

In Search for a Public Servant Competency Model: A Literature Review

Joe Monang

Doctors Program of Industrial Engineering and Management
Bandung Institute of Technology, Bandung, Indonesia
Tel: (+62) 22-250-4189, Email: joemonang@gmail.com

Iman Sudirman

Industrial Management Research Group
Bandung Institute of Technology, Bandung, Indonesia
Tel: (+62) 22-250-4189, Email: iman_s@ti.itb.ac.id

Joko Siswanto

Industrial Management Research Group
Bandung Institute of Technology, Bandung, Indonesia
Tel: (+62) 22-250-4189, Email: j.siswanto@ti.itb.ac.id

Abstract. Competency model has started to become popular in public organizations. In today's fast changing environment, competent public servants who possess appropriate competencies to effectively deal with complex tasks and problems are increasingly demanded. Inspired by the implementation of competency model in private sector, there is a growing trend for governments around the world to embrace this tool for promoting and maintaining high-performing employees. However, little is known about related researches of competency model existing in public organizations. This paper aims at reviewing literature of competency model created in public organizations. It will also examine a number of competency models used in five countries by undertaking a comparative analysis of competencies valued in those countries. Findings suggested that 41 competencies have been used in the literature obtained from database searches. Moreover, common competencies existing in the selected countries include analytical/strategical thinking, leading/influencing, effective communication, relationship building, sound effective judgement, problem solving, adaptability, customer service orientation, negotiation, integrity, and teamwork. Interestingly, very limited empirical researches have been conducted to examine differentiating competencies in public organizations. The result can be used by the governments to craft their competency models. It can also be utilized by other researchers for future potential researches.

Keywords: competency model, public servants, public organization

1. INTRODUCTION

It is widely known that a competency model is a key tool in human resources management systems commonly practiced in many organizations today as a means for increasing personal and organizational effectiveness. A competency model is a systematic list of competencies necessary for resulting excellent performance in a particular job, job family, organization, function, or process (Marelli et. al., 2005). It helps align the strategic objectives of organizations with its human resources system and has

been utilized as a basis for a diverse range of human resources decision-making and processes. Various literatures have also highlighted several advantages obtained from using competency models in human resources activities. Vazirani (2010) acknowledged that the use of competency models would lead to enhancement of recruiting process, employee development, and performance management. Wickramasinghe and De Zoyza (2009) have exemplified that a competency model could enable organizations to execute a competency gap analysis in order to better devise strategies for improving employees'

abilities. Furthermore, Chung-Herrera et. al. (2003) suggested that a competency model would make better and consistent performance standards when it was used consistently. It could also help organizations to predict employee performance against several key performance indicators (Dainty et. al., 2005).

While numerous researches have proposed a variety of competency models in private sector organizations for a number of occupations, little is known about competency models that have been created in public sector organizations. On the other hand, governments around the world face increasing pressure on performance and innovation as a result of increased global competition and dynamic change in external environment (Kim, 2008). Globalization trend and technological advancement has changed the way organizations are conducted and forced organizations to focus on delivering results in real time. Citizens are now demanding better public services. They expect high quality of service delivery and greater transparency and accountability for outcomes (Abouchakra and Khoury, 2015). The demand for competent public servants who deliver high performance in a defined job is also continuously rising and many public organizations begin to use competency models to better integrate this circumstances with their human capital resources (Vathanophas and Thai-ngam, 2007). In a similar vein, to coping with these dynamic changes, public servants are required to possess desirable competencies in order to effectively deal with these challenges, and thus identification of appropriate competencies for public servants become increasingly important.

This article will review related literature focusing on competency models for public servants. It will investigate related researches that have been conducted to develop competency models in public organizations. It will also examine several competency models used in various countries by undertaking a comparative analysis. Finally, it will identify common competencies used across selected countries.

2. SOME DEFINITIONS

Research on competency gains popularity after David McClelland (1973), an American psychologist, introduced the term in his seminal paper 'Testing for competence rather than for intelligence'. In his article, he argued that intelligence and aptitude tests were inadequate to predict job performance and success in life. This traditional job assessment method was also seen to be discriminative against minority groups. As an alternative, competency testing was proposed for a better predictor. However, there is no consensus existing on the exact definition of competency.

Boyatzis (1982) defined a competency as an individual's underlying characteristic in the form of knowledge, skill, motive, and self-image or social role that is associated with an effective or outstanding job performance. He later asserted that a competency was related to behavior set around underlying construct, labeled as "intent" (Boyatzis, 2008). Martina et. al. (2012) also used behavior notion to define competencies. For them, competencies were behaviors needed for satisfying an expected performance. Another definition of competency was offered by Jackson and Schuler (2003) who suggested that competencies should also include a person's abilities and other characteristics required for performing a job effectively. Marelli (1998) proposed competencies as individual capabilities that could be measured to satisfy job demands. Others described competencies as such underlying work-related characteristics that all employees needed to achieve successful performance as knowledge, skills, attitudes, beliefs, motives, and traits (Chen and Naquin, 2006). Moreover, Spencer and Spencer (1993) emphasized that the most important feature of competency was its ability to predict future performance. From those attempts made to define competency, it is noticeable that a competency is linked to outstanding performance. In a nutshell, a competency can be regarded as knowledge, skills, abilities, and other attributes that makes individuals achieve superior performance and it usually leads to an observed behavior.

Several categorizations of competencies also circulate in the literature. Spencer and Spencer (1993) divide competencies into threshold and differentiating competencies. Threshold competencies refer to essential characteristics to minimally perform a job, but are not able to distinguish high-performing employees from average-performing ones. In contrast, differentiating competencies enable organizations to discriminate between average and excellent performers. Rainsbury et. al. (2002) classify competencies into hard and soft skills. Hard skills are connected with technical skills to complete a job, whereas soft skills are interpersonal, human or people relation skills. Carrol and McCrackin (1998) propose another classification of competencies, i.e. key, team, functional, and leadership and management competencies. Key competencies are behaviors necessary for all employees, whereas team competencies are those used for groups working interdependently and project-based. Functional competencies concern with technical knowledge and skills, but leadership and management competencies include relevant behaviors for supporting effective leadership and management. In his article, Agut and Grau (2002) categorize competencies into technical and generic competencies. The former is related to technical aspects to fulfill tasks and the latter is associated with non-technical

aspects, for instance self-efficacy, self-control, interpersonal relationships, and proactivity.

Competencies are fundamental elements for building competency models. A competency model is a narrative description of relevant competencies observed from employees with outstanding performance for a specific job or other unit of analysis (Draganidis and Metzias, 2006). It is a detailed and behaviorally list of desirable competencies for effective performance (Mansfield, 1996). Moreover, it can be viewed as a simple list of required competencies (Markus et. al. 2005). In short, it is the result of competency identification (Rothwell and Lindholm, 1999). A competency model is essentially needed when an organization plans to apply a competency-based approach in its human resources management system, particularly for managing employee performance (El-Baz and El-Sayegh, 2010). Even though the use of competency models has become increasingly prevalent, in particular as a viable replacement of job analysis approach (Shippmann et. al., 2000), there is no standard structure of competency model appeared in the literature. Vathanophas and Thai-ngam (2007) used competency elements (motives, self-concept, skills and abilities) to organize their proposed competency model. On the other hand, Alldredge and Nilan (2000) proposed other categories, i.e. fundamental, essential, and visionary. Jeou-Shyan et. al. (2011) utilized a competency type (generic and technical) when they arranged a competency model for top managers in hotel industry. El-

Baz and El-Sayegh (2010) used other certain categories, i.e. people, business, and environment, to picture a competency model of engineering managers.

3. RESEARCH METHODOLOGY

In this paper, a literature review was applied to identify competency model existing in public organizations, thus it is descriptive rather than statistical approach. We searched related published articles primarily using databases: ScienceDirect, Taylor & Francis Online, and EmeraldInsight. The search was limited to literature written in English and was conducted by scanning specific words or phrases, such as competenc* model*, competenc* profil*, public, government, and civil. All possible years of publication available in the databases were placed. The search strategies for databases are provided in Table 1.

Articles were selected on the basis of abstract, title, and keywords. All articles obtained, then, were reviewed. Articles that presented studies to develop competency models in public organizations were included; otherwise were excluded. Besides, we added competencies models that have been implemented by five different governments, mostly in developed countries to acquire a more complete picture of competency models existing for public servants, and an article obtained from personal collection.

Table 1: Search strategies for databases

Database	Search Strategy
ScienceDirect	[Title-Abstr-Key](competenc* model*) AND [Title-Abstr-Key](public OR government OR civil); [Title-Abstr-Key](competenc* profil*) AND [Title-Abstr-Key](public OR government OR civil)
EmeraldInsight	[[Abstract: competenc* model*] OR [Content item title: competenc* model*] OR [Keywords: competenc* model*] AND [Abstract: public]]; [[Abstract: competenc* model*] OR [Content item title: competenc* model*] OR [Keywords: competenc* model*] AND [Content item title: public]]; [[Abstract: competenc* model*] OR [Content item title: competenc* model*] OR [Keywords: competenc* model*] AND [Keywords: public]]; [[Abstract: competenc* model*] OR [Content item title: competenc* model*] OR [Keywords: competenc* model*] AND [Abstract: government]]; [[Abstract: competenc* model*] OR [Content item title: competenc* model*] OR [Keywords: competenc* model*] AND [Content item title: government]]; [[Abstract: competenc* model*] OR [Content item title: competenc* model*] OR [Keywords: competenc* model*] AND [Keywords: government]]; [[Abstract: competenc* model*] OR [Content item title: competenc* model*] OR [Keywords: competenc* model*] AND [Abstract: civil]]; [[Abstract: competenc* model*] OR [Content item title: competenc* model*] OR [Keywords: competenc* model*] AND [Content item title: civil]]; [[Abstract: competenc* model*] OR [Content item title: competenc* model*] OR [Keywords: competenc* model*] AND [Keywords: civil]] <i>The same structure was also employed for competenc* profil*</i>
Taylor & Francis Online	[[Article title: competenc* model*] OR [Abstract: (competenc* model*) AND (public OR government OR civil)]]; [[Article title: competenc* profil*] OR [Abstract: (competenc* model*) AND (public OR government OR civil)]]

4. RESULTS AND DISCUSSION

The searches using ScienceDirect, Taylor & Francis Online, and EmeraldInsight yielded, respectively, 377, 615, and 233 hits. Of 377 hits from ScienceDirect, 47 articles (not written in English) and 14 duplicate articles were removed. Similarly, 16 articles (not written in English) and 14 duplicate articles from Taylor & Francis Online were displaced in addition to 31 duplicate articles eliminated from EmeraldInsight database results. Out of these remaining 1,103 hits, 8 articles were considered eligible based upon abstract and title. Models of competency related to curriculum development in education institution, for example, were excluded. Finally, with additional 5 articles of competency models employed in several countries and one article from personal collection, as many as 14 articles were used in the review process. Figure 1 illustrates a flow process to generate these selected articles.

The full papers of 14 articles that presented the work of developing competency model in public sector organization could be successfully retrieved and, thus, were able to be reviewed. The 6 articles acquired from database searches and an additional article obtained from personal collection referred to competency models in specific jobs or occupations, thus they were not directly applicable across various jobs or occupations in public sector organizations.

These models were mainly targeted for some professions in public health care, education, library, and agriculture extension. In contrast, two articles provided more general models. The first one can be found in Virtanen's competency model for public managers. According to Virtanen (2000), competencies required for public managers could be modeled in five dimensions: task, professional in subject area (e.g. social security and human resources management), professional in administration, politics, and ethics. Virtanen argued that the last two dimensions made significant differences between public and private managers. Political competency was important in order to make outcomes politically welcomed. Ethical competency included moral values and moral norms. Nevertheless, the paper did not provide the competencies making up each dimension and, of course, its definition. The second one was the work of Martynova and Maslennikova (2012). They developed a basic model of competencies for municipal employees based on Russian experience. The model consisted of six main competencies: orientation to the requirements of the society, orientation to the achievement of a result, responsibility, empathy, understanding of the features of the modern municipal management, and readiness for the development. However, the definition for each main competency was not provided in the paper.

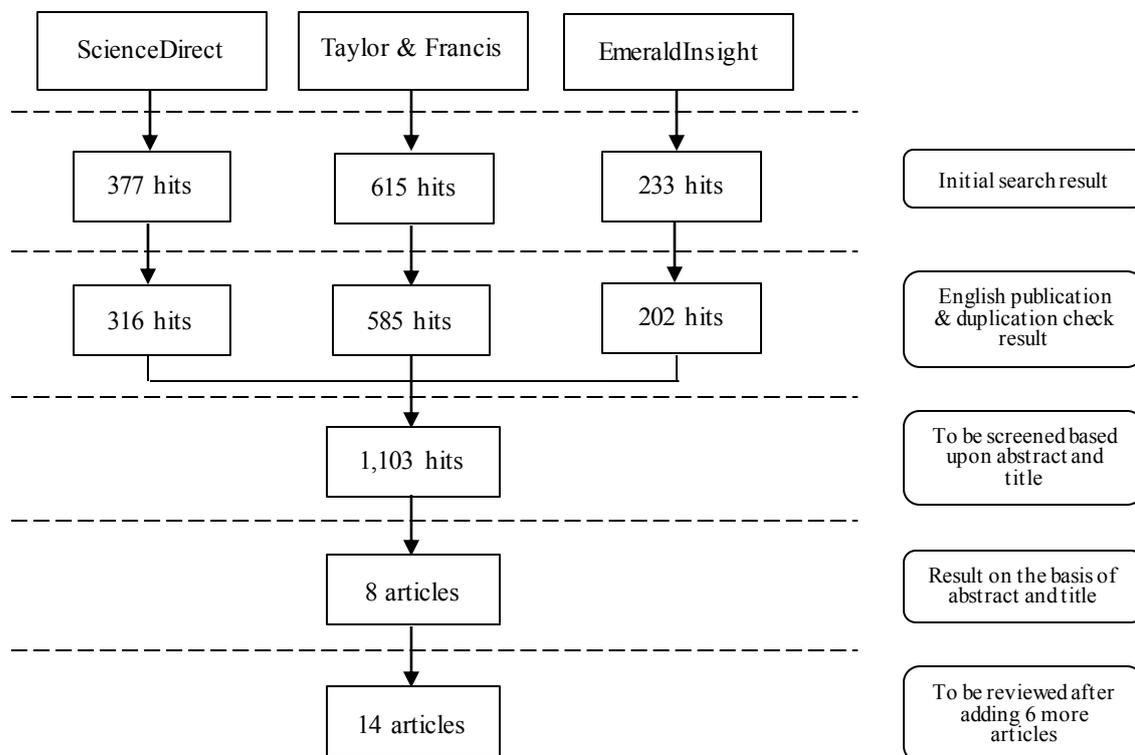


Figure 1: Flow process of article selection

In healthcare areas, Homer et. al. (2012) proposed a competency model of primary maternity services providers, i.e. obstetricians and midwives. They clustered the competencies into four domains: women centered care (philosophy of care, service provision, and body of knowledge), professionalism (ethics, equity, and performance improvement), workplace (management and leadership, teamwork, occupational health and safety), and communication (patient/client communication and professional communication). Unfortunately, further information explaining each domain was not available in the paper. Tataw (2011) developed a model of interprofessional competencies for health and social care as collaboration of two or more professionals or disciplines to solve health issues became important. Competencies proposed were clustered in terms of communication and interpersonal skills, systems based health practice, and professionalism.

Hamzah et. al. (2012) developed an empirical leadership competency model in Higher Educational Institutions using public universities as sample. According to Hamzah et al., leadership competencies were competencies to affect subordinates for positive changes. Their proposed competency model comprised 4 dimensions, namely futurist, governor, workforce developer, and self-mastery. Futurist was related to creating the future. Governor was about putting strategies into actions. Workforce developer concerned with workforce plan. Self-mastery was connected to proficiency in daily work routine. Nonetheless, the list of competencies for each dimension could not be found in the paper. Haycock (2011) explored characteristics of excellent public librarian branch managers and proposed a desired profile as following: effective people skills, motivational skills, direction-setting skills, human resources expertise, communication, and breadth of experience. On the basis of competency definition, the breadth of experience may not be classified as a competency.

Karbasioun et. al. (2007) conducted an expert survey to develop a competency model for agricultural extension instructors in Esfahan, which was a public service provided by Department of Agricultural. According to Karbasioun et. al., competencies perceived to be important were subject matter understanding, presentation skill, business understanding, learning understanding, feedback skill, intellectual versatility, relationship building skill, self-knowledge, adult training and development, and objective preparation skill. It is necessary to note that, however, extension services in some countries are already privatized. Oladele (2015) utilized Borich model to construct a competency model for agricultural extension officers. Competencies perceived important in Oladele's model were knowledge (e.g. awareness of government policy and

approaches to adult education), personal skills (e.g. communication, analysis and diagnosis, leadership qualities, and initiative), lead farmers, and personal qualities.

Vathanophas and Thai-ngam (2007) developed a competency model for a specific position level in governmental department, i.e. Chief of the General Administrative Sub-Division in the Thai Department of Agriculture. Nine competencies were recommended as critical for superior performance: service-minded, concern for order, quality, and accuracy, team leadership, achievement orientation, developing others, information seeking, integrity, organizational awareness, and self-control. The competencies were grouped based upon competency elements, i.e. motives, self-concept, and skills and ability.

Since the identified competency models were created for various specific jobs in public organizations, it is more suitable to summarize competencies listed in the models rather than to identify common competencies used in the models. In short, the 41 competencies appeared in the models were action-oriented, knowledge/information seeking, directing, supervising, coordinating, monitoring and evaluating, delegating, planning, human resource and budgetary know-how, communicating, service-minded, concern for order-quality-and-accuracy, team leadership, achievement orientation, developing others, integrity, organizational awareness, emotional intelligence, presentation skill, technical knowledge in subject area, business understanding, relationship building, creative and analytical thinking, learning understanding, awareness of approaches to adult education, time management, problem solving, initiatives, commitment, self-confidence, empathy and understanding, self-motivation and determination, negotiation and conflict resolution, political skill, ethics, responsibility, readiness for development, equity, occupational health and safety, performance improvement, sensitive and responsive to culture

A number of countries have implemented various leadership competency models as part of their human resources management system. The next paragraphs will review various leadership competency models among five selected countries in order to expose a more complete picture of competency models created in public organizations. In this part, it is possible to identify common competencies existed in the models since they are more general. Table 2 depicts leadership competency models that have been adopted by those countries. Most of the models, however, are from advanced countries as they are easily accessible.

Some similarities exist among the models. They are organized in clusters or categories, in which each cluster consists of several related competencies and each competency is defined. The clusters are named differently

Table 2: Competencies Models in Selected Countries

Key Leadership Competencies Canada	Civil Service Competency Framework United Kingdom	Senior Executive Leadership Capability Framework Australia	Executive Core Qualification United State	Managerial Competencies Indonesia
<p>Management excellence: delivering through action management, people management, financial management</p> <p>Engagement: mobilizing people, organizations, partners</p> <p>Strategic thinking: innovating through analysis and ideas</p> <p>Values and ethics: serving through integrity and respect</p>	<p>Strategic cluster - setting direction: seeing the big picture, changing and improving, making effective decisions</p> <p>People cluster - engaging people: leading and communicating, collaborating and partnering, building capability for all</p> <p>Performance cluster - delivering results: achieving commercial outcomes, delivering value for money, managing a quality service, delivering at pace</p> <p>Civil service values</p>	<p>Shapes strategic thinking: inspires a sense of purpose and direction; focuses strategically; harnesses information and opportunities; shows judgement, intelligence and common sense</p> <p>Achieve results: builds organizational capability and responsiveness; marshals professional expertise; steers & implements change & deals with uncertainty; ensures closure & delivers on intended results</p> <p>Cultivate productive working relationships: nurtures internal and external relationships; facilitates cooperation and partnerships; values individual differences and diversity; guides, mentors and develops people</p> <p>Exemplifies personal drive and integrity: demonstrates public service professionalism and probity; engages with risk and shows personal courage; commits to action; displays resilience; demonstrates self-awareness and a commitment to personal development</p> <p>Communicates with influence: communicates clearly; listens, understands and adapts to audience; negotiates persuasively</p>	<p>Leading change: creative and innovation, external awareness, flexibility resilience, strategic thinking vision</p> <p>Leading people: conflict management, leveraging diversity, developing others, team building</p> <p>Results driven: accountability, customer service, decisiveness entrepreneurship, problem solving, technical credibility</p> <p>Business acumen: financial management, human capital management, technology management</p> <p>Building coalitions: partnering, political savvy, influencing/ negotiating</p> <p>Fundamental: interpersonal skills, oral communication, integrity/honesty, written communication, continual learning, public service motivation</p>	<p>Thinking ability: flexibility, innovation, analytical, conceptual</p> <p>Personal management: adaptation to change, integrity, tenacity, self-control, organizational commitment, initiative, achievement orientation</p> <p>Managing others: cooperation, developing others, leadership, guiding</p> <p>Managing tasks: customer service orientation, occupational safety awareness, developing work relationship, negotiation, entrepreneurship, information seeking, attention to regularity, oral communication, written communication, decision making, organizing, planning, change management, quality orientation, conflict management</p> <p>Managing socio-culture: responsive to cultural changing, empathy, social interaction</p>

across the models. Moreover, only Canada and UK competency models explicitly stated public service values in the models. Nevertheless, by choosing the clusters of Indonesia managerial competency model as a reference, we can observe that each competency cluster in the Indonesia model can also be found, either partially or completely, in other countries' competency models. Therefore, these competency clusters (thinking, self-management, managing others, task-related management, and managing society and culture) can be used for other governments to create their competency models.

Competencies that are commonly used were identified by comparing definition of each competency in the model

and finding the keywords. We employed the Indonesia's model as a reference and, then, compare each competency used in the Indonesia model with that of other models. Finally, we identified common competencies practiced in those models include analytical/strategical thinking, leading/influencing, effective communication, relationship building, sound effective judgement, problem solving, adaptability, customer service orientation, negotiation, integrity, and teamwork.

Several differences can also be found in the models. Competencies related to business acumen, i.e. financial, human capital, and technology management, are emphasized in the US model, but not explicitly addressed

in others. These competencies can be viewed as technical expertise as they may require extensive experience in managing financial, human, and information resources. It is interesting to note that occupational safety competency only appeared in the Indonesia model. The competency concerns about the awareness of civil servants to follow and improve occupational safety system in their working environment. Surprisingly, political skills are explicitly stated only in the US model. As argued by Virtanen (2000), political skills are competencies that make public and private manager profiles are different.

Based on findings from literature review, it was difficult to propose common competencies prevalent in all articles as not all identified articles provided the details of competencies listed in the competency models and several models were developed for specific jobs. Nevertheless, common competencies existing among five countries could be identified as the models are more generic, and thus could be applied across jobs in public sectors. Empirical research to examine differentiating competencies, the notion was proposed by Spencer and Spencer (1993), is also very limited. Moreover, other factors influencing performance (e.g. organizational support and climate) have not been thoroughly considered in the development of competency model. Therefore, future researches can be directed to these areas. Figure 2 shows proposed competency model development for a public servant in Indonesia, which will be part of authors' future research, after taking into consideration those findings.,

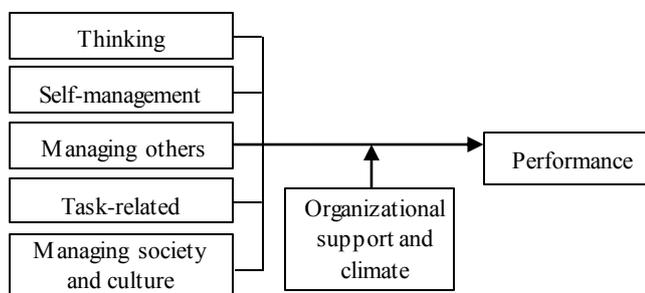


Figure 2: Competency model development for a public servant in Indonesia

5. CONCLUSION

Several researches have been undertaken to develop competency models for public servants. Most models were developed for specific jobs in public organization, thus were not applicable for generic purposes. However, competency models adopted in several countries, used in this paper, could provide more complete picture about common competencies necessary for public servants, i.e. analytical/strategical thinking, leading/influencing,

effective communication, relationship building, sound effective judgement, problem solving, adaptability, customer service orientation, negotiation, integrity, and teamwork. Furthermore, there is still ample room for future research on investigating differentiating competencies for public servants as most identified researches has not been focusing on these competencies.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge financial support from the Indonesia Endowment Fund for Education (LPDP).

REFERENCES

- Abouchakra, R. and Khoury, M. (2015) *Government for a New Age: The Transformation Agenda*. Infinite Ideas Limited, UK.
- Agut, S. and Grau, R.(2002) Managerial competency needs and training requests: the case of Spanish tourist industry. *Human Resource Development Quarterly*, **13**, 31–51.
- Allredge, M.E. and Nilan, K.J. (2000) 3M's leadership competency model: an internally developed solution. *Human Resources Management*, **39**, 133-145.
- Australian Public Service Commission. (2015) Senior executive leadership capability framework. Australian Government.
- Boyatzis, R.E. (1982) *The competent manager: a model for effective performance*. John Wiley & Sons, New York.
- Boyatzis, R.E. (2008) Competencies in the 21st century. *Journal of Management Development*, **27**, 5-12.
- Canada Public Service Agency and the Public Service Commission. (2006). Key leadership competencies. Government of Canada.
- Carrol, A. and McCrackin, J. (1998) The competent-used of competency-based strategies for selection and development. *Performance Improvement Quarterly*, **11**, 45-63.
- Chen, H. and Naquin, S.S. (2006) An integrative model of competency development, training design, assessment center, and multi-rater assessment. *Advances in Developing Human Resources*, **8**, 265-282.
- Chung-Herrera, B.G., Enz C.A., and Lankau, M.J. (2003) Grooming future hospitality leaders: a competencies model. *Cornell Hotel and Restaurant Administration Quarterly*, **44**, 17-25.
- Civil Service Human Resources. (2012) Civil service competency framework 2012-2017. UK.
- Dainty, A.R.J., M.ASCE, Cheng, M., dan Moore, D.R. (2005) Competency-based model for predicting

- construction project managers' performance. *Journal of Management in Engineering*, **21**, 2-9.
- Draganidis, F. and Mentzas, G. (2006) Competency based management: a review of systems and approaches. *Information Management & Computer Security*, **14**, 51-64.
- El-Baz, H.S. and El-Sayegh, S.M. (2010) Competency domain model and the perception of engineering managers in the United Arab Emirates. *Engineering Management Journal*, **22**, 3-12.
- Hamzah, M.I., Othman, A.K., Rashid, M.H.A., Besir, M.S. M, and Hashim, N. (2012) Examining the predictive power of leadership competency dimensionality in higher educational institutions. *Procedia-Social and Behavioral Sciences*, **65**, 1000-1006.
- Haycock, K. (2011) Exemplary public library branch managers: their characteristics and effectiveness. *Library Management*, **32**, 266 – 278.
- Homer, C.S.E., Griffiths, M., Brodie, P.M., Kilde, S., Curtin, A.M., and Ellwood, D.A. (2012) Developing a core competency model and educational framework for primary maternity services: a national consensus approach. *Women and Birth*, **15**, 122-127.
- Jackson, S.E. and Schuler, R.S. (2003) *Managing human resources through strategic partnership*, 8th ed. South-Western, Mason, OH.
- Jeou-Shyan, H., Hsuan, H., Chih-Hsing, L., Lin, L., dan Chang-Yen, T. (2011) Competency analysis of top managers in the Taiwanese hotel industry. *International Journal of Hospitality Management*, **30**, 1044–1054.
- Karbasioun, M., Mulder, M., and Biemans, H. (2007) Towards a job competency profile for agricultural extension instructors: a survey of views of experts. *Human Resources Development International*, **10**, 137-151.
- Kim, P.S. (2008) How to attract and retain the best in government. *International Review of Administrative Science*, **74**, 637-652.
- Mansfield, R.S. (1996) Building competency models: approaches for HR professionals. *Human Resources Management*, **35**, 7–18.
- Markus, L., Cooper-Thomas, H.D., dan Allpress, K.N. (2005): Confounded by competencies? an evaluation of the evolution and use of competency models. *New Zealand Journal of Psychology*, **34**, 117-126.
- Marrelli, A.F. (1998) *An introduction to competency analysis and modeling*. Performance Improvement, **37**, 8-17.
- Marrelli, A.F., Tondora, J., and Hoge, M.A. (2005) Strategies for developing competency models. *Administration and Policy in Mental Health*, **32**, 533-561.
- Martina, K., Hana, U., and Jiri, F. (2012) Identification of managerial competencies in knowledge-based organizations. *Journal of Competitiveness*, **4**, 129-142.
- Martynova, S.E. and Maslennikova, O.G. (2015) The "service" model of the competences of the municipal employee as the basis of vocational training: Russian experience. *Procedia-Social and Behavioral Sciences*, **174**, 2716-2720.
- McClelland, D.C. (1973) Testing for competence rather than for "intelligence". *American Psychologist*, **28**, 1-14.
- National Human Resources Agency. (2013) Guidelines Civil Servant Managerial Competencies Formulation. Government of Indonesia.
- Oladele, I. (2015) Borich needs model analysis of professional competence among extension officers in North West Province, South Africa. *Journal of Agriculture & Food Information*, **16**, 151-162.
- Rainsbury, E., Hodges, D., and Burchell, N. (2002) Ranking workplace competencies: student and graduate perceptions. *Asia-Pacific Journal of Cooperative Education*, **3**, 8-18.
- Rothwell, W.J. and Lindholm, J.E. (1999) Competency identification, modelling and assessment in the USA. *International Journal of Training and Development*, **3**, 90-105.
- Shippmann, J.S., Ash, R. A., Battista, M., Carr, L., Eyde, L. D., Hesketh, B., Kehoe, J., Pearlman, K., Prien, E. P., and Sanchez, J. I. (2000) The practice of competency modeling. *Personnel Psychology*, **53**, 703–740.
- Spencer, L. M. and Spencer, S. M.. (1993) *Competency at work: models for superior performance*. John Wiley & Sons, Canada.
- Tataw, D.B. (2011) Individual, organizational, and community interprofessional competencies for education, training, and practice in health and social care. *Journal of Human Behavior in the Social Environment*, **21**, 1-24.
- United State Office of Personnel Management. (2012) Guide to senior executive service qualifications. US.
- Vathanophas, V. dan Thai-ngam, J. (2007) Competency requirements for effective job performance in the Thai public sector. *Contemporary Management Research*, **3**, 45-70.
- Vazirani, N. (2010) Competencies and competency model- a brief overview of its development and application. *SIES Journal of Management*, **7**, 121-131.
- Virtanen, T. (2000) Changing competences of public managers: tensions in commitment. *International Journal of Public Sector Management*, **13**, 333 – 341.
- Wickramasinghe, V. and De Zogya, N. (2009) An assessment of managerial competency needs: empirical evidence from a Sri Lankan telecommunication service

provider. *The International Journal of Human Resource Management*, **20**, 2547-2567.