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# ทฤษฎีทุนมนุษย์: ทฤษฎีของการพัฒนาทรัพยากรมนุษย์ นัยสำคัญและอนาคต HUMAN CAPITAL THEORY: THE THEORY OF HUMAN RESOURCE DEVELOPMENT, IMPLICATIONS, AND FUTURE

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## บทคัดย่อ

ในเศรษฐกิจที่ยึดความรู้เป็นศูนย์กลางนั้น ทรัพยากรมนุษย์เป็นทุนและทรัพยากรที่มีค่ามากที่สุดขององค์กรที่ควรลงทุนและให้ความสำคัญ ทฤษฎีทุนมนุษย์ได้อธิบายปรากฏการณ์ภายใต้มุมมองทางด้านเศรษฐศาสตร์ในการลงทุนในทุนมนุษย์ องค์กรจะมีความได้เปรียบทางการแข่งขันและยั่งยืนภายใต้ความซับซ้อนของโลกของการแข่งขันในการดำเนินธุรกิจ วัตถุประสงค์ของการบทความวิชาการนี้เพื่อสร้างความเข้าใจและอภิปรายทฤษฎีทุนมนุษย์โดยการหาข้อเท็จจริง สังเคราะห์ทฤษฎีทุนมนุษย์และนัยสำคัญเพื่อเป็นประโยชน์ในการประยุกต์ใช้ทั้งในด้านการพัฒนาและการจัดการทรัพยากรมนุษย์ บทความนี้นำเสนอทั้งแนวคิด ทฤษฎีของทุนมนุษย์ การวัดทุนมนุษย์ในปัจจุบัน นัยสำคัญของทุนมนุษย์และการพัฒนาทรัพยากรมนุษย์ ความสำเร็จและความล้มเหลวในการประยุกต์ใช้ ข้อเสนอแนะ รวมทั้งประเด็นต่าง ๆ ที่เกี่ยวข้องกับการพัฒนาทรัพยากรมนุษย์

**คำสำคัญ:** ทุนมนุษย์ การพัฒนาทรัพยากรมนุษย์ อนาคต

## Abstract

In the knowledge-based economy, human resource is viewed as an invaluable asset capital that firm invested. Human capital theory seeks to explain the phenomena using the economics point of view. This view asserts that to invest in human capital a competitive advantage and sustainability in the complex business world will be gained. The purpose of this literature review is to clarify, investigate, and discuss by identifying and synthesizing the human capital theory and its implication for the benefit of both human resource development and management practitioners. The human capital theory which is a current human capital measurement has many human capital and human resource development implications The future of human capital, its success and failure, and certain conclusions, including other related human resource development concepts, are also presented.

**Keywords:** human capital, human resource development, future

## **Introduction**

With the emergence of the knowledge-based economy, organizations put a heavy emphasize scarce resources and knowledge supply in order to increase organization, competitive advantage, and organizational effectiveness (Debrulle & Maes, 2014). Knowledge, skills, and abilities are viewed as an invisible asset seen as a tool for sustainable organization (Itami, 1987; Snell et al., 1996; Wright et al., 2001). Continuous education and training as well as the rapidly changing trends of the global technology, for maintaining competitiveness of organization. To retain a high standard of living knowledge, skill building, and training levels of the workforce must be upgraded (McConnell et al., 2009). The theoretical basics of performance improvement theory of Swanson (1999) stated that Economic Theory is one of the three important theories (Human Capital Theory, Scare Resource Theory and Sustainability Theory) which can improve a firm's performance apart from Psychology Theory and System Theory Human Capital Theory in Economics Theory explains the significance of labor maximization and how an organization can accumulate employees' knowledge, skill, and ability that improve employee capacity. The well-known three legged stools in HRD theory is a theory for improving performance by which ethics lays the foundation and groundwork that are significant for the success HRD. The purpose of this paper is to clarify and investigate this discussion by identifying human capital theory and its implication for HRD practitioners. The major sections are human capital theory, measuring of human capital, implication of human capital and HRD, human capital in future, succession and failure by applying Human Capital Theory, conclusions and related HRD concepts are also discussed.

## **Methods**

In this documentary research, Google Scholar, Research Gate, Emerald Management, Science Direct, Spring Link and publication databases have been searched and reviewed by using the keywords capital, human capital, human capital theory, human capital management in conjunction with human resource development. It was essential to establish a date with a criterion within ten years with the exception of the classic standard points of reference that are necessary to support the concepts. 110 papers have been identified by the first round in title, concepts and related topics. Then it was necessary to eliminate the outside scope of interested areas. This resulted in 45 articles remaining. Then all remaining abstracts were identified. Finally, none relevant articles were eliminated which left 35 articles in the final pool.

### **Human Capital Theory**

In the world of labor market, people bring different levels of education, knowledge, skill, and abilities as well as their expectancy to the workplace. According to McConnell et al. (2009): “a more educated, better-trained person is capable of supplying a larger amount of useful productive effort than one with less education and training,” (p.85). The value of human capital theory is widely accepted in order to increase organizational performance, so an organization relies on employees’ skill, knowledge, ability as a key concept of value creation.

In the eighteenth century Adam Smith (1776) initiated an improvement in human capability that is important to production, then a term of human capital was introduced by Theodore W. Schultz (1961 published in the American Economic Review, called investment in human capital. Human capital widely used after Gary Backer won the novel prizes initiated “human capital theory” stated that a different level of education and training contribute to a different level of wages and salaries, the more knowledge, skill and ability, the more likely to get a better job (Blair, 2012). According to Gary Backer (1964), human capital is a physical means of production. Organizations invests in human capital via education, training, and health. Later on Thomas Davenport (1999) advanced that “the component of human capital consisted of abilities, knowledge, skill, personal talent, behavior, and effort, when those three components plus time” (p 10), he extended that 1) the knowledge included IQ, intelligence, specific and general knowledge to work. 2) Skill is expertise used in working, including the physical body, and movement of the job. 3) Talent is a personal characteristic which is innate and can be improved by development. 4) Behavior is an expression and observable behavior, norm, ethics and personal belief. 5) Effort is when people tries to use their innate or personal resources including their talent, experience, knowledge and ability to work to be successful, and finally there is time.

According to Becker (1964), human capital can be accumulated in different forms of education, training, migration, and health. Through such forms, employees gain knowledge, skills and abilities in different ways. Firms invest in human capital because these firm view humans as an asset and expect that what the firm has invested will be returned and provide a positive value in the future. In other words, an individual investment in their schooling or training and anticipate that the knowledge, skill earned will be enhanced to their career advancement. Ulrich (1998) argued that traditionally human resource of labor and business function has been viewed as a cost to be minimized. However, nowadays, human resource is now viewed as human capital which leads to a source of value. Still, Phillips (2005) said that there is a tremendous paradigm shift which has occurred in the concept of human capital from the traditional

to the present view as presented in table 1. These shifts changed human resource function by moving from an activity-based process to result-based which is more connected and aligned with business strategy and views human capital as a value creation to be used in strategic management. Moreover, Vejchayanon (2005) argued that human capital concept is seen that employees are an asset and should be developed, and integrated with multi-dimensional technology.

However the paradigm of the human capital shift from an activity-based (focus on a specific measurement, input focus, preparing for a routine works, etc.) to a result-based (focus on result and total performance such as business impact, cost-benefit analysis, output focus, and performance effectiveness) paradigm affects the human capital policy and practice by focusing more on the bottom line instead of top down management (Phillip, 2005).

**Table 1** Human Capital Perspectives

Human capital views	Traditional view	Present view
Employee	- are viewed as a cost of production that need to be controlled and closely monitoring.	- are viewed as a competitive advantage to the organization that can be developed in their own specific way.
Human capital	- was perceived as a costly capital that needs to be minimized.	- is a source of value creation to the organization.
The HR function	- used to work as supporting department.	- is considered as a part of strategic partner of the organization that work on executive level.
Work	- was functioned according to the manufacturing based.	- increasingly focuses on knowledge-based and cross functional collaboration.
Involvement	- HR involved in mostly in setting the management budget and planning. - only HR involved in budgeting.	- HR acts as the process function involving in designing, planning as well as allocating budgeting. - engages top executive in budgeting process.
Human capital matrices	- focused only on the input such as cost and routine practices and activities.	- are increasingly focus on design and metrics usage. - focuses on the impact and result to the organization.
ROI	- lacked of know-how and truly understanding in ROI	- more applied and engaged ROI in order to use as the tactic tool that help the organization creates the influential relationship of output and result.

**Table 1** Human Capital Perspectives (cont')

Human capital views	Traditional view	Present view
Human capital measurement	- used of the existing data.	- focuses on data and information that necessary to the organization with proactive.
HR programs	- no alignment with business and management objectives with HR at all level.	- aligned and cascaded down the goal, strategy as well as objectives of the organization at all level of management.
Overall reporting on human capital	- was an input based management more than output based.	- focuses more on output and impact to the organization.
Technology	- tried to decrease and avoid error in human as much as its can	- promotes the mutual relationship with social system in order to enhance the high knowledge performance work system.
Management	- determined by top management and closely work with expertise in term of technical work.	- decentralized and promoted the leadership from bottom of the structure
Objective	- maximized shareholder benefits	- maximizes utilities and values for all stakeholders.

**Remark** Adapted from Phillips (2005) and Vejchayanon (2005)

### Measuring Human Capital

Human capital measurement, according to Stiles & Kulvisaechana (2003) has stated that “Measurement is obviously important to gauge the impact of human capital interventions and address areas for improvement, but in this filed, measurement is a problematic issues” (p. 15). Surprisingly, human capital literature review was mentioned about a dramatic return on investment. Return on investment or ROI is still seen as a good measurement, and its use is even growing throughout the world (Phillips, 2005).

Guest (2000) argued that the number of consulting firms measure human capital investment by using financial measurement, output and/or goods and service measurement including units produced, customer satisfaction, number of errors, and measure of time such as tardiness and absence. In addition, Mayo (2012) also stated that human capital must be measured by integrating human capital measurement and using other audiences’ requirement related to measurement. Human capital must be measured by workforce analytics which includes various breakdowns of human capital such as job type, grade, gender, location, ethnic origin, and view of human capital such

as temporary, subcontract and consultant resources. Moreover workforce analytics including labor turnover (administration cost, recruitment cost, selection cost, cost of covering during the period that job is a vacancy, induction training for new employee and lost productivity during period of employee resigned and learning curve of the new employee), absenteeism, staff rotation, staff vacancies (Mayo, 2012). However Guest (2000) said that to measure human capital, a firm needs to measure an employee's attitude and behavior as well as an internal and external performance such as productivity and quality of product and service, sale, and financial performance (Delaney & Huselid, 1996; Guest, 2000). The result of a Conference Board (2002) surveyed human capital measurement by using human capital metrics as presented in table 2 which provides human capital activities and possible measurement.

Furthermore, Thomas et al., (2013) proposed the method to measure human capital by using human capital dashboards to monitor by separating measurement into three types. First, measure every possible measurement namely headcounts, turnover, promotions, trend lines, data from the primary HRIS system, and data quality issues. Second, measurement is a simplification and expansion includes focusing on select metrics, vastly improved data quality, data from HRIS and supplemental HR database (e.g. recruiting, payroll, engagement surveys). Third, consists of operational data integrations which are data from non-HR source such as finance, marketing, quality control, and new metrics such as revenue per employee, value added per employee, customer service levels. Even though there is no consensus among HR scholars to measure Human Capital, however human capital is measured by using the ROI or return on investment as well as time, cost, level of employee engagement, customer satisfaction, revenue, and organization financial performance.

### **Human capital and Human Resource Development**

Human capital has been viewed as a source of value in effective organization (Thomas & Diez, 2013), so there is a significant relationship and interconnection between human capital theory and the field of human resource development (Swanson, 1999; Hairston & Brooks, 2004; Nafukho & Chermack, 2007; Mclean, 2014). Furthermore, human capital is a foundational layer upon human resource practices involving training and development of employee which are related to other areas of HRD. It can be categorized to several main streams such as compensation and benefits, recruitment, job analysis, job rotation, participative management, labor relations as well as well-being and performance management (Freund & Epstein, 1984; Arthur, 1992; Pfeffer, 1994; Huselid, 1995; Mac Duffie, 1995).

**Table 2** Human Capital Measurement

Human capital activities	Possible measurement
Recruitment	<ul style="list-style-type: none"> <li>- Recruitment quantity such as recruitment period or time, cost of recruitment and selection at all process</li> <li>- Recruitment quality namely the organization had a right man for the right job at the right time.</li> </ul>
Retention/turnover	<ul style="list-style-type: none"> <li>- Turnover rate and qualitative research for instant factor affecting employee retention or leave the organization</li> </ul>
Employee attitude/engagement	<ul style="list-style-type: none"> <li>- Engagement survey, commitment survey or attitude questionnaire, employee satisfaction.</li> </ul>
Compensation	<ul style="list-style-type: none"> <li>- pay structure and wage level, equity assessment, and diversity management.</li> </ul>
Customer Satisfaction	<ul style="list-style-type: none"> <li>- Customer satisfaction survey</li> </ul>
Competencies/training	<ul style="list-style-type: none"> <li>- Competencies, skills level of employees, skills and abilities inventory, ROI in training.</li> </ul>
Workforce profile	<ul style="list-style-type: none"> <li>- Demographic information such as gender, interval/average age, employee promotion rate at all level, participation rate in knowledge development and management practices.</li> </ul>
Productivity measures	<ul style="list-style-type: none"> <li>- Productivities cost and revenue per employee including the real operating cost ratio, value added per employee.</li> </ul>

**Remark** Adapted from Conference Board (2002) and Stiles & Kulvisaechana (2003)

Human capital theory has been considered as one of the economics theories of HRD, (Economics Theory consisted of Human Capital Theory, Scare Resource Theory and Sustainability Theory) according to Swanson (1999) who stated that “because performance improvement takes place in organizations that are economic entities, PI (performance improvement) must call upon economic theory at its core. In addition, management theories and methods should be properly viewed as useful derivatives of economic theory” (p. 13). In order to survive the in a competitive knowledge based economy as well as keeping sustainability human capital as an economic theory needs to be considered seriously. Human Capital Theory can improve a firm’s performance and explain the significance of labor maximization and how an organization can accumulate employees’ knowledge, skill, and ability by investing in humans through training, educating to enhance an employee’s capacity to work effectively. From the human capital definition as presented in table 1 and the definitions of HRD of Swanson & Holton (2004), it was said that “HRD as a process for developing and unleashing human expertise through organization and personnel training and development for the purpose of improving performance” (p. 4). McLean and McLean (2001) asserted that

“HRD as any process or activity that, either initially or over the long term, has the potential to develop adult’s work-based knowledge, expertise, productivity and satisfaction, whether for personal or group, team gain, or for the benefit of an organization, community, nation, or ultimately, the whole of humanity” (p. 10). Nafukho et al. (2004) stated that “the field of HRD could benefit from a greater understanding of how human capital scholars have clearly defined methods of quantifying return to investment in education and training” (p. 549). For the definition, there is a relationship between training and development, knowledge, skills and abilities which leads to the performance at a broader level up to an international level. At the national scope of HRD, HRD has been linked to national policies in various countries (McLean, Bartlett & Cho, 2003). The evolution of the concept of National Human Resource Development (NHRD), human capital theory as the foundation of an emerging NHRD that is defined by Gary N. McLean (2006) as cited in McLean (2014) who states that “National human resource development (NHRD) is an undertaking at the top level of government and throughout the country’s society that coordinates all activities related to human development (HD) to create greater efficiency, effectiveness, competitiveness, satisfaction, productivity, knowledge, spirituality, and well-being of its residents. It includes education, health, safety, training, economic development, culture, science and technology, and any factors which influence HD” (slide 19). From those definitions, there is a close relationship between human capital and human resource development from the individual level, organizational level, and up to the national level.

Moreover, human capital has been applied in many aspects of human resource development such as employee engagement (Mayo, 2012; Ratsameethamachot, 2013), talent management (Thomas et al., 2013; Devine & Syrett, 2014), motivation (Mayo, 2012), high performance organization (Vejchayanon, 2005), leadership (Thomas et al., 2013) and learning organization (Garavan et al., 2001).

### **Succession and Failure Practices**

Successful organizations adopt the human capital concept to their organization, according to Nalbantian et al. (2003), successful organization insist on system thinking, get accurate data and facts, focus on value in the organization as well as the organization’s need to clarify human capital strategy carefully while understanding the organization’s internal labor market, build a suitable strategy, never make a decision before collecting and analyzing the facts in human asset, making acquisitions work, linking to customer satisfaction and a need to have concern for the implication of business risk. However, human capital theory cannot function alone. It needs to integrate with various HRD theories such as system theory, psychology theory, and

other economics theory such as scarce resource theory and sustainable resource theory (Swanson, 1999). In addition, Brymer et al. (2012) argued that human capital needs to be applied together with the concept of knowledge management because there is a dynamics interrelationship between knowledge and behavior in cognition human capital. However Hitt et al. (2001) advances the idea that human capital theory needs to cooperate with resource-based theory in order to contribute a positive result to organizational performance. There are also other theories, such as absorptive capacity theory, which address this same topic (Debrulle & Maes, 2014). However Brymer et al. (2012) stated that “Cognitive human capital is present at both the individual and collective levels. In the context of an organizational resource, cognitive human capital includes the thoughts, schemas, heuristics, dispositions, and knowledge structures that, when bundled with resource and/or driven by strategic framing, produce actions and bring value to the organization” (p. 121). There is no surprise then that human capital needs to be utilized and operated with other theories and concepts in order to fully maximize the utility of human asset. For failure practices, even the human capital theory is widely accepted in the HRD field. However, in the complex world, there are uncertainties raised in business. This research found that many organizations failed in adapting human capital theory because of the lack of accuracy and uncertainty of measurement (William, 1979). From this point, training as a source of accumulating human capital in order to gain knowledge and expertise and an exact human capital’s measurement from training and employee absorptive capacity is still in question as to whether trained employees could transfer what they have been trained to use in their work.

Moreover, ROI is a good measurement. But ROI sometimes is a dilemma to the organization (Phillip, 2005). He said that “when the human capital has been applied, the management, team usually anxiously awaits only to be appointed when they are not readily available. For an ROI process to be useful, it must balance many issues such as feasibility, simplicity, credibility, and reliability” (Philip, 2005). In order to fully maximize human capital accumulation, a firm needs to be concerned about absorptive capacity, training transfer, and employee motivation. One of the greatest concerns for the HR profession is when the firm invests in human capital and such employees become a knowledge-worker or talented. Firms then should have a succession plan to retain high performance employees (talent) within firm as it is costly to the organization if talent leaves. Organizations need to have a plan to engage talent as well as attracting new talent because of the expenditure to invest in human capital can lead to a huge budget annually. However, knowledge, skills, and expertise as well as the ability of employees need to be updated continuously otherwise outmodedness,

erosion, or turnover may happen. Training and development are also necessary and unavoidable (Garavan et al., 2001). Other failures applied human capital is linking and aligning between human capital and performance, according to Guest (1997) who said that the question raised that can truly organization increase effectiveness by investing in human capital? Or can we trust ROI? And if human capital is best practice, why is it that some organizations lack human capital process and yet are successful in their business? And to answer those questions Guest (1997) said that “these are some empirical questions to be investigated. A simple answer would be that such firms may be successful now, but the possibility of sustaining their success is perhaps reduced by the degree of their failure to implement the human capital concepts” (p. 266). The failure to apply Human Capital in an organization is to not take seriously the consideration in measurement and problems.

### **The Future of Human Capital**

The concept of human capital has been of wide interest among scholars. Moreover, the study of human capital has increased over time. Phillip (2005) categorized human capital as a subset of intellectual capital. For knowledge-based organizations, intangible assets are often greater than tangible asset. Vejchayanon (2005) argued that, overall, organization capital is a part of total capital which was classified as finance capital and intellectual capital. Intellectual capital consisted of organizational capital, relationship capital and human capital. Furthermore, Kaplan & Norton (1992) suggested that intellectual capital consists of three linked components which are customers, internal business process, learning, and growth. Zula & Chermack (2007) advanced the concept among human capital theory, human resource, and the human resource scorecard to human capital planning as a key to strategic success and “is used to identify the human capital needs of goals and objectives tied to the business strategy” (p. 255). In addition, it is necessary to advance the human capital concept in broader perspectives. The term “Human capital resource” has been promoted by a study of Ployhart et al. (2014) as the reason to close the gap and to advance the field of human resource development because human capital focused only at the individual level rather than at a unit and organizational level where human capital resource can act at a broader level (Schultz, 1961; Backer, 1964; Coff & Kryscynski, 2011; Ployhart et al., 2014). Nyberg et al. (in press) found that “Across studies, researchers differed widely with respect to how they conceptualized the level (firm, group, individual), content (skills, education, health), theoretical framework (resources, KSAOs), and relationships with outcomes (e.g., value-creating) of human capital resource. Each conceptualization may be reasonable within a study, but the

inconsistencies across studies that attempts to build a broader and more holistic science around human capital resource” (p. 374).

The problem with human capital is 1) communication, and 2) specific only at an individual level which does not contribute at the organizational level (Nyberg et al, 2014). So, human capital needs to be used as a subset of human capital resource (Ployhart et al., 2014). Human capital resource focuses on multi-level structures of the organization with broader perspectives in order to gain a more competitive advantage and align with the strategy of the organization. Human capital resource is seen as an individual asset (KSAOs) from the individual to the organizational level, human capital resource is distinguished at three levels which are structure, function, and unit level (Ployhart et al., 2014). Investing in human capital is not only for formal training but also for informal training as well as learning. Another implication is a shift of training program in human capital. Each employee needs to be responsible to gain a general training such as general education, training and expertise by themselves. Organization provides only a specific training in order to work with the organization, but general training such as English proficiency, administrative works, labor law and regulation, or typing skills etc., employees need to be gained by themselves (McConnell et al., 2009). By this concept, a firm will choose to use a specific training – “is training that can be used only in the particular firm that provides that training” (p. 113). So the current employee point of view, Garava et al. (2001) give interesting suggestions that “Individuals must focus on the wider dimensions of employability and not simply competencies. To focus on the competencies is insufficient to remain employable. Individual must also focus on developing networks, maintain technical excellence, perform continually above average team-working capabilities, display positive political behavior and manage their image successfully” (p.65).

The future research of human capital needs to be further examined. HRD professionals might examine, in depth, the relationship of human capital in other areas such as how human capital could enhance human resource development in particular sectors and how human capital could play a critical role to promote employee engagement. The role of HRD might be to do the research to determine performance and cost along with intangible asset that impact wage and income, productivity and growth with direct and indirect influences (Nafukho et al., 2004; Zula & Chermack, 2007) as well as to confirm the concept of human capital resource.

## **Conclusion**

The purpose of this article was to clarify human capital theory and show the alignment of HRD and human capital. This article provides a link to multiple theories of

HRD. Implications, current measurement, and succession and failure adaptation of human capital theory are also discussed. Organization and HRD professionals would benefit in utilizing the human resource as the most invaluable intangible asset in the organization by investing in human capital in the appropriate ways in order to survive in the complex world. The challenge to apply human capital is also needed to have a further examination and study. Indeed, the organization must adapt the human capital concept in different ways according to the context of the organization, culture, and country in order to gain the true value of the human capital theory or even human capital resource concept.

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