

---

## **THE IMPACT OF RETIREMENT AGE ON ORGANIZATIONAL COMMITMENT**

Keni<sup>1)</sup>, Rajendran Muthuveloo<sup>2)</sup>, Lee Pey Huey<sup>3)</sup>, Teoh Ai Ping<sup>4)</sup>

<sup>1)</sup>Tarumanagara University (Economics Faculty), Kampus II, Jakarta 11470

<sup>2)</sup>Universiti Sains Malaysia (Graduate School of Business), 11800 Minden, Pulau Pinang, Malaysia

<sup>3)</sup>Universiti Sains Malaysia (Graduate School of Business), 11800 Minden, Pulau Pinang, Malaysia

<sup>4)</sup>Universiti Sains Malaysia (Graduate School of Business), 11800 Minden, Pulau Pinang, Malaysia

e-mail: [kenilim2012@gmail.com](mailto:kenilim2012@gmail.com)

### **Abstract**

*Retirement age has been reconceptualised in this paper. A framework is presented to explore the relations between different conceptualizations of retirement age (the independent variables) and organizational commitment (the dependent variables). The independent variables consist of chronological age, functional age, psychosocial age, organizational age and life span age; whereas the dependent variables covers affective, continuance, and normative commitment. This paper has two main significant contributions. Firstly, it assists practitioners to design a well-defined retirement plan which allows leaders to retain and utilize productive and yet committed employees in the organization. Secondly, it enriches academicians' knowledge by introducing a new construct called retirement age, where the time at which one stops working.*

**Keywords:** Retirement Age, Organizational Commitment, Human Resource Management

### **Introduction**

Organizational commitment is crucial for productivity and business sustainability. A committed employee will perform effectively and efficiently to optimise their output in terms of products and services. Countless studies have investigated the consequences of organizational commitment, and many had shown that organizational commitment has a positive impact on organizational output (Fornes, Rocco & Wppard, 2008; Katzenbach, 2000; Cohen, 2003; Meyer & Allen, 1997; Mowday, Porter & Steers, 1982). Although various researchers have explored topics related to organizational commitment, a gap was found in the literatures. Little research has investigated the relationship between retirement age and organizational commitment; while looking into different ways how retirement age could be measured might have an impact on employees' commitment and contributions towards their organization.

Retirement has become a global issue since the world is aging (Longman, 2010; OECD, 2006; Centre for Strategic and International Studies, 2002; Patrickson, 2001). The numbers of the population aged 60 and above is projected to rise in nearly every country in the world between year 2005 and 2050. This shift of population concerns both developed and developing countries as it tends to lower both labour force participation and saving rates, and raises concern about a slowing of economic growth in the future (Bloom, Canning & Fink, 2011). As the world population is getting older, it will bring a definite impact on the labour market as an increasing number of workers are getting older and leaving the workforce (Dumay & Rooney, 2011; Centre for Strategic and International Studies, 2002; Patrickson, 2001; Kalirajan & Shantakumar, 1998). Retirement age is the time one has reached a stage in life where he/she could not perform to attain the goal set. Since this study intends to introduce the new concept of measuring retirement age, little literatures have been found showing such theories. The five formats of retirement age proposed in this study are developed by adapting mainly the work of Sterns & Doverspike (1989), followed by Kooij, *et al.* (2008) and Kooij (2010) as secondary references. Other than that, various literatures related to concepts of age and aging are reviewed and used as the foundation of this new concept proposed.

### **Literature Review**

#### ***Organizational Commitment***

Organizational commitment is defined as the psychological state that binds an employee to the organization (Allen and Meyer, 1990; Mowday, Porter, and Steers, 1982). Muthuveloo and Che Rose (2005) defined organizational commitment as "...employees' acceptance, involvement and dedication (AID) towards achieving the organization's goals. It is the willingness of employees to accept organizational values,

---

and goals, and to work towards achieving these; to be fully involved, and participate in all the activities, both work and non-work related, of the organization; and to dedicate time and effort, towards the betterment of the organization". Meyer & Allen further argued that the problem of defining commitment has been compounded by the use of measures of commitment that do not always match with the definition concerned. Since OC has been the subject of numerous critical reviews due to the lack of consensus in the construction of definition, Meyer & Allen (1991) review the theory and research of OC, incorporated both the attitudinal and behavioral approaches and their complementary relationships, and proposed a Three-Component Model of commitment with the intention to aid the understanding of existing studies and serve as a framework for future research. Meyer & Allen's (1991) Three-Component Model will be used in this paper when studying the impact of retirement age on organizational commitment. The Three-Component Model is developed to distinguish organizational commitment into three different themes, which are affective commitment, continuance commitment, and normative commitment. The following definitions of affective commitment, continuance commitment, and normative commitment are summarized from the work of Allen & Meyer (1990) and Meyer & Allen (1991).

Affective commitment (AC) is defined as the employee's emotional attachment to, identification with, and involvement in the organization. Employees with strong AC will remain in an organization because they "want" to do so. AC reflects a desire to continue employment with the organization because of the positive work experiences that form feelings of comfort and personal competence). Continuance commitment (CC) is referred to as the awareness of the costs associated with leaving the organization. Those with strong CC will continue to work in an organization because they "need" to do so. CC reflects a need to maintain membership in the organization due to the recognition of the costs associated with leaving, such as the lack of alternatives or the existence of side bets. Lastly, Normative Commitment (NC) is defined as a feeling of obligation to continue employment. Employees with strong NC will choose to stay in the same organization just because they feel they "ought" to do so. The feeling of obligation comes from the internalization of loyalty norms and/or the receipt of favors from the organization that requires repayment, such as the receipt of scholarship.

Researchers argued that these three components bind an employee to an organization and thus are likely to lower turnover. Although the focus of this research is not turnover in an organization, the three components of commitment still have implications on employees' decisions of either to continue or discontinue employment with the organization. Findings of Adams *et al.*, 2002; Ekerdt & Deviney, 1993; Hayway & Hardy, 1985; McGoldrick & Cooper, 1990 (as cited in Davies & Cartwright, 2011) indicated that organizational commitment was negatively related to retirement intent. Hence, the Three-Component Model is still the right model to be used in this study.

### ***Retirement Age***

Sterns & Doverspike's (1989) five conceptualization of age is used as the main foundation for developing the new definitions for retirement age. Below are the five types of age as defined by Sterns & Doverspike, followed by the new definitions of retirement age proposed in this study.

#### ***(1) Chronological age***

Chronological age is measured based on the number of years a person has been living since the year of birth. As proposed by Kanfer & Ackerman (2004), chronological age may serve as a proxy for age-related processes that may influence work outcomes but cannot be captured within one single definition. As cited from Kooij *et al.* (2008) and Kooij (2010), many researchers (Avolio *et al.*, 1984; Sterns & Alexander, 1987; Sterns & Miklos, 1995; Wolf *et al.*, 1995; Settersten & Mayer, 1997; Kanfer & Ackerman, 2004) suggested that chronological age may not be a sufficient operationalization of the age factor in the work setting. Kaliterna, Larsen & Brkljacic (2002) also supported this view by citing the work of Cleveland & McFarlene-Shore (1992).

#### ***(2) Functional or performance-based age***

Functional or performance-based age is measured based on a worker's performance. It recognizes that there is a great difference in individual abilities and functioning through different ages. Some researchers such as Skirbekk, (2008a) and Ng & Feldman (2008) believe that chronological age does matter when it comes to work performance while some others disagree (McEvoy & Cascio, 1989; Kroll, 2003). Ng & Feldman (2008) examined the relationship of age to ten dimensions of job performance, which include: core task performance, creativity, performance in training programs, organizational citizenship behaviors, safety performance, general counterproductive work behaviors, workplace aggression, on-the-job substance use, tardiness, and absenteeism. Findings suggest that age was largely unrelated to core task performance, creativity, and training performance but demonstrated stronger relationship with the other seven dimensions of job performance. On the other hand, McEvoy & Cascio (1989) argued that no hard evidence was found linking productivity to age; while Kroll (2003) suggested chronological age is not the sole or dominant factor determining efficiency and resilience.

By understanding the changes that an individual goes through in the process of aging, jobs can be redesigned in order to utilize the knowledge and skills of the elderly worker. Instead of being asked to carry out jobs that require physical strength and fluid intelligence (where a *loss* took place), the elderly staff could be asked to perform tasks that require crystallized intelligence (where a *growth* occurred). Skirbekk (2008b) pointed out that physical strength has lost much of its importance in the modern societies, where cognitive skills can be the best predictor of productivity. Besides that, long experience on the job enable older workers to use more efficient working strategies as compared to the younger workers.

### **(3) Psychosocial or subjective age**

Psychosocial or subjective age is referred to as the social and self-perception of age. As quoted from Kooij *et al.* (2008, p.366), “psychosocial definitions have focused on three issues: the age at which society perceives an individual to be older, the social attitudes that are held toward older workers (or the perceived attributes and stereotypes of older workers) and the implications for personnel decisions of labeling a worker as older”. Subjective age (self-perception of age) refers to how old a person looks, feels, acts, and how old the person desires to be. Kaliterna, Larsen & Brkljacic (2002, p.40) stated that “individuals with the same chronological age may differ greatly from each other in terms of the subjective meaning that age has for them and many chronologically old people feel young inside”.

Study of Kaliterna, Larsen & Brkljacic (2002) shows that workers who generally felt younger tend to have higher ability in terms of physical, mental and social demands of work; while employees who perceived themselves younger than their peers tend to put less effort in physical skills; whereas those who desired to be younger felt more tensed and tired at work. Findings of Desmette & Gaillard (2008) further contribute to the literature by stating, self-categorization as an “older worker” is related to negative attitudes towards work, and leads to stronger desire for early retirement. However, as cited from Kooij *et al.* (2008), there was a contrary argument from Cleveland & Shore (1992) who found that employees who perceived themselves to be older than most of the people in their work group exhibited more job involvement, job satisfaction, and organizational commitment. These studies show that perception of age (psychosocial age) does have an impact on performance and is likely to have an impact on commitment.

### **(4) Organizational age**

Organizational age is based on the aging of individuals in jobs and organizations. It is used to refer to variables such as career stage, tenure (the years of service) and skills obsolescence. Studies on career stages and barriers to employee development among older workers suggests that “age-related changes in motivational variables, rather than chronological age or cognitive abilities per se, play a key role in successful work outcomes for middle-aged and older workers” (Kanfer & Ackerman, 2004, p.440). As pointed out by Simpson, Grelle & Stroh’s (2002), studies have indicated repeatedly that employers were reluctant to train older employees as it is usually perceived as costly to pull them away from their duties for training (as it incurs higher cost in wages).

### **(5) Life span age**

Life span age is a concept that uses a number of the above approaches but advances the possibility for behavioral change at any point in the life cycle. After examining 13 potentially explanatory age-related factors of the positive association between age and well-being, Warr (1992) found that family status (having children under age five) has a positive effect on job well-being (as cited in Kooij *et al.*, 2008, p.367). Assumption could be made that such family status is likely to impact to organizational commitment.

### **The new definitions of retirement age**

After understanding the five concepts of age above, it is time to describe the new formats of retirement age. Since chronological age is referred to as calendar age of an individual, *chronological retirement age* is the retirement age set based on chronological age of an employee. This is the most widely use format of retirement at the moment. Secondly, functional age is based on a worker’s performance, and recognizes that there is a great difference in individual abilities and functioning through different ages. As chronological age increases, a person goes through various biological and psychological changes that may be reflected in cognitive abilities, psychical capacity, health and performance of that person. Hence, *functional retirement age* is measured based on the cognitive abilities, psychical capacity, health and performance of the employee.

Thirdly, psychosocial age is referred to as the social and self-perception of age, which involves concepts such as age norms and stereotypes; and how old a person looks, feels, acts, and desires to be. Hence, *psychosocial retirement age* will be measured based on the self- and social perception of how old an employee is. Next, organizational age is measured based on the aging of individuals in jobs and organizations. It is used to refer to variables such as career stage, tenure (the years of service) and skills obsolescence. *Organizational retirement age* will then be measured based on the career stage, tenure and

skill obsolescence of the employee. Lastly, life span age refers to the possibility for behavioral change at any point in a person's life cycle. According to the life span approach, the age of individuals can be defined by their life stage and family status. Hence, *life span retirement age* is referring to the retirement age assessed based on the employee's changes in family life cycle.

### **Proposed Theoretical Framework and Hypotheses**

In order to examine the relationship between retirement age and organizational commitment, a theoretical framework (Figure 1) has been developed to aid future researchers to examine whether retirement age has an impact on organizational commitment. It is a simple framework consisting retirement age as the independent variables (based on the 5 conceptualization of retirement age) and organizational commitment as the dependent variables. Amongst the factors that could affect organizational commitment are the settings of retirement age.

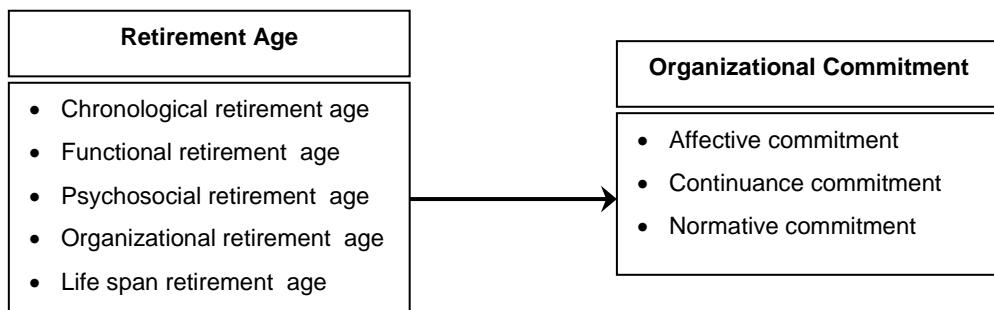


Figure 1: Research Theoretical Framework: Impact of Retirement Age on Organizational Commitment

Firstly, if a retirement age was set based on chronological age (which is the current practice in business world), how would it affect organizational commitment? For instance, a senior manager is 55 years old and mandatory retirement age is set at 58. His assistant manager is the beneficiary of the organization's succession development plan and is aware that she will be taking over the manager's position once he retired. If everything goes as according to plan, will the senior manager continue to be committed to the organization knowing that somehow, he needs to leave the organization soon? If yes, which form(s) of commitment? On contrary, let's say, the government announced that there will be an extension in retirement age starting from this year.

The new mandatory retirement age would be 60 instead of 58. Due to the announcement, the senior manager will now have to work for another 5 years before he can retire. Will this adjustment in retirement age impact organizational commitment for both the senior manager and assist manager? A hypothesis (H1) has been developed to test the relationship between chronological retirement age and organizational commitment.

H1: Chronological retirement age has a significant impact on organizational commitment.

Secondly, how would have organizational commitment been affected if retirement age was set based on functional age? Intention to retire is like to be different if retirement age is measured based on the physical and psychological abilities of an employee. Workers who are still highly productive may not choose to retire even if their chronological age has categorized them as "older workers". Will such workers be more committed to their organizations if they were to retire based on the time they think it is appropriate? On the other hand, should unproductive workers be encouraged to retire earlier so that organizations will not continue to pay for the lower value of work outcomes received? When retirement is fixed based on functional age of an employee, will there be any impact on organizational commitment among staff? The second hypothesis (H2) is developed to examine the relationship between these 2 variables.

H2: Functional retirement age has a significant impact on organizational commitment.

Thirdly, how would self and social perception of being "old" (psychosocial age) affects organizational commitment? The answer is very subjective as perception various among different people and thus is likely to encourage stereotypes. If you perceive yourself as "still young, sharp and productive" but your co-workers perceive you as "old, slow and no longer productive", will this influence your level of commitment (especially affective commitment) towards your organization? The third hypothesis (H3) is developed to study the impact of psychosocial age towards organizational commitment.

H3: Psychosocial retirement age has a significant impact on organizational commitment.

---

Next, organizational age (which is related to tenure, career stage and skills obsolescence) will be examined to understand how it influence organizational commitment. Do you think it is time to retire if you have reached a plateau when there is very little opportunity to gain greater autonomy and authority? Or will that have a positive impact on continuance commitment as tenure comes with higher pay? Do you think that being in the later career stage may cause you to be more affectively and normatively committed to your organization as you are feeling very comfortable with your work environment? Or will that impact your commitment level negatively as higher organizational age is likely to be tied to skills obsolescence? Another hypothesis (H4) is developed to study this relationship.

H4: Organizational retirement age has a significant impact on organizational commitment.

And lastly, this study will examine whether an individual's life span age will impact organizational commitment. When an individual goes through life stages, different expectations and new needs may occur. Will a married employee have a higher level of organizational commitment and intend to continue employment as compared to another who is still single? Or will the married employee prefers to retire earlier so that more emphasis will be placed on family matters? The final hypothesis (H5) is developed to test the impact of a worker's life span age towards organizational commitment.

H5: Life span retirement age has a significant impact on organizational commitment.

As indicated in the study of Adams, Prescher, Beehr & Lepisto (2002), organizational commitment is negatively related to retirement intent. This shows that workers with stronger affective commitment to their organization are less likely to leave the organization through retirement. This result is consistent with the study of Luchak, Pohler & Gellatly (2008) as well as Meyer *et al.* (2002).

Meyer *et al.* pointed out that all three forms of commitment related negatively to withdrawal intention and turnover; in addition to Luchak *et al.* who found that workers with higher levels of affective commitment are more likely to retire later and past the age when it is most financially attractive for them to leave the company. In contrary, workers with moderate to high levels of continuance commitment are likely to plan for early retirement and at ages when it is most attractive for them to do so. The results of all these findings is significant for organizations to consider a defined-benefit pension plan that will credit workers with benefits of lower overall value for retiring too early or too late.

### **Expected Contribution**

As mentioned earlier, very limited studies were found in examining the relationship of retirement age and organizational commitment. One of the reasons of the lack of research in this area could be the difficulty in measuring retirement age. There is a lot of confusion over the age of retirement. From a general point of view, a person should retire once he or she is old. The confusion is, how old is "old"? If you were to set a retirement age, at what age do you think is appropriate to retire? Does every individual share and agree with the same age of retirement? The answer is likely to be negative as different individuals tend to have different speed in aging (Kooij *et al.*, 2008).

Due to the complication of defining retirement age for different individuals, managers and policymakers tend to generalize retirement age across industries based on chronological age (which is also called calendar age or birth age). However, retirement age should not be viewed solely based on chronological age. Flynn (2010) reviewed the typologies of older workers and stated that the older workforce consists of a wide range of workers whose experience in work impacts their attitude toward and planning for retirement. Therefore, policy makers cannot take a "one size fits all" approach in designing incentives for delaying retirement. In this paper, it is believed that an individual possesses *all* five formats of retirement age. It is just a matter of which retirement age plays a dominant role in the life of the employee. It also could be single retirement age or combination of more than one type retirement age from the five types of retirement could determine when one should stop working.

For instance, an employee who believes in functional retirement age will continue to work elsewhere even if he/she was forced to retire from the current company at the age of 65 (chronological retirement age). On the other hand, another employee who believes in life span retirement age will want to stop working and retire at the age of 50 and prefers to spend time with his/her spouse, children and grandchildren. By forcing anyone to stop working while he/she still wants to work; or by retaining someone who has no intention to work longer is likely to have an impact on organizational commitment.

Yet today, many policymakers and managers are still making decisions based on chronological age. Since the misconception of retirement age is that it is always measured based on chronological age, a gap was found between chronological and the other forms of ages. This same gap applies to the workforce. When retirement age is fixed based on chronological age (hereinafter refer to as chronological retirement age) while individuals tend to age in different speed (Kooij *et al.*, 2008), some workers might have retired too early when they are still productive (causing brain drain); while others might think they have worked too long and

---

should retire at an earlier age. Besides that, any adjustment in mandatory chronological retirement age would bring impact to the workforce.

For instance, if policymakers announced an extension of chronological retirement age from 60 to 65, some productive workers might be delighted and are likely to be more committed to their work and organization as they know they are still able to contribute to their organizations and the nation (especially when they perceived their job to be meaningful). On the other hand, another group of employees might be negatively affected by the announcement and become less committed to their work and organization. This later group of employees is likely to become victims of stress, fatigue and may suffer in dealing with other health related issues.

While the same announcement could have different impacts on different employees, this shows that different individuals have different conceptualizations of retirement age, and some forms of retirement age play a more dominant role than the others. Therefore, the adjustment of chronological retirement age is likely to have an impact on the productivity as well as commitment of workers towards the organization. By understanding retirement age could be defined in different ways, this will affect managerial decisions when it comes to designing retirement packages. When retirement age is no longer fixed based on chronological age, this will be able to solve, or at least lessen the problem of global aging which will lead to global labour shortage due to the retirement of Baby Boomers worldwide. This is the impact of this study.

The motivation of this study is to identify the gap between chronological and the other forms of ages, and to examine organizational commitment from the perspective of retirement age. Hence, this paper does not suggest any retirement age for any industry as that would be for further researches to be undertaken. The contribution of this paper is to explore the relations between different conceptualizations of retirement age and organizational commitment, and suggest a framework to guide further empirical researches.

## Conclusion

As a conclusion, this paper has a significant contribution to the business world, not just for corporate managers but also for policymakers who are concerned about the labour shortage due to global aging and the retirement of Baby Boomers. If retirement age is redefined, this global challenge could be solved.

Since the motivation of this study is to identify the gaps between chronological age and the other forms of ages, as well as to examine organizational commitment from the perspective of retirement, no empirical study was carried out. Limitation of this study includes the lack of empirical research to prove how the 5 conceptualization of retirement age could influence retirement decisions and impact on organizational commitment.

As such, there is no suggestion of the “right retirement age” for any industry. Further empirical research is therefore needed to propose the appropriate retirement age for the right person. This will be very helpful for Human Resource Managers to design a well defined-benefit retirement plan which will suit both the employer and the employees. At the same time, it allows managers to retain and utilize productive and yet committed employees in the organization.

## References

- Adams, G.A., Prescher, J., Beehr, T.A., & Lepisto, L. (2002). Applying work-role attachment theory to retirement decision-making. *International Journal of Aging and Human Development*, 54(2), 125-137.
- Allen, N.J. & Meyer, J.P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63, 1-18.
- Bloom, D.E., Canning, D., & Fink, G. (2011). *Implications of population aging for economic growth*. (PGDA Working Paper No.64). Program on the global demography of aging. Harvard University, United States.
- Centre for Strategic and International Studies. (2002). *The global retirement crisis: The threat to world stability and what to do about it*. Washington, D.C.: Jackson, R.
- Cohen, A. (2003). *Multiple commitments in the workplace: An integrative approach*. Mahwan, NJ: Lawrence Erlbaum.
- Cleveland, J.N. & McFarlane Shore, L (1992). Self- and supervisory perspectives on age and work attitudes and performance. *Journal of Applied Psychology*, 77(4), 469-484.
- Davies, E., & Cartwright, S. (2011). Psychological and psychosocial predictors of attitudes to working past normal retirement age. *Employee Relations*, 33(3), 249-268.
- Desmette, D. & Gaillard, M. (2008). When a “worker” becomes an “older worker”. *Career Development International*, 13(2), 168-185.
- Dumay, J. & Roony, J. (2011). Dealing with an ageing workforce: Current and future implications. *Journal of Human Resource Costing & Accounting*, 15(3), 174-195.

- 
- Flynn, M. (2010). Who would delay retirement? Typologies of older workers. *Personnel Review*, 39(3), 308-324.
- Fornes, S.L., Rocco, T.S., & Wolland, K.K. (2008). Workplace commitment: A conceptual model developed from integrative review of the research. *Human Resource Development Review*, 7(3), 339-357.
- Kalirajan, K.P., & Shantakumar, G. (1998). Ageing labour force in a labour shortage economy: the case of Singapore. *International Journal of Social Economics*, 25(2/3/4), 486-503.
- Kaliterna, L., Larsen, Z.P., & Brkljacic, T. (2002). Chronological and subjective age in relation to work demands: Survey of Croatian Workers. *Experimental Aging Research*, 28, 39-49.
- Kanfer, R. & Ackerman, P.L. (2004). Aging, adult development and work motivation. *Academy of Management Review*, 29(3), 440-458.
- Katzenbach, J.R. (2000). *Peak performance: Aligning the hearts and minds of your employees*. Boston: Harvard Business School Press.
- Kooij, D., De Lange, A., Jansen, P. & Dikkers, J. (2008). Older workers' motivation to continue to work: five meanings of age. A conceptual review. *Journal of Managerial Psychology*, 23(4), 364-394.
- Kroll, M. (2003). The challenge of the age and competency structure in industry for innovations and human resource policy. *Journal of European Industrial Training*, 355-371.
- Luchak, A.A., Pohler, D.M. & Gellatly, I.R. (2008). When do committed employees retire? The effects of organizational commitment on retirement plans under a defined-benefit pension plan. *Human Resource Management*, 47(3), 581-599.
- McEvoy, G.M., & Cascio, W.F. (1989) Cumulative evidence of the relationship between employee age and job performance. *Journal of Applied Psychology*, 74(1), 11-17.
- Meyer, J.P., & Allen, N.J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, 1, 61-89.
- Meyer, J.P., & Allen, N.J. (1997). *Commitment in the workplace: Theory, research, and application*. Thousand Oaks, CA: Sage Publications.
- Meyer, J.P., Stanley, D.J., Herscovitch, L. & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 61, 20-52. doi:10.1006/jvbe.2001.1842/
- Muthuvveloo, Rajendran. & Raduan Che Rose. (2005). Typology of Organisational Commitment. *American Journal of Applied Science*, 2(6), 1078-1081.
- Ng, T.W.H., & Feldman, D.C. (2008). The relationship of age to ten dimensions of job performance. *Journal of Applied Psychology*, 93, 392-423.
- OECD. (2006). *Live longer, work longer: Ageing and employment policies*. Paris, France: OECD Publishing.
- Oxford Advanced Learner's Dictionary of Current English (4<sup>th</sup> ed.). (1989). Oxford University Press.
- Patrickson, M. (2001). Asia's ageing workforce: The emerging challenge for the twentieth century. *International Journal of Organizational Behaviour*, 3(1), 53-63.
- Simpson, P.A., Greller, M.M., & Stroh, L.K. (2002). Variations in human capital investment activity by age. *Journal of Vocational Behavior*, 61, 109-138.
- Skirbekk, V. (2008a). Age and productivity capacity: Descriptions, causes and policy options. *Ageing Horizons*, (8), 4-12.
- Skirbekk, V. (2008b). Age and productivity potential: A new approach based on ability levels and industry-wide task demand. *Population and Development Review*, 34, 191-207.
- Sterns, H.L. & Doverspike, D. (1989). Aging and the retraining and learning process in organizations. San Francisco: Jossey-Bass.
- Warr, P. (1992). Age and occupational well-being. *Psychology and Aging*, 7(1), 37-45.