Aging workforce Management Model Verification to Extract weak and Strength Features of Thai Small Firms

*Intaka Piriyakul
**Vikorn Phupat
***Sutarat Juicharoen
****Rapepun Piriyakul

Introduction

Strategic Age-Diverse Workforce Management is an importanthuman resources paradigm in an aging society. There are both positive and negative concepts to aging Workforce diversity. The positive concept to an aging workforce diversity is that experiencedworkersmaintain valuable role models for the organization but brings forth concerns forthe physical health of the elderly. For small firms,the retirement of the migrant workers is considered a loss of knowledge asset. This research, therefore, aims to identify the weaknesses and strengths inthe business executives' plans as a support towards implementations in human resource management, especially in the "Aging Workforce" group. Consequently, the findings of this studywill further support risk management studies. Due to the lack of knowledge about the aged workforce management in the Thai businesses, we synthesize theory and previous research to formulate the conceptual success model of "Age Diverse Workforce Management". The model extracts the strength and weak functions ofthe Thai firms, and will be evaluated by testing the Structural Equation Model.

Future workforce management under demographic changes is important both at the national and business levels. Recently, the world considered to betransforming towards anelderly society (Hedge et al., 2006) where 7% of the total population are aged over 65. (Source: United Nations, 2009).
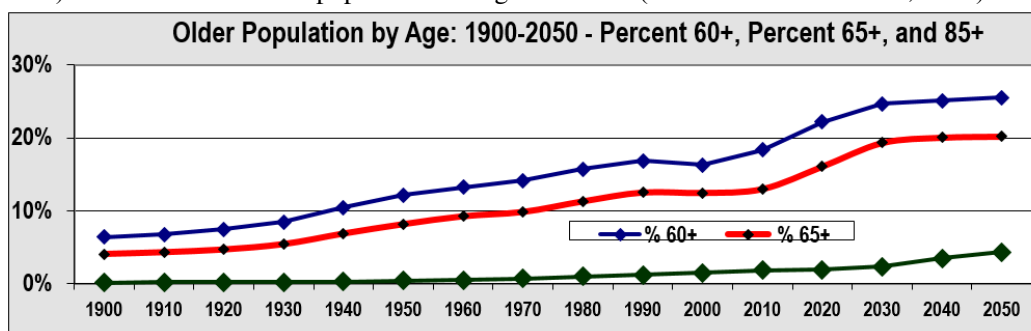

Figure 1: The proportion of elderly people in the world from 1950 to 2050.
source:
(http://www.ipsr.mahidol.ac.th/IPSR/AnnualConference/ConferenceIIArticle/Download/Article02.pdf)

The situation is more drastic in Thailand where estimates suggests the proportion of working‑age people with retirement age in Thailand will be about 20 percent by 2560 **(**http**://**www**.**ipsr**.**mahidol**.**ac**.**th**).** Most countries have begun implementing the retirement postponement policy due to improvements in medical practices and life expectancy**.** However, delaying retirement meant issues such as Age Diverse Conflict Management, appropriate job designs, Awareness Training for the elderly, Knowledge Retention, and Knowledge Sharing has become a concern**.** These issues wereaddressed in Australia, Singapore, and Taiwan**.** Solutions have been previously discussed **(**Bock & Kim, 2002**)** but only led to ambiguous guidelines **(**Hewitt, 2012**).** Studiesthe Elderly Role Models have identified following personality traits**: (**1**)** organizational commitment **(**2**)** work discipline **(**3**)** value of life**(**4**)** social relations and **(**5**)** Knowledge**(**Andrew et al, 2008**).**

In order To manage the risks of the workforce, our study contributes towards high‑level workforce planning**:** Strategic Age‑Diverse Workforce Management, High‑Performance Work Place Management, and Knowledge Management**.** The level of workforce management in the elderly is a top priority inhuman resource management **(**Cappelli, 2010**)** where the elderly workforce are considered to

----
*Faculty of Social Sciences, University Srinakharinwirot, (SWU), Thailand.
**Function Company, University Ramkhmahaeng, (RU), Thailand.
***Research and Development Institute, University PhranakhonRajabhat, (PNRU), Thailand,
****Faculty of Science Ramkhamhaeng, University Ramkhamhaeng, (RU), Thailand,

----

bean intangible resource **(Barney, 1991)**. Benefits of maintaining an elderly workforce are not often explicit and requires time **(Loomes& McCarthy, 2011)**. Unlike switching production systems that use the capital **(Tangible)** which will radically change and measurable **(Barney, 1991)**,the value of workforce diversity is derived by the capability of **"management of the age difference"** **(Richard, 2000)**. To create value creation in Economics, Culture and Society, organization require the cooperation of executives, entrepreneurs, employees, policy makers **(Hedge &Lammlein 2006; Naegele& Walker, 2006)**.

The main contribution of this study is toexplore the relevant function by analyzing the human resource management in Thai business with the theoretical effective age-diverse workforce model.

Literature Review

Aging workforce management

Managing older workers is challenging and inevitable. The demographic structure of the world DESA, the United Nations (World Population Ageing 1950-2050) shows that the world is in a period of demographic transition due to lower reproductive rates and mortality (Grubic-Nesic& Anderson, 1993). As a result, the population structure has changed and the number of elderly people has increased (Stam, 2009). There are two sides' effects caused by the aging society. Davidson et al. (2007) argued that knowledge assets are inherent in human capital (Streb&Voelpel, 2010), but can be considered costly due to the need for maintaining a healthy workplace, communication, awareness training, among others (Stam, 2009). These issues complicate human resource management practice, especially if conflicts are to be avoided ((Cappelli, 2010). Thus, the management of the elderly is both a challenge and a problem in itself (Loomes& McCarthy, 2011; Bal et al., 2011). Therefore, this management requires the art and management to choose the right strategy and flexibility under the internal and external constraints of resources.

Using the theoretical and previous study, our conceptual model was selected from the "antecedent factors" consisting of Strategic Age Work Force Management (SAWFM), High Performance Workplace Management (HPWM), and Knowledge Management (KMAD). Intermediate factors were the performance value (PV), cultural value (CV) and social value (SV), and finally the dependent factor is the potential of corporate reputation (PCR).

Strategic Age-Diverse Workforce Management (SAWM)

Strategic Age-Diverse Workforce Management is the processes carried out in high level organizations of entrepreneurs. To manage the resources of the organization for successful achievement of organizational effectiveness by setting as a Vision and Mission in the form of policy deployment on various age group especially the elderly (Forester Research, 2012). Another view of aging workforce management is likely a group of workers may be regarded as a disability management, which means that the workplace is designed to work with the facility to create a working atmosphere. In addition, collaboration among other age groups is needed to meet the needs of all groups, leading to synergies for organizational effectiveness. The two main components of aging workforce management are (1) Awareness Training (AWT) to understand modern technology, and (2) to promote awareness of coexistence (ADM).

High-Work Performance Workplace Management (HPWM)

High-Performance Workplace Management (HPWM) concept is the effective physical and workplace environment management to support business goals for value creation (Loomes& McCarthy, 2011). HPWM is based on balanced management of investment in human and physical resources to full fill the organization competency to achieve efficiency and financial benefits (www.gartner.com/it-glossary/high-performance-workplace). Moreover, HPWP is the management of resources and environment to motivate the employee to speeding their job performance and encourages them to use their experiences to work better, work happily, and enjoy the job (Montesi, 2014). In the sense of the team-work management, HPWM also supports the team can work effectively together and can get the outstanding team-performance. HPWM can be classified into multiple dimensions, on our study, we select the two appropriate sub-functions in business: (1) Workplace Health Promotion (WHP) and (2) effective communication design (Communication Effectivity: CE).

Knowledge Management Age-Diverse Workforce (KMAD)

Knowledge Management refers to the process of creating knowledge that is in a non-systematic form, such as the tacit knowledge within the employee, resulting from direct and indirect learning, on the job or off the job training, supervisor support, peer support, and the ability of the employee. This

----

knowledge is the intellectual capital as a valuable asset to the organization. In order to suspend these assets to disappear, knowledge retention is required. The other activities of Knowledge Management are knowledge creation, knowledge storing, knowledge sharing, and knowledge acquisition (Grubic-Nesic et al., 2014). Having a good relationship is the power of sharing knowledge (Bock et al., 2005; Dholakia, 2005). The basis depends on the role of the exchange in the same age group and the distinct group. Each group has different knowledge, then the role of reciprocity is an important factor in making knowledge effective (Sole & Applegate, 2000).

In a workforce dimension crisis, most senior executives are retired while the organization is not prepared to transfer knowledge from this group (Green, 2007). Knowledge retention in an elderly worker is the experience and ability that accumulate over a long period of time called significant corporate experience (Hewitt, 2012; Henkens&Schippers, 2012).

Knowledge Management Age-Diverse Workforce (KMAD)

Values may refer to tangible asset i.e., money or assets that are economically or refer to intangible values such as emotions, pride, feeling, self-worth for beneficial to family, organization or society. The main finding from the issue, "Age diverse workforce management", are as follows (1) knowledge sharing (2) corporate image (3) Innovation (4) creating a harmonious working environment and (5) convergence and collaborate thinking. The value creation of age diverse workforce management in our study is consists of the performance value (PV), the cultural value (CV) and the social value (SV).

Potential Corporate Reputation (PCR)

The reputation of the organization means the sum of perceived organizational attributes. The attributes that the organization generates may have an impact on the economy, society, and the environment. The attribute appearance may be concrete or abstract. The results may be summarized as positive or negative from the people's perception (Fombrun&Rindova, 2000).

Model Strength

To evaluate the factors' strength in the theoretical model, we start with the full model and pruning the un-relevance factor by using the empirical data. In order to test model robust, we propose the process to identify the type of the intermediate factors: the effect factor or not and the mediator. The model validated analysis is based on the principle of causal theory   (Schumacker& Lomax, 2004)). In addition to depth analysis, the statistical technique is used to test the difference in the influencing moderator to the final fit model.

Research Methodology

1. Developing the model of "Age Diverse Workforce Management" based on theory and previous qualitative research.

2. Analyzing and investigate, SEM model using cross sectional sample data from 238 Thai entrepreneurs.

Results

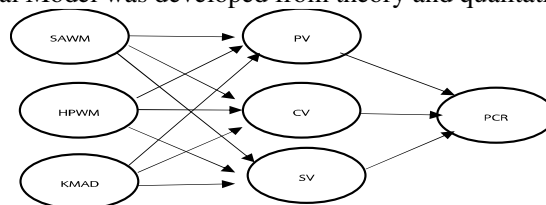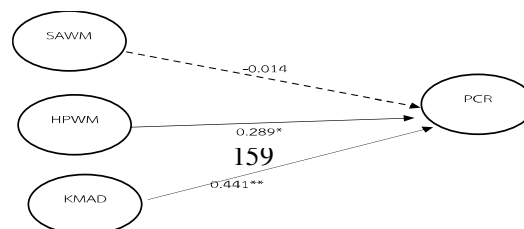**Model 1:** Conceptual Model was developed from theory and qualitative research

Figure 2:Theconceptual and related factors

The model composes of 3 independent factors: SAWM, HPWM and KMAD, 3 intermediate factors: PV, CV, and SV and PCR. To identify which types of intermediate factors between the independent and dependent factor, we propose two processes (a) testing that SAWM, HPWM and KMAD are influence significant to PCR, and then (b) test the indirect of effect of SAWM, HPWM on KMAD in full model with the intermediate factors.

(a) Testing direct effect between antecedents (SAWM, HPWM, and KMAD) and consequence PCR.

Figure 3:Independent   and   **dependent   factors   to**
test the direct effect

159

The results (figure 3) show that HPWM and KMAD are the direct effect of PCR with significant level 0.05,0.01 respectively.

(b) Testing the direct effect and indirect effects of SAWM, HPWM and KMAD on PCR with intermediate factors: PV, CV and SV (The Full Model)
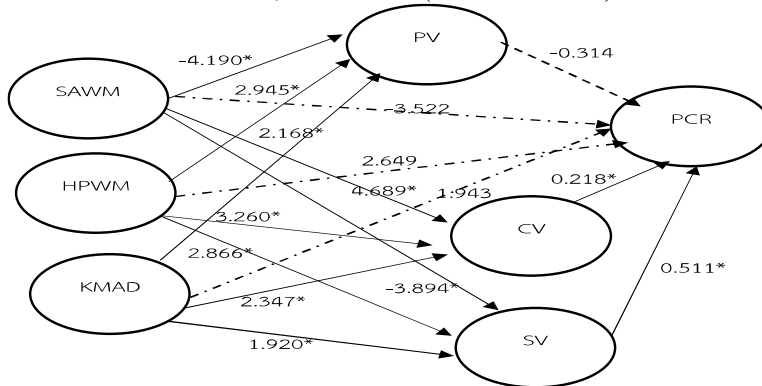

Figure 4:The full model and related factors to test the direct effect and indirect effects

Testing results from the full model shows that:

(1) CV and SV are multiple effects of SAWM.

(2) CV and PCR are the serial effects of SAWM.

(3) CV is the complete mediator of HPWM and PCR.

(4) PV and SV are the multiple effects of HPWM.

(5) PV isthe effect of KMAD.

(6) CV and SV arethe complete mediator of KMAD and PCR.

Since, SAWM is not a direct effect of PCR, then model 1 is modified to model 2 by truncating SAWM.
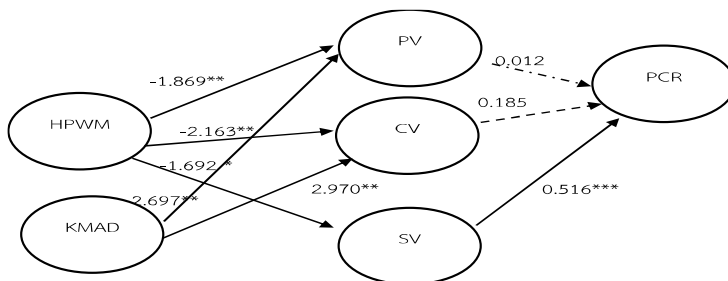
Model 2: Adjusted model (Truncate SAWM)

Figure 5: The testing results of model 2

Testing results from full model 2 shows that:

(1) PV and CV are multiple effects of HPWM.

(2) PV and CV are multiple effects of KMAD.

(3) SV is the complete mediator of HPWM and PCR.

(4) SV is the complete mediator of KMAD and PCR.

The path coefficients of HPWM and the effects are significantly negative imply that HPWM is the weakness factor of supporting the efficiency of "Age Diverse Workforce Management" of Thai small firms. Moreover, the intermediate factors: PV and CV are the only multiples effect of KMAD, then the appropriated model for further verification is model 3.

Model 3: The model with related factors: KMAD as the determinant, PV, CV and, SV as intermediate factors, and the dependent PCR.

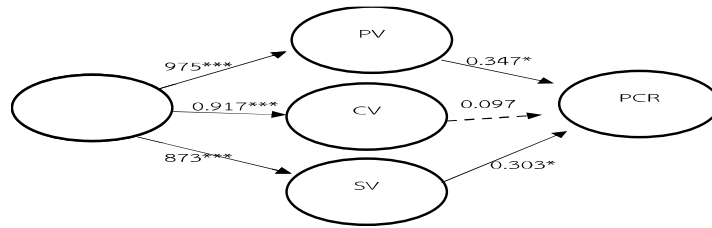

Figure 6:The testing results of model 3
Testing results from full model 3 shows that:
(1) PV is the effect of KMAD.
(2) PV AND SV are partial mediators of KMAD and PCR.
Due to the great value content of KMAD, the factor reduction technique is used to extract the attributes of KMAD into two sub-factors, namely: Knowledge Retention (KR) and Knowledge Sharing (KS). The final model to analyze the relation of each factor is represented as model 4.

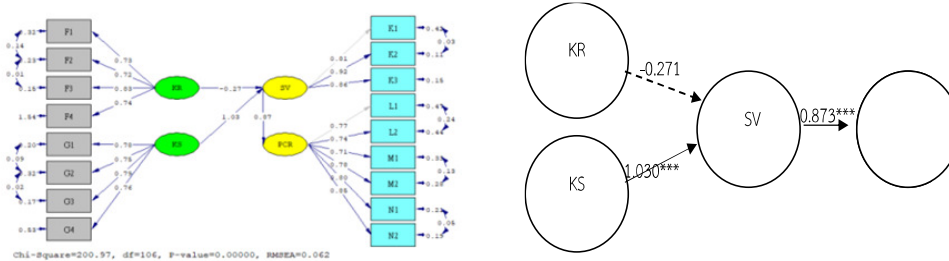**Model 4:** The final model to adjust to fit indices conducts by "Covariance SEM"

Figure 7: The testing results of model 4
Table 1:The standardized path coefficients, Standard Deviations and T- Values.

Hypothesis	Standardized coefficients	T- Stat	Conclusion
KR=> SV	-0.210	-1.169	-
KS => SV	1.030***	4.272	KR Influencing SV
SV => PCR	0.873***	8.505	SV Influencing PCR

Remark: * p < 0.05; ** p < 0.01; *** p < 0.001
The output from table 1 is implied that SV is the mediator of KS and PCR.
Table 2: The value of model 4 fit indices compared to the standard threshold.

Index	Value	Threshold	Reference
Chi Square	214.224	-	-
Degree of Freedom	106	-	
χ^2 / df	2.020	<= 3.00	Kline (1998); Ullman(2001)
RMSEA	0.061	< 0.08	Browne &Cudeck(1993)
P value	0.000	> 0.05	p= 0.05
NFI	0.977	> 0.90	Byrne, (1994);Schumacker& Lomax(2004)
CFI	0.988	> 0.95	Byrne, (1994)
GFI	0.909	> 0.93	Byrne, (1994); Schumacker&Lomax (2004)
AGFI	0.868	0.90	Byrne, (1994);Hu &Bentler(1995)
IFI	0.991	> 0.90	Gerbing& Anderson, (1993); McDonald, (1988)
RFI	0.988	> 0.90	Gerbing&Anderson &(1993); Hu

                                                                        &Bentler (1995)

RMR	0.045	> 0.90	Browne &Cudeck(1993)

Sample size for testing data is 238 Thai entrepreneurs. (n = 238)

  The testing results of model 4 show that 7 indices have passed from 9 threshold indices. Usually, the use of p -value> 0.5 is quite not applicable validation due to the model complexity and sample size (Kenny, 2015). The output of model 4 is considered to be quite good and present the strength of knowledge sharing function, as the core feature of workforce management in the Thai aging society context while the knowledge retention has no influence on employee perceptions. This problem may be caused by the older people are more likely to transfer knowledge on the "face-to-face" platform due to the lack of ability to use computers and technology to construct knowledge in media.

  The cost constraint and the lack of strategic human resource management impact on the issue of the age-diverse workforce management may be far away from planning and implementation. Many Thai entrepreneurs said that they did not know about these topics how to relate to human strategic management in "aged society" such as "Awareness Training", and "High- Work Performance Workplace Management".

Table 3: Direct, indirect and total effects of model 4.

Factor	KR	KS	SV
PCR DE	NA	NA	0.873***
IE	-0.236	0.899***	NA
TE	-0.236	0.899***	0.873***
SV DE	-0.271	1.030***	NA
IE	NA	NA	NA
TE	-0.271	1.030***	NA

Remark: * p < 0.05; ** p < 0.01; *** p < 0.001

  The results of factors influencing the expectation of the corporate reputation (PCR) are the knowledge management planning for older migrant workers in terms of knowledge sharing (KS) with the total positive effect 0.899, and the direct effect to the perceived value to the society (SV) is 1.030.

  Model 5 Extend demographic attributes (Gender, Education, and Age) of Thai entrepreneurs as the moderator variable.
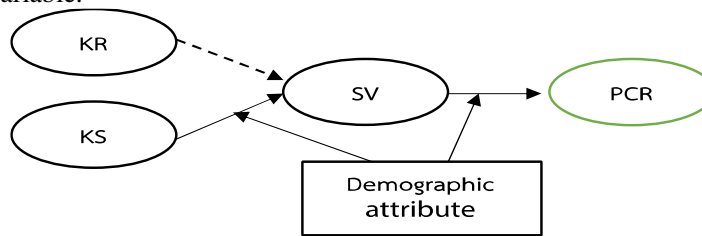

Figure 8: Model 5 with demographic moderator and mediator (SV)

This research was conducted by using the basic demographic variables: gender, education, and age of the firm executives. The results of the Multi-group analysis have found that there is the significance of executive's   gender   on   the   SV-   PCR   path.
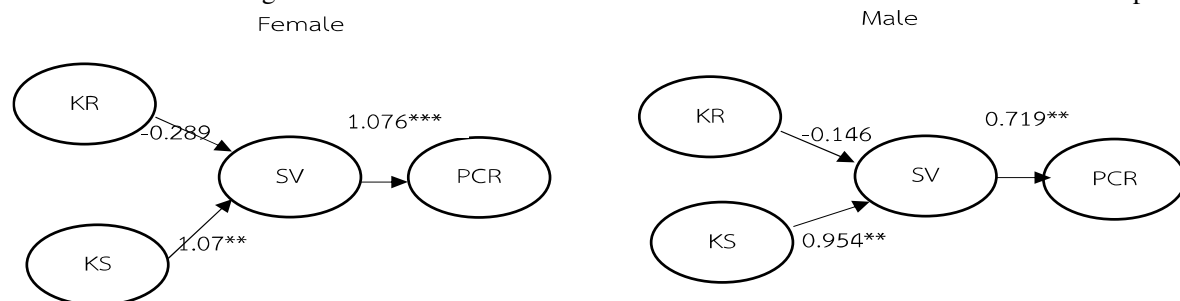

Figure 9:Comparative results of model with female and male.
Table 4: The different testing of standardized coefficients of model with female and male.

	Male	Female	Statistics
Sample Size	128	110	t-statistic = 1.762
Regression Weight	0.719	1.076	
Standard Error (S.E.)	0.136	0.152	p-value(1 tailed)=0.0392

From the table 4, the results conclude that gender is the moderator of SV and PCR and the infographic representation of the testing model is figure 10.
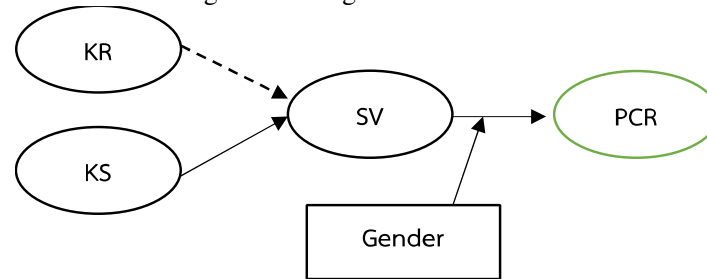

Figure 10:Gender is a Moderator on the Influence of SV to PCR and SV act as the mediator

The results show that female executives have a greater effect on social perception in managing older workers than male executives. The results are consistent with the results that McKinsey consulted in 2104 reported that companies with women in leadership positions often had good financial performance and a positive social organization image. In addition, Catalyst's report on the 2007 S & P 500 on the suitability of women leaders in the lower tier, was found that there was a significantly connected between the executive directors and organizational performance because of the number of women who are executive directors (Menguc&Auh, 2006). In 2006, the organization's CSR, according to the S & P 500, found that 126 Companies with a higher proportion of women in management are more likely to have CSR than companies with a lower proportion of women in management. Boulouta's(2008),studied on gender differences in management level had found that having "gender-balanced leadership teams" resulted in collective thinking problems in the "groupthink" society. In the case of lower level workers, Leadership in women's empowerment has been often of benefit in times of economic crisis, where the chances of employees being laid off are less. In addition, the research found that in male-dominated firms, the number of workers was reduced, while that of women-owned businesses decreased by 14 to 6 percent (Matsa& Miller, 2013). Moreover, the studied of employees' wage had found that firms with more female executives had similar pay off either women or men workers with similar capability (Tate & Yang, 2015). These researches support that women executives are often psychologically sensitive and socially anxious. This may be due to personality and social culture, especially in the eastern hemisphere, such as Thailand. Thai Female leadership as Caring Leadership (McDowell, & Williams, 2018), in line with feminine culture, focuses on the value of life and focuses on interpersonal and environmental and social relationships.

Conclusion

Our study of the weakness and strength factors using a theoretically derived model where empirical data is used for analyzing the model to get the fit model. The research results will be used to support the age-diverse workforce management in the Thai Aging Society.

Limitations and Future Research

Our model verification and validation of mediating factor are analyzed with limited small sample data and small firm, then the results from the determinant factors, the intermediate variables act an effect or mediator are questionable for the large business. Thusthe future work should be studied in the deep analysis of the high-performance organization to confirm this research model.

Refrences

1.Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of   Management, 17(1), 99-120.

2.Bal, A. C., Reiss, A. E., Rudolph, C. W., &Baltes, B. B. (2011). Examining positive and   negative perceptions of older workers: A meta-analysis. The Journals of Gerontology,   Series B: Psychological Sciences and Social Sciences, 66(6), 687-698.

----

3. Bock, G. W., & Kim, Y. G. (2002). Breaking the myths of rewards: an exploratory study of   attitudes about knowledge sharing. Information Resources Management Journal,   15(2), 14-21.

4. Browne, M. W., &Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A.

5. Byrne, B. M. (1994). Structural equation modeling with EQS and EQS/Windows. Thousand   Oaks, CA: Sage Publications.

6. Cappelli, P. (2010). New workforce management: The aging workforce and the reversal of   authority.   Retrieved   12   April   2012,   from   http://www   .hiring.monster.com/hr/hr-best-   practices/workforce-management/hr-management-skills/new-   workforcemanagement.aspx

7. Dholakia, D. (2005). The social influence of brand community: Evidence from European car   clubs. Journal of Marketing, 69(3), 19-34.

8. Fombrun, C. J., &Rindova, V. (2000). The road to transparency: Reputation management at   Royal Dutch/Shell. In M. Schultz, M. J. Hatch, &   M. H. Larsen (Eds.). The   expressive organization: Linking identity, reputation, and the corporate brand.   Oxford: Oxford University Press.

9. Forester Research. (2012). Foresights workforce employee survey. Canada: Author.

10. Gerbing, D.W., & Anderson, J.C. (1993). Monte Carlo evaluations of goodness-of-fit indices for structural equation models. In K.A. Bollen, & J.S. Long (eds.), Testing structural equation   models. Newbury Park, CA: Sage.

11. Grubic-Nesic, M. D., &Mitrovic, S. (2014). The influence of demographic and   organizational factors on knowledge sharing among employees in organizations.   TehnickiVjesnik, 22(4), 1005-1010.

12. Hedge, J. W., Borman, W. C., &Lammlein, S. E. (2006). The aging workforce: Realities,   myths and implications for organizations. Washington, DC: American Psychological   Association.

13. Henkens, K., &Schippers. J. (2012). Active ageing in Europe: the role of organizations.   International Journal of Manpower, 33(6), 604-611.

14. Hewitt, A. (2012). Recognizing the value of older workers. Retrieve 23 December, 2017,   from https://states.aarp.org/wp-content/uploads/2015 /08/A-Business-Case-for-Older- Workers-Age-50-A-Look-at-the-Value -of-Experience.pdf

15. Hu, L.T. &Bentler, P.M. (1995). Evaluating model fit. In R.H. Hoyle (Ed.), Structural   equation modelingConcepts, issues, and applications, London: Sage,76-99.

16. Kline, R. B. (1998). Principles and practice of structural equation modeling. NY: Guilford   Press.

17. Kenny, David, A. (2015). MEASURING MODEL FIT. Retrieved from
a. http:// DAVIDAKENNY.NET/CM/FIT.HTM

18. Loomes, S., & McCarthy, G. (2011). The aging workforce: How can Australian universities   address future workforce challenges. Wellington, New Zealand: ANZAM.

19. Mahidol University Retrieved from http://www.ipsr.mahidol.ac.th

20. Montesi, A. S. (2014). Life in the fast lane: Navigating the new world order- the global   workplace. The Journal of Human Resource and Adult Learning, 10(2), 4-10.

21. Naegele, G., & Walker, A. (2006). A guide to good practice in age management.   Luxembourg: European Foundation for the Improvement of Living and Working   Conditions.   Retrieved   from http://www.ageingatwork.eu/resources
   /a-guide-to-good-practice-in-age-management.pdf

22. Richard, O. C. (2000). Racial diversity, business strategy, and firm performance: A resource- Based View,Academy of Management Journal, 43, 164-177.

23. Schumacker, R. E., & Lomax, R. G. (2004). A beginner's guide to structural equation   modeling, Second edition. Mahwah, NJ: Lawrence Erlbaum Associates.

#####