul style="list-style-type: none"> <li>• Intrinsic</li> <li>• Extrinsic</li> </ul>	<ul style="list-style-type: none"> <li>• The extent to which an individual is involved in a task or activity simply because the task is inherently interesting and fun</li> <li>• Motivation caused by reward or punishment depends on the success or failure of the task</li> </ul>	<ul style="list-style-type: none"> <li>• (Klinger 2006); Ryan &amp; Deci (2000)</li> <li>• Amabile et al. (1994)</li> </ul>

<p>Organizational Behavior</p> <ul style="list-style-type: none"> <li>• Attitude Towards Behavior</li> <li>• Subjective Norm</li> <li>• Perceived Behavior Control</li> </ul>	<ul style="list-style-type: none"> <li>• Attitude toward behavior begins with beliefs about the impact of such behavior.</li> <li>• Beliefs of individuals around to doing or not doing something good behavior, expecting people to do or not do certain behaviors and individuals which is important for himself become a benchmark to direct the behavior</li> <li>• individual perceptions about simple or not an individual to perform a particular behavior.</li> </ul>	<ul style="list-style-type: none"> <li>• Fishben &amp; Ajzen (1975)</li> <li>• Ajzen &amp; Fishbein (1988)</li> <li>• Ajzen (1991)</li> </ul>
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### Conclusion

Collaboration in skills training at Malaysia have long resided since 1957 when NAS scheme was introduced until now when NDTs program take place, the issue of lacking of industry involvement is still cannot be tackled. Previous issues such as awareness and governance is a constraint from the industry to get involved. Based on Commitment – Trust Model, Self Determination Theory and Coordination theory clearly shows that these issues is an important element and should be handled. The researchers propose three potential factors namely Organizational Governance, Organizational Motivation and Organizational Behavior for improvement to ensure the industry is keen to be involved in the implementation of the NDTs program. Furthermore, previous studies have proven element-element in Table 2 significantly to the involvement of industry to engage in skills training collaboration. Thus, researchers suggest DSD as department whose role as coordinator of the implementation of skills training in Malaysia to reassess the elements above for improvement and as a guide to encourage more industries involved in the implementation of the NDTs program.

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