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A STUDY TO ASSESS THE PERSONALITY OF SUPPLY CHAIN MANAGERS AND ITS EFFECT ON SUPPLY CHAIN PERFORMANCE
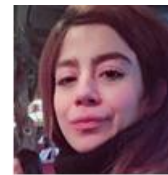
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ABSTRACT

Supply chain management (SCM) is a growing field where supply chain managers play an important role in the field of SCM. In this research, five factor model (FFM), e.g., extraversion (EPT), emotional stability (ESPT), agreeableness (APT), openness to experience (OPT), and conscientiousness (CPT) were assumed as the factors of Supply Chain Performance (SCP). Data were gathered from 150 supply chain managers (SCMG) and analysis assured that FFM has positive correlation with SCP in the Iranian SMEs. We also observed that some factor of FFM which are APT and OPT are closely associated to SCP whereas three factors of FFM, e.g., ESPT, CPT, and EPT has less positive correlation to SCP on present instant. This affirmed the higher positive connections of two factors of FFM, i.e., APT and OPT relatively than ESPT, CPT, and EPT, respectively. This research proposed certain implications and future research for future researchers and provided several suggestions for the policy makers.

Contribution/ Originality: This study contributes in the existing literature by ensuring the importance and significance of the FFM with respect to supply chain performance (SCP) from the Iran where such context previously was ignored by the researchers. This study documents that all factors of FFM have impact on SCP and mangers should understand such factor to enhance SCP in Iranian SMEs.

1. INTRODUCTION

It is essential for organizations to boost organizational performance such as supply chain performance (SCP) in order to generate maximum profit where efficient supply chain (SC) plays an important role (Gligor *et al.*, 2016). Personality and firm's performance both are important and determines the efficiency of individual by considering their dealing, way of talking as well as generated output (Lin, 1965). It is proved by some of prior studies which affirmed a significant relationship between personality and distinct organizational performances like supply chain (Matthews *et al.*, 2003; Blome *et al.*, 2013; Mohammadi and Mukhtar, 2017). According to Miller (2015) the big-five personality factors are based on theory to understand personality of an individual and affirm the link individual personality and organizational performance.

Notably, all previous studies such as Salleh and Kamaruddin (2011) and Deeter-Schmelz and Sojka (2007) have been done in specific context such as retail industry, banking sector, insurance companies as well as hotel industry. And, mostly prior studies of Hurtz and Donovan (2000) and Barrick and Mount (1991) have been investigated the relationship of personality traits only on the salespeople's job and organizational performance. Likewise, Sung and

Choi (2009) identified the effect of personality on individual's creativity whereas Cassidy (2012) identified the effect of personality on fashion consciousness and prestige sensitivity. But, few studies found the role of entire FFM to supply chain performance (SCP) by targeting the SC managers of Iran. Hence, contribution of this study is to explore the effect in the context of Iran.

It is highly believed that boosting any performance is an important factor for any organizations to increase the profit. There are several factors that can enhance the performance of the organizations and also several factors which may reduce the performance which might be internal and external factors. Personality of the human could be an important element for the organizations to follow for enhancing SCP of the organizations. Over the last few decades, researchers have said that human's traits are valuable dimension for the business. We currently try to verify that either FFM could be a critical factor for Iranian SMEs to pursue in order to boost their SCP and to earn more profit for the organization. Therefore, we tried our best to find overall connection of FFM to SCP. Second, we tried to find the connection of FFM's each element to SCP such as EPT, ESPT, and APT, OPT, and CPT. First of all, we find overall relationships then we will find the relationship of all the element separately in order to affirm the relationship with SCP in Iranian domain considering the SMEs of the Iran.

2. LITERATURE REVIEW

Supply chain managers (SCMG) may enhance the supply chain performance (SCP) because authors said personality traits particularly FFM have significant connection with forms of performance which needed to explore in other domains (Ambe, 2014). According to Goldberg (1990) personality is defined as an individual's pattern, emotion, cognition and behavior. Personality is made up of characteristic patterns of feelings, thoughts and behaviors which make a person unique (Goldberg, 1990). Personality found as a factor having an influence on individual's interaction with environment in different situations (Tadepalli et al., 1999). There are two parts related to this field; First part explains personality traits have no relationship with performance whereas, second part reveals that personality traits have relationship with distinct performance like sales and supply chain performance (Padberg and Rinaldi, 1991; Blome et al., 2013; Ambe, 2014). Therefore, to understand the personality of SC managers is very necessary for management in order to enhance SC performance and to gain long term relationship with customers (Blome et al., 2013). Previously, higher attention has been given on the research of personality in order to achieve and understand its dimensions. In different times, various personality characteristics are identified and tested (Maslow et al., 1970; Miller, 2015). But, all these have certain complexities and limitations. According to McCrae and Terracciano (2005) there are five basic dimensions of personality traits having more importance as compare to all others, based on five dimensions; EPT, ESPT, and APT, OPT, and CPT on SCP. Therefore, our study based on certain hypothesis as follows.

2.1. Hypothesis Development

Understanding supply chain managers (SCMG) and SCMG's personality may enhance the supply chain performance (SCP) because authors said personality traits particularly FFM have significant connection with forms of performance. Therefore we presently tried to affirm the connections of all traits of FFM and SCP within Iranian SMEs as following described independently. First, extraversion (EPT) refers to number of relationships where someone is comfortable (Becker, 2008). It indicates how much tendency an individual has to be outgoing, active, and assertive (Ahmad et al., 2001; Herzberg, 2003). A person who is highly extravert enjoys being remain in company and loves to work as team player (Miller, 2015). EPT person is good to maintain interpersonal relationships. According to Barrick and Mount (1991) EPTs are cheerful, energetic and are always optimistic about their action. The individual who is active, talkative, excited and comfortable with other people is categorized as extravert (Herzberg, 2003). In order to consider the importance of EPT with respect to supply chain performance (SCP) we presently formed assumption as below.

Hypothesis 1: Supply chain managers (SCMG) with EPT perform at higher levels than SCMG with lower levels of EPT toward Supply chain performance (SCP) in Iranian SMEs

Agreeableness (APT) reflects co-operation among individuals who are different from one another and create social harmony (Beaumont *et al.*, 2003). APT trait is friendly and tactful (Arkin and Hassin, 1994). APT trait associated as courteous, trusting, good natured, flexible, forgiving, soft-hearted, cooperative, and tolerant (Barrick and Mount, 1991). This trait is further based on certain dimensions such as; time for others, make people at ease, interested in other's problems, co-operative and trust with others (Held and Karp, 1971). In order to consider the importance of APT we presently formed assumption to get the connections related to APT and SCP as below.

Hypothesis 2: Supply chain managers (SCMG) with APT perform at higher levels than SCMG with lower levels of APT toward SCP in Iranian SMEs.

Conscientiousness (CPT) reflects the personality trait of an individual who is organized, punctual and consistent (Laporte, 1992). CPT trait is very persistent, competent, successful and always tried to perform timely work (Baker *et al.*, 1988). This trait belongs to decision making of an individual in order to control impulses and enables to remain stable in sudden changes (Johnson and McGeoch, 1997). CPT always focused and goal oriented (Lin, 1965). CPT is the personality characteristic which is most relevant to job performance among different jobs (Johnson and McGeoch, 1997). The following hypothesis is formed in relation to SCP in Iranian SMEs.

Hypothesis 3: Supply chain managers (SCMG) with CPT perform at higher levels than SCMG with lower levels of CPT toward SCP in Iranian SMEs.

Emotional Stability (ESPT) is a individual's ability in order to remain stable (Samuels *et al.*, 2002; Schmitt *et al.*, 2008). According to Schmitt *et al.* (2008) ESPT is very important for an individual and such kind of individuals are always prone to psychological distress Soldz and Vaillant (1999). Employees with low ESPT are more likely to be detracted, whereas those with high level of ESPT are more able to control their emotions and feelings (Mischel, 1973; Lord *et al.*, 1986). ESPT is more important in some jobs like air traffic controllers, pilots, military snipers, finance managers, engineers as well as sales etc. (Harris *et al.*, 2005; Neff *et al.*, 2007). ESPT associated to certain characteristics such as; emotions, resistance to stress, nervous, mood changer personality and insecurity from competition (Barrick and Mount, 1991).

Hypothesis 4: Supply chain managers (SCMG) with ESPT perform at higher levels than SCMG with lower levels of ESPT toward SCP in Iranian SMEs.

2.2. Openness

Openness to experience (OPT) refers the number of interests where one individual attracts to others (Borghans *et al.*, 2008). OPT is described as being, open to new ideas, intellectually curious, involves imaginative, and creative cognition styles (Johnson and McGeoch, 1997). It is related to a person's ability and capacity to absorb information and such type of people always try for new experiences (Maslow *et al.*, 1970; Matthews *et al.*, 2003). Openness to experience personality trait empowers individual's own ideas and motivates for its implementation (Baker *et al.*, 1988). This trait is further associated to certain characteristics such as; use of creative ideas, understanding difficult things, time spending, curious and good natured (Barrick and Mount, 1991).

Hypothesis 5: Supply chain managers (SCMG) with OPT perform at higher levels than SCMG with lower levels of OPT toward SCP in Iranian SMEs.

3. RESEARCH METHODOLOGIES

Primary data is collected through questionnaire distribution based on 3 parts; demographic information, FFM (five factors Model) and supply chain performance (SCP). This research focuses on personal selling organizations such as pharmaceutical and electronics SMEs operating in Iran. The questionnaires have been distributed among all levels of supply chain managers (SCMG) during April 2018 to July 2018. Out of 250 questionnaires, 150 were found

as valid for further analysis. Analysis methodologies based on reliability test, correlation analysis and AHP-analytical hierarchy process.

3.1. Measures and Data Analysis

In this research, FFM used as independent variables (IDVs) and SLP as dependent variable (DV). For survey purpose, 7-point likert scale were used "Strongly Disagree" (1) to "Strongly Agree" (7). In order to assess SCP, we used measurement items adopted from Beamon (1999). And, to assess FFM, we adopted from Sung and Choi (2009) where EPT is measured by four items: talkative, energetic, assertive, and active. APT measured by five items: agreeable, kind, cooperative, sympathetic and warm. CPT is determined by 4 items: organized, efficient, careful and conscientious. ESPT is measured by 4 items: anxious, emotional, irritable and nervous. OPT is measured by five items: intellectual, creative, imaginative, bright and innovative. To measure the intensity of each personality factor, SEM was used.

4. RESULTS

First, the results of demographic findings show the basic information of all respondents such as age, gender, salary and work experience as presented as follows. The sample size is based on 60% males and 40% females. The salary package is quite different among all respondents. Our respondents have different level of work experience. It is also recorded that the level of salary is also different where most the people have average salary.

4.1. Constructs Information

Table 1 show the information of the selected variables by explaining the sub constructs of the adopted variables such as EPT, APT, CPT, OPT, ESPT, and SCP as following exhibited.

Table-1. Construct Information.

Construct	Type of measurement model	Number of indicators	Predefined reliability
EPT	factor (Mode A)	4	1.0000
APT	factor (Mode A)	3	1.0000
CPT	factor (Mode A)	3	1.0000
OPT	factor (Mode A)	4	1.0000
ESPT	factor (Mode A)	3	1.0000
SCP	factor (Mode A)	4	1.0000

Source: Analysis output from SEM technique.

4.2. Inter-Correlation

Table 2 represents the connections among the selected variables such as EPT, APT, CPT, OPT, ESPT, and SCP as following exhibited. Moreover, in order to carry out correlation analysis the variables were computed. It shows the correlation" at 0.01% significant level where correlation between DV and IDVs is shown in following Table 2. Results of Pearson's correlation represent a fine relationship based on 150 observations (n=150) and positively correlates to SCP.

Table-2. Correlation.

Construct	EPT	APT	CPT	OPT	ESPT	SCP
EPT	1.0000					
APT	0.8076	1.0000				
CPT	0.7175	0.7193	1.0000			
OPT	0.6986	0.7142	0.7226	1.0000		
ESPT	0.6324	0.6395	0.6563	0.7101	1.0000	
SCP	0.6681	0.7156	0.6659	0.7164	0.6473	1.0000

Source: Analysis output from Correlation Matrix technique.

4.3. Reliability Analysis

Reliability was calculated including Cronsbach alpha's reliability test and average variance extracted where output indicated accurate entire values see Table 3.

Table-3. Reliability Analysis.

Scale Items	AVEs	Jöreskog's rho	Cronbach's Alpha
EPT	0.6582	0.8841	0.8235
APT	0.6924	0.8710	0.7781
CPT	0.6317	0.8372	0.7093
OPT	0.6584	0.8851	0.8273
ESPT	0.5942	0.8138	0.7000
SCP	0.5663	0.8390	0.7502

Abbreviations Key: EPT= extraversion, ESPT= emotional stability, APT= agreeableness, OPT=openness to experience, CPT=conscientiousness, SCP= Supply Chain Performance.

4.4. Validity using Fornell-Larcker Criterion

Fornell-Larcker Criterion validity of discriminate applied to uncover in-depth reliability of the constructs as following addressed which indicated that there is discriminate validity exist among the variables see Table 4.

Table-4. Validity of discriminate.

Construct	EPT	APT	CPT	OPT	ESPT	SCP
EPT	0.6582					
APT	0.6522	0.6924				
CPT	0.5147	0.5173	0.6317			
OPT	0.4881	0.5100	0.5221	0.6584		
ESPT	0.4000	0.4090	0.4307	0.5042	0.5942	
SCP	0.4463	0.5121	0.4434	0.5133	0.4190	0.5663

Source: Analysis output from discriminate validity technique.

4.5. Loading of the Variables

The following values show the loading of all the adopted variables of this study which shows the values are normal as recommended criteria of the researchers having higher than .5.

Table-5. Loadings of the latent variables.

Indicator	EPT	APT	CPT	OPT	ESPT	SCP
EPT1	0.8478					
EPT2	0.8707					
EPT3	0.8377					
EPT4	0.6738					
APT1		0.8252				
APT2		0.8394				
APT3		0.8317				
CPT1			0.7783			
CPT2			0.8078			
CPT3			0.7980			
OPT1				0.7909		
OPT2				0.8529		
OPT3				0.8119		
OPT4				0.7883		
ESPT1					0.8342	
ESPT2					0.7716	
ESPT3					0.7011	
SCP1						0.8048
SCP2						0.7343
SCP3						0.7560
SCP4						0.7118

Source: Analysis output from confirmatory factor analysis technique.

5. RESULTS AND FINDINGS

The results of correction analysis, given in Table 5, partially support our study by showing positive relationship where AHP analysis actually supports our study hypothesis by provision of relative weights values to each FFM-personality traits independently, as shown in Table 6 and Figure 1. Further, on the behalf of above analysis methodologies, our study intends to test the study hypothesis as presented below.

Table-6. Hypothesized Decision.

Effect	Beta	Indirect effects	Total effect	Decision
EPT -> SCP	0.0676	--	0.0676	Supported
APT -> SCP	0.2857	--	0.2857	Supported
CPT -> SCP	0.1129	--	0.1129	Supported
OPT -> SCP	0.2756	--	0.2756	Supported
ESPT -> SCP	0.1520	--	0.1520	Supported

In hypothesis 1, it is proposed; SCMG with EPT perform higher levels than SCMG with lower level of EPT. The shows EPT strongly affects on organizational supply chain performance (SCP). In hypothesis 2, it is proposed that SCMG with APT higher levels than SCMG with lower intensity of APT. Correlation analysis shows strong positive relationship between APT and SCP at Pearson's correlation value and AHP analysis at global weights index value. It revealed that APT personality trait strongly affects on SCP after EPT. In hypothesis 3, it is proposed that SCMG with CPT perform higher levels than SCMG with lower level of CPT. The correlation analysis of this research shows positive relationship between CPT and SCP. Likewise, it is proposed in hypothesis 4, SCMG with ESPT perform higher levels than SCMG with lower level of ESPT. Correlation analysis shows positive relationship between ESPT and SCP, indicated that SCMG with ESPT perform higher level than SCMG with lower level of emotional stability. In hypothesis 5, it is proposed, SCMG with OPT perform higher levels than SCMG with lower intensity of OPT. After correlation analysis, our results indicates positive relationship between OPT and SCP. Results vividly indicated that SCMG with OPT higher levels than SCMG having lower level of OPT. Overall it is got that some factor of FFM which are EPT, ESPT, and APT are closely associated to SCP whereas two factors of FFM, e.g., OPT and CPT are not higher positive correlation to SCP see Table 3.

6. DISCUSSION AND IMPLICATIONS

The findings suggested that EPT, ESPT, APT, OPT, and CPT effects on supply chain performance (SCP) of the organizations. Whereas, it is revealed by our research, EPT has higher effect than ESPT, APT, OPT, and CPT. Furthermore, OPT and CPT are found as minimum influencing elements of FFM. Hence, in the context of SCP, all FFM factors are positively correlated but, intensity level of the factors is quite varied. It is responsibility of management to hire such a candidate who will have significantly positive effect on SCP by understanding their personalities as summary of all FFM traits toward SCP is summarized in Figure 1.
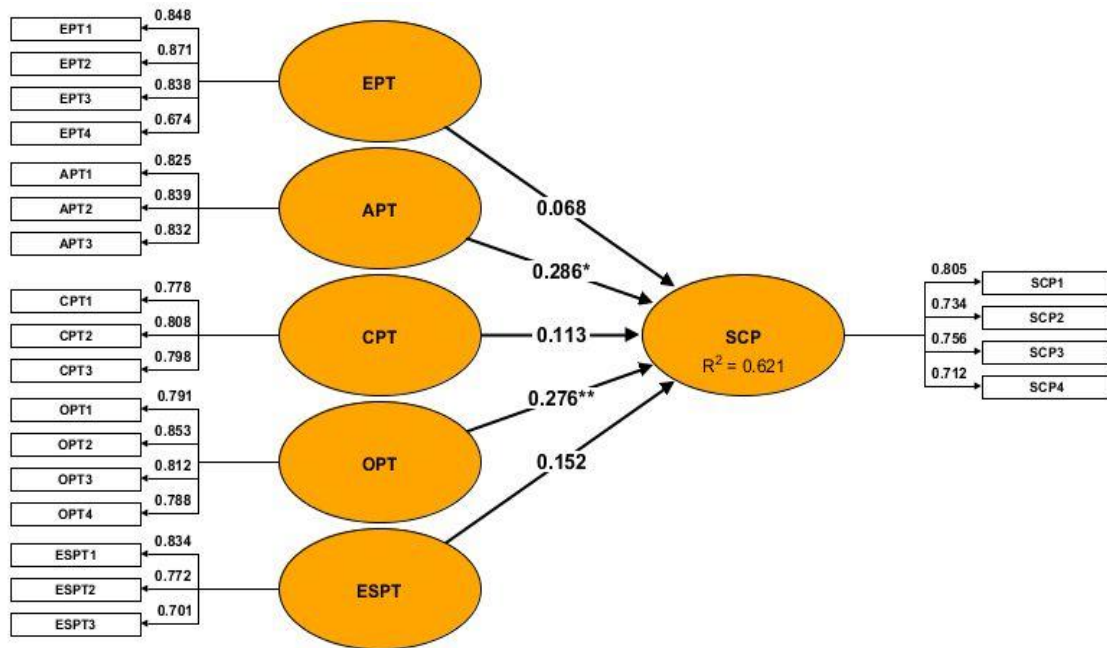
Figure-1. Summary of connection.
Source: Analysis output from SEM technique.

6.1. Implications

Our results have implications for the literature of supply chain performance (SCP) and FFM where previous studies have identified the effect by adoption of some FFM dimensions and in different context with different measurement construct. But, replications of this research, intends to provide additional evidence to reveal relationship by implementing all FFM along with targeting higher numbers of supply chain managers (SCMG) of Iran. For supply chain and trait researchers, this research provides a clear understanding and linkage between FFM (five factors model) and SCP from Iranian context. Our study also suggests certain managerial implication by suggesting SCMG mangers to recruit potential candidates by understanding personalities to take decision of recruitment. For management, it is necessary to identify certain scales to select effective SC management in order to gain better outcome. This research clearly categorized that APT and OPT personality traits have major influence on SCP and then consecutively ESPT, CPT, and OPT, respectively.

7. CONCLUSION AND LIMITATIONS

It is concluded, agreeableness and openness to experience are major influencing factors. The least affecting factor is extraversion with lower positive relationship, conscientiousness has positive relationship but higher than extraversion. Openness to experience has positively higher effect than all except APT. It appears, agreeableness and openness to experience traits are more worthy in consideration for supply chain managers. The basic limitation of this study is to target specific SCMG which thus limits generalizability of our research findings. Secondly, the experienced SCMG can better feedback to our survey but, in our study only few SCMG were well experienced. So, current study also suggests future research by taking large number of sample size with well experienced SCMG from multiple regions, locally and globally. Moreover, how supply chain management can better access the personality of new candidates could be a part of future research.

REFERENCES

Ahmad, Q.R., R. Allen, T. Andersen, J. Anglin, G. Bühler, J. Barton, E. Beier, M. Bercovitch, J. Bigu and S. Biller, 2001. Measurement of the rate of ν e+ d→ p+ p+ e− interactions produced by B 8 solar neutrinos at the sudbury neutrino observatory. Physical Review Letters, 87(7): 071301.

Ambe, I.M., 2014. Key indicators for optimising supply chain performance: The case of light vehicle manufacturers in South Africa. Journal of Applied Business Research, 30(1): 277.Available at: https://doi.org/10.19030/jabr.v30i1.8301.

Arkin, E.M. and R. Hassin, 1994. Approximation algorithms for the geometric covering salesman problem. Discrete Applied Mathematics, 55(3): 197-218.Available at: https://doi.org/10.1016/0166-218x(94)90008-6.

Baker, G.P., M.C. Jensen and K.J. Murphy, 1988. Compensation and incentives: Practice vs. Theory. The Journal of Finance, 43(3): 593-616.Available at: https://doi.org/10.2307/2328185.

Barrick, M.R. and M.K. Mount, 1991. The big five personality dimensions and job performance: A meta-analysis. Personnel Psychology, 44(1): 1-26.Available at: https://doi.org/10.1111/j.1744-6570.1991.tb00688.x.

Beamon, B.M., 1999. Measuring supply chain performance. International Journal of Operations & Production Management, 19(3): 275-292.

Beaumont, M., M. Sanz, P. Carli, F. Maloisel, X. Thomas, L. Detourmignies, A. Guerci, N. Gratecos, C. Rayon and J. San Miguel, 2003. Therapy-related acute promyelocytic Leukemia. Journal of Clinical Oncology, 21(11): 2123-2137.

Becker, H.S., 2008. Outsiders. Simon and Schuster.

Blome, C., T. Schoenherr and D. Rexhausen, 2013. Antecedents and enablers of supply chain agility and its effect on performance: A dynamic capabilities perspective. International Journal of Production Research, 51(4): 1295-1318.Available at: https://doi.org/10.1080/00207543.2012.728011.

Borghans, L., A.L. Duckworth, J.J. Heckman and W.B. Ter, 2008. The economics and psychology of personality traits. Journal of Human Resources, 43(4): 972-1059.Available at: https://doi.org/10.3386/w13810.

Cassidy, S., 2012. Exploring individual differences as determining factors in student academic achievement in higher education. Studies in Higher Education, 37(7): 793-810.Available at: https://doi.org/10.1080/03075079.2010.545948.

Deeter-Schmelz, D.R. and J.Z. Sojka, 2007. Personality traits and sales performance: Exploring differential effects of need for cognition and self-monitoring. Journal of Marketing Theory and Practice, 15(2): 145-157.Available at: https://doi.org/10.2753/mtp1069-6679150204.

Gligor, D.M., M.C. Holcomb and J. Feizabadi, 2016. An exploration of the strategic antecedents of firm supply chain agility: The role of a firm's orientations. International Journal of Production Economics, 179(1): 24-34.Available at: https://doi.org/10.1016/j.ijpe.2016.05.008.

Goldberg, L.R., 1990. An alternative description of personality: The big-five factor structure. Journal of Personality and Social Psychology, 59(6): 1216-1229.Available at: https://doi.org/10.1037//0022-3514.59.6.1216.

Harris, E.G., J.C. Mowen and T.J. Brown, 2005. Re-examining salesperson goal orientations: Personality influencers, customer orientation, and work satisfaction. Journal of the Academy of Marketing Science, 33(1): 19-35.Available at: https://doi.org/10.1177/0092070304267927.

Held, M. and R.M. Karp, 1971. The traveling-salesman problem and minimum spanning trees: Part II. Mathematical Programming, 1(1): 6-25.Available at: https://doi.org/10.1007/bf01584070.

Herzberg, F., 2003. One more time: How do you motivate employees? . Harvard Business Review, 81(1): 87-96.

Hurtz, G.M. and J.J. Donovan, 2000. Personality and job performance: The big five revisited. Journal of Applied Psychology, 85(6): 869-879.Available at: https://doi.org/10.1037//0021-9010.85.6.869.

Johnson, D.S. and L.A. McGeoch, 1997. The traveling salesman problem: A case study in local optimization. Local Search in Combinatorial Optimization, 1(1): 215-310.Available at: https://doi.org/10.2307/j.ctv346t9c.13.

Laporte, G., 1992. The traveling salesman problem: An overview of exact and approximate algorithms. European Journal of Operational Research, 59(2): 231-247.Available at: https://doi.org/10.1016/0377-2217(92)90138-y.

Lin, S., 1965. Computer solutions of the traveling salesman problem. Bell System Technical Journal, 44(10): 2245-2269.

Lord, R.G., V. De, C. L. and G.M. Alliger, 1986. A meta-analysis of the relation between personality traits and leadership perceptions: An application of validity generalization procedures. Journal of Applied Psychology, 71(3): 402-410.Available at: https://doi.org/10.1037//0021-9010.71.3.402.

Maslow, A.H., R. Frager, J. Fadiman, C. McReynolds and R. Cox, 1970. Motivation and personality. New York: Harper & Row, 2.

Matthews, G., I.J. Deary and M.C. Whiteman, 2003. Personality traits. 2nd Edn.: Cambridge University Press.

McCrae, R.R. and A. Terracciano, 2005. Personality profiles of cultures: Aggregate personality traits. Journal of Personality and Social Psychology, 89(3): 407-425.Available at: https://doi.org/10.1037/0022-3514.89.3.407.

Miller, A., 2015. Death of a salesman. 1st Edn.: Bloomsbury Publishing.

Mischel, W., 1973. Toward a cognitive social learning reconceptualization of personality. Psychological Review, 80(4): 252-283.Available at: https://doi.org/10.1037/h0035002.

Mohammadi, M. and M. Mukhtar, 2017. A service-oriented methodology for supporting business process architecture layers in supply chain management. International Journal of Information Systems and Supply Chain Management, 10(4): 18-43.Available at: https://doi.org/10.4018/ijisscm.2017100102.

Neff, K.D., S.S. Rude and K.L. Kirkpatrick, 2007. An examination of self-compassion in relation to positive psychological functioning and personality traits. Journal of Research in Personality, 41(4): 908-916.Available at: https://doi.org/10.1016/j.jrp.2006.08.002.

Padberg, M. and G. Rinaldi, 1991. A branch-and-cut algorithm for the resolution of large-scale symmetric traveling salesman problems. SIAM Review, 33(1): 60-100.Available at: https://doi.org/10.1137/1033004.

Salleh, F. and A. Kamaruddin, 2011. The effects of personality factors on sales performance of takaful (Islamic insurance) agents in Malaysia. International Journal of Business and Social Science, 2(5): 259-265.

Samuels, J., W.W. Eaton, O.J. Bienvenu, C.H. Brown, P.T. Costa and G. Nestadt, 2002. Prevalence and correlates of personality disorders in a community sample. The British Journal of Psychiatry, 180(6): 536-542.

Schmitt, D.P., A. Realo, M. Voracek and J. Allik, 2008. Why can't a man be more like a woman? Sex differences in big five personality traits across 55 cultures. Journal of Personality and Social Psychology, 94(1): 168-182.Available at: https://doi.org/10.1037/0022-3514.94.1.168.

Soldz, S. and G.E. Vaillant, 1999. The big five personality traits and the life course: A 45-year longitudinal study. Journal of Research in Personality, 33(2): 208-232.Available at: https://doi.org/10.1006/jrpe.1999.2243.

Sung, S.Y. and J.N. Choi, 2009. Do big five personality factors affect individual creativity? The moderating role of extrinsic motivation. Social Behavior and Personality: An International Journal, 37(7): 941-956.Available at: https://doi.org/10.2224/sbp.2009.37.7.941.

Tadepalli, R., A. Moreno and S. Trevino, 1999. Do American and Mexican purchasing managers perceive ethical situations differently?: An empirical investigation. Industrial Marketing Management, 28(4): 369-380.Available at: https://doi.org/10.1016/s0019-8501(98)00029-7.