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### DEVELOPING AND VALIDATING A MODEL MEDIATING THE IMPACT OF THE ABROAD TRAINING AND THE SAUDI PUBLIC EMPLOYEES CREATIVITY

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**Key Words: Develoing A Model, Abroad Training, Public Workforce, Saudi Arabia, CreativityOf The Employ, Abroad Training Quality, Impact Of Mediator.**

#### **ABSTRACT**

This research adopts a scientific approach to determine the impact of involving abroad training quality as a mediator between the constructs of the abroad trainee factors and abroad training factors and the creativity of Saudi public employees who attend at least one training session. The training was held in Istanbul, Dubai, and Kuala Lumpur in 2018, and an equal probability random sampling technique was adopted by involving all recipients of the training sessions whose net number was 385 respondents. Data collection was performed by either direct collection or an online survey. A questionnaire was based on previous studies and tested for validity and reliability by using content validity, face validity, and pilot study. Data obtained from the survey was analyzed by utilizing the software Statistical Package for the Social Sciences (SPSS 22) and SmartPLS 3.0. The results have shown that half of the six sub-hypotheses was supported when training did not consider AT. However, when AT was involved, only one sub-hypothesis was rejected, and the other five sub-hypotheses were supported. Moreover, when the impact of AT on EC was directly tested, it was found supported; however, with a weak association (0.330) compared with the corresponding association under AT involvement (0.803). The result could play an important role in setting future abroad training sessions as the involvement of a mediator makes a big difference in the achievement of the employees that would benefit the organizations where employees were coming from.

#### **INTRODUCTION**

Creativity is one of the most parameters that organizations are adopting to enhance the outcome of the organization regardless of the nature of these organizations (Bryson, 2018). To achieve such an outcome, organizations are deemed to appoint high-level workers.

However, as the technology and the rising demands grew and become complicated, workers found themselves in a dilemma unless refreshing their ability to be able to deal with the new updates. Training comes now to fill the gap where employees are spending sometimes in training sessions and back to their organizations equipped with power (Edmondson, 2018). Training can be performed within the organization premises, in the country where employees are residing, or abroad. Each of these three types of training has its features; however, some features are intersecting with each other making, occasionally, the organization hard to decide which direction should follow. Training could also be seen as an intensive factor that should be provided to employees to enhance their performance by widening their vision and internal ability (Gilal et al., 2019). Besides, individuals including employees might be influenced by outside aspects such as competing with others, recognition, or preventing criticism. The extrinsic factors can be divided into passive and active strategies (Muñoz-Doyague et al., 2008).

Training is a very complicated process not in preparation only, but also in each step of the long journey from selecting the right trainees, the right trainers, the period of training, location, and the given materials during training (Earley & Peterson, 2004). Imagination motivates employees to get a competitive benefit; team communication has ended up being an essential factor in contextualizing the creative process; comprehending impacts individuals by how wide knowledge could be; and creativity develops social influences towards playing a role (Yeh, 2004).

The training evaluation is another complicated matter; however, there are several attempts for this evaluation as proposed by McCracken & Wallace (2000) who proposed a model that includes three steps including determining needs, objectives, and subject content; selecting participants, resources, schedules, technology, and trainers; and, coordinating the program and evaluation.

In this paper, abroad training was adopted for training employees from the public sector in Saudi Arabia who performed their training in Malaysia, Turkey, and United Arab Emirates -all outside the native country. The study measures creativity by developing a model that introduces abroad training as a mediator factor that links the independent variables of the training environment and trainee environment and the dependent variable of the creativity of the employees.

## **MODELS**

### *Evaluating models*

Evaluating the transfer of training requires measuring behaviour by a testing performance with observation (Dias & Seabra, 2017). There is an adverse consequence for providing training by creating resistance to change in the organization (Bisogno & Vaia, 2017) because of reservations about the knowledge gained by trainees or by implementing new techniques in the organization, or because of mismatching of new knowledge and old technology within the workplace. Despite, evaluation of training has been widely implemented for a quite long time (Shmueli et al., 2019).

In the late 1960s, a model to measure education outcomes was proposed under the following foundations: Context, Input, Process, and Product (CIPP) (Stufflebeam, 2003). CIPP model identifies the training requirements, opportunities, and objectives. The CIPP model includes ultimate outcomes that can characterize the organization's performance or business results. About a decade later, another model was proposed with the following four foundations: Context, Input, Reaction, Outcome (CIRO) (Warr et al., 1970). CIRO model, similarly to CIPP model, identifies training needs from an organization's perspective and setting training objectives for evaluation. These models focus on criteria such as stakeholder perceptions, learning gain, on-the-job performance improvement, and return on investment (ROI). Recently, Cameron & Green (2019) explored four levels to evaluate training: Reaction (written response), learning (increase knowledge), behaviour (transfer of knowledge), and results (measure reactivity). A fifth level was added by Phillips et al. (2016) by incorporating return on investment. In 2012, Bell & Stellingwerf (2011) introduced a model for evaluating planning and conducting independent training evaluations through which clients' performance was evaluated. The evaluation relies on measuring participant knowledge and competencies after receiving training; however, they presented the influence of the cost and the benefits of training investment. Thus, training effectiveness includes an organizational focus on employee performance and organizational goals, such as return on investment, changes in productivity, quality improvement, customer satisfaction, and market share (Burrow & Berardinelli, 2003).

Whilst level four (organizational performance) is an important indicator of training effectiveness, it is difficult to establish direct relationships between training interventions and organizational performance measurements (Burrow & Berardinelli, 2003). Evaluation criteria, therefore, concern learning gain, that is, acquired competencies and attitudes, and on-the-job performance improvement through changed behavior and work patterns, or training transfer. If trainees improve their job performance (skills, knowledge, and attitude) they can improve performance and contribute to organization performance (Burrow & Berardinelli, 2003; Phillips et al., 2016).

### *Existing models*

There are several models that were developed over time for various reasons and to suit different purposes. The common aim of this model is to measure the creativity which appears under different terms. The importance of these model lies in the methodologies created to serve specific aim. Table 1 includes the most important of these models highlighted with suitable reference.

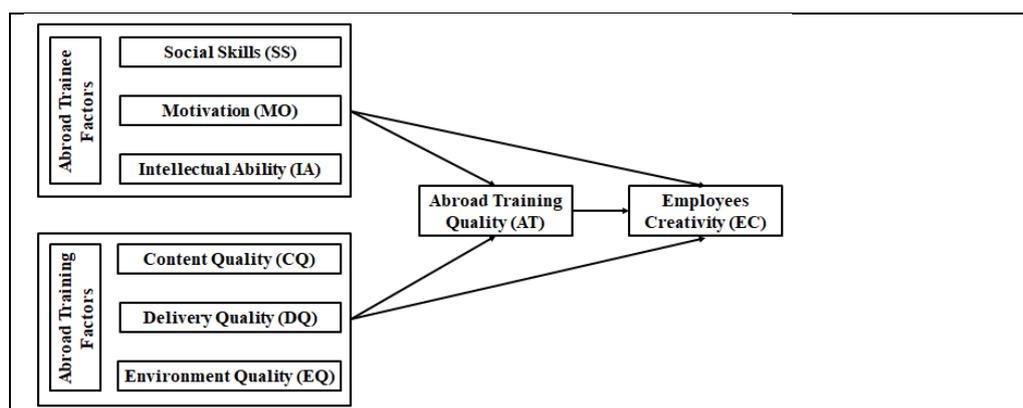
**Table 1** Existing models for measuring creativity

No	Model/Year	Details (Description and Aims)	Founder
1	Componential Model of Creativity(1967)	<ul style="list-style-type: none"> <li>▪ Measures employee creativity by linking practice, motivation, and creative process.</li> <li>▪ Produces creative ideas that influences the cognitive styles and work styles.</li> <li>▪ Includes intrinsic and extrinsic motivation</li> </ul>	Amabile, (1996); McClelland, (1967), Jaccard& Jacoby, (2019)
2	Service Quality Model(2001)	<ul style="list-style-type: none"> <li>▪ fills the gap in customer satisfaction and enhances the efficiency and quality of services.</li> <li>▪ Represented by different dimensions depending on the service sectors.</li> </ul>	Brady & Cronin (2001); Pollack (2009); Gronroos, (1984); Rust & Oliver (1993)
3	Nordic Model(1984)	<ul style="list-style-type: none"> <li>▪ Built on disconfirmation paradigm by adopting three components of services: product, delivery, and environment.</li> <li>▪ model was refined to include measuring technical and functional quality.</li> </ul>	Gronroos (1984); Rust & Oliver (1993)
4	SERVQUAL Model(1985)	<ul style="list-style-type: none"> <li>▪ Covers the weakness of Nordic model by offering a new way of measuring service quality.</li> <li>▪ Includes 5 dimensions: Reliability, Responsiveness, Assurances, Empathy, and Tangibility</li> </ul>	Parasuraman et al., (1985)
5	SERVPERF Model(1992)	<ul style="list-style-type: none"> <li>▪ Model was developed based on empirical studies of banking, pest control, dry cleaning, and fast food service.</li> <li>▪ Marketing literature supported performance-based measures.</li> </ul>	Cronin & Taylor (1992)
6	Multilevel Model(1996)	<ul style="list-style-type: none"> <li>▪ Model was developed as a reaction to the inconsistent of</li> </ul>	Dabholkar et al. (1996)

	)	SERVQUAL factors. <ul style="list-style-type: none"> <li>Model suffers from generalization and was built on sub-dimensions.</li> </ul>	
7	Hierarchical Model(1985) )	<ul style="list-style-type: none"> <li>Model was proposed by combining four models.</li> <li>Model includes Interaction Quality, Physical Environment Quality, and Outcome Quality</li> </ul>	Brady & Cronin (2001); Parasuraman et al. (1985)

### FRAMEWORK

Figure 1 illustrates the framework for this paper that is constructed from two independent variables (abroad trainee factors and abroad training factors), dependent variable (employee creativity), while the abroad training quality acts as a mediator. The model assesses the direct relations between trainee and training factors and training quality and the second set of relationships is the direct relations between training quality and individual creativity.



**Figure 1** Framework

### RESEARCH METHODOLOGY

#### *Research design*

The quantitative analysis technique was adopted to acquire the finding of data collected from Saudi trainees in Kuala Lumpur, Dubai, and Istanbul. The collection of the data was subjected to a meta-data, verification, and validation, statistically analyzed by Smart-PLS for hypothesis and developing a model.

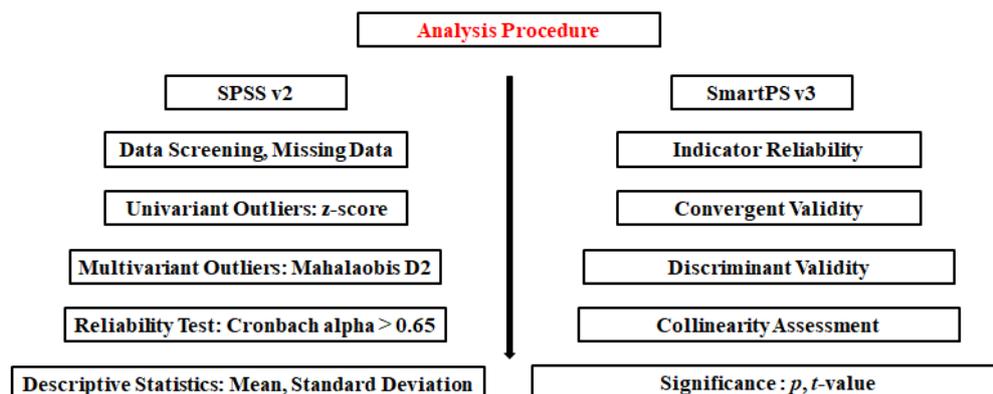
#### *Sampling technique*

The sample chosen includes all Saudi public workers who physically attended the training from 380 trainees during the year 2018. Each trainee has the same chance; therefore, the technique is random sampling. Trainees were approached either directly (Malaysian Center) or by returned-stamped mail

(Dubai and Istanbul). The study adopted a questionnaire of 8 sections in addition to the demographic section.

**Analysis technique**

Figure 3 shows the two statistical lines which include SPSS (v2) and SmartPLS (v3). In each line of statistical analysis, steps were arranged chronically such that each following step depends on the previous step.



**Figure 3** Two statistical lines for analysis

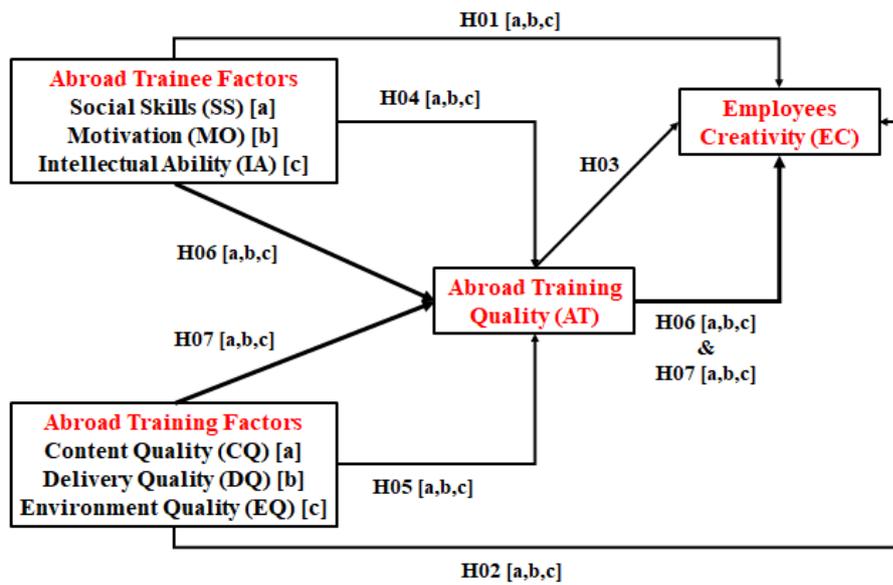
**Research hypotheses**

Based on the framework shown in Figure 1, a set of hypotheses was proposed outlining the relationship between the constructs of the framework (Bryman & Bell, 2015). It is worth saying that the framework has been constructed according to previous studies (Bryman & Bell, 2011). This research discusses training quality and employees' imagination and recommended a design with the best-proved variables and connections. The model is assessing two outcome variables Abroad Training Quality (AT), Employee Creativity (EC) via two dimensions of antecedents Trainee Factors (Trainee Social Skills, Trainee Motivation, Trainee Intellectual Ability), and Training Factors (Content Quality, Delivery Quality, Environment Quality). In the original work, there are many proposed hypotheses; however, for this study, only the following hypotheses are applied, as shown in Table 2:

**Table 2** Proposed hypotheses

Hyp	Sub-hyp	Details
H01	H01a	There is a direct influence of SS on the EC of Saudi Arabia public workforce.
	H01b	There is a direct influence of MO on the EC of Saudi Arabia public workforce.
	H02c	There is a direct influence of IA on the EC of Saudi

		Arabia public workforce.
H02	H02a	There is a direct influence of CQ on the EC of Saudi Arabia public workforce.
	H02b	There is a direct influence of DQ on the EC of Saudi Arabia public workforce.
	H02c	There is a direct influence of EQ on the EC of Saudi Arabia public workforce.
H03		There is a direct influence of AT on the EC of Saudi Arabia public workforce.
H04	H04a	There is a direct influence of SS on abroad training factor (AT).
	H04b	There is a direct influence of MO on abroad training factor (AT).
	H04c	There is a direct influence of IA on abroad training factor (AT).
H05	H05a	There is a direct influence of CQ on abroad training factor (AT).
	H05b	There is a direct influence of DQ on abroad training factor (AT).
	H05c	There is a direct influence of EQ on abroad training factor (AT).
H06	H06a	There is indirect influence of SS on EC of Saudi workforce mediating by abroad training (AT).
	H06b	There is indirect influence of MO on EC of Saudi workforce mediating by abroad training (AT).
	H06c	There is indirect influence of IA on EC of Saudi workforce mediating by abroad training (AT).
H07	H07a	There is indirect influence of CQ on EC of Saudi workforce mediating by abroad training (AT).
	H07b	There is indirect influence of DQ on EC of Saudi workforce mediating by abroad training (AT).
	H07c	There is indirect influence of EQ on EC of Saudi workforce mediating by abroad training (AT).
H08		There is influence of mediating factor (AT) on EC of Saudi Arabia public workforce.

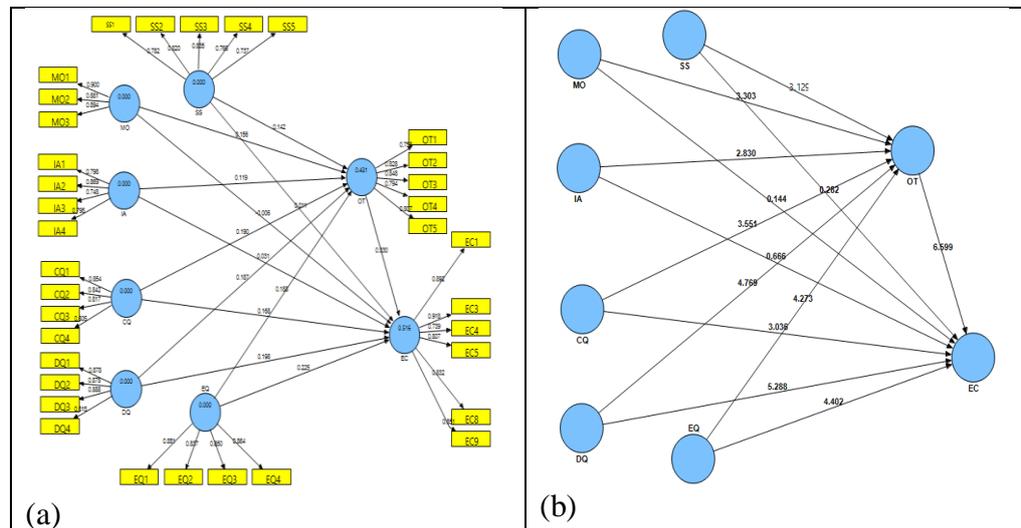


**Figure 2** Proposed model

## FINDINGS AND ANALYSIS

### *Reliability and validity*

Reliability and validity of both inner (relations between items) and outer (relations between items and latent variables) model assessments are provided by Smart PLS (Hair et al., 2019). The process requires testing outer loading (Figure 4a) and t-test (Figure 4b).



**Figure 4** Statistical results (a) Outer loading and (b) t-test

### *Hypotheses testing*

Hypotheses testing are a technique used in social studies to accept or reject the proposed hypothesis. The critical factors in hypothesis testing are the path

coefficient that represents the strength of association between the variables under test in addition to confirming the direction of the hypothesis (Milošević et al. (2015). The second factor is the significance of the measured variable, which is normally taken at a p-value of equal or less than 0.05 (Tarhini et al., 2017). Table 3 depicts the statistical results of testing hypotheses.

**Table 3** Proposed hypotheses

Hyp	Sub-hypot hesis	Influence Direction	Path Coeffici ent	Stand ar d Dev	t- Statisti cs	p- Valu e	Status
H01	H01a	SS → EC	0.011	0.039	0.204	0.071	Suppo rted
	H01b	MO → EC	-0006	0.046	0.138	0.445	Reject ed
	H02c	IA → EC	0.011	0.044	0.701	0.242	Reject ed
H02	H02a	CQ → EC	0.168	0.054	3.087	0.041	Suppo rted
	H02b	DQ → EC	0.198	0.039	5.046	0.012	Suppo rted
	H02c	EQ → EC	0.012	0.054	4.146	0.065	Reject ed
H03		AT → EC	0.330	0.050	6.607	0.015	Suppo rted
H04	H04a	SS → AT	0.142	0.048	2.955	0.000	Suppo rted
	H04b	MO → AT	0.156	0.050	3.139	0.031	Suppo rted
	H04c	IA → AT	0.119	0.044	2.736	0.013	Suppo rted
H05	H05a	CQ → AT	0.090	0.053	3.588	0.081	Reject ed
	H05b	DQ → AT	0.187	0.041	4.587	0.009	Suppo rted
	H05c	EQ → AT	0.188	0.050	7.751	0.015	Suppo rted
H06	H06a	SS → AT → EC	0.047	0.039	2700	0.023	Suppo rted
	H0b	MO → AT → EC	0.052	0.046	2.821	0.028	Suppo rted
	H06c	IA → AT → EC	0.039	0.044	2.503	0.016	Suppo rted
H07	H07a	CQ → AT → EC	0.003	0.054	3.150	0.085	Reject ed
	H07b	DQ → AT → EC	0.062	0.039	3.752	0.010	Suppo rted

	H07c	EQ → AT → EC	0.062	0.054	3.267	0.026	Supported
H08		AT → EC	0.805	0.030	2.654	0.007	Supported

***Testing direct impact***

Three hypotheses are testing the direct impact of abroad trainee factors, abroad training factors, and abroad training quality on the creativity of the trainees. The first hypothesis (H01) shows the direct impact of the three constructs (SS, MO, and IA) on the creativity EC. Two out of three proposed hypotheses were rejected (H01b and H01c) while H01a was supported. The direct association between motivation and intellectual ability seems to have no impact on creativity (EC) which makes the first variable of abroad trainee factor very weak in conducting training abroad. The second hypothesis (H02) which shows the direct impact of the three constructs (CQ, DQ, and EQ) on the creativity of the trainees. Out of the three sub-hypotheses, only environmental quality (EQ) was rejected while the content quality (CQ) and delivery quality (DQ) was supported. It seems that the environment (for example the abroad location) has no impact on creativity. The third hypothesis (H03) tests the direct impact of the abroad training quality (AT) on EC. H03 was found supported reflecting that the mediator (AT) has its own impact on the creativity.

***Direct testing mediator impact***

Testing the mediator (AT) was performed in two steps. The first step was to test the direct impact of the two constructs of abroad trainee factors and abroad training factors on the mediator. This step was conducted via direct testing of H04 (H04a, H04b, and H04c) and H05 (H05a, H05b, and H05c) on AT. The statistical result shows that all these six sub-hypotheses were supported, except H05a (CQ). This hypothesis was tested the indirect impact on EC and found supported; however, the same hypothesis was tested directly with AT and found not supported probably because of the difficulties of the respondents to recognize the exact difference between the content quality and the abroad training quality.

***Indirect testing mediator impact***

There are two hypotheses to indirectly test the impact of the mediator, AT, as presented in Table 3, i. e., H06 (H06a, H06b, and H06c) and H07 (H07a, H07b, and H07c). All six sub-hypotheses were supported except H07a which test the impact of content quality (CQ) on the creativity EC. The impact of the mediator, AT, has become obvious as the number of rejected hypotheses has declined from three out of six to only one out of six.

***H08: Impact of the mediator***

The mediator AT was tested by incorporating it in several hypotheses. H03 shows the direct impact of AT on EC (H03: supported). The other occasion when the direct impact of AT appeared was through H04 and H05 where the constructs of the abroad trainee factors and abroad training factor were tested. The impact of AT was again obvious as five sub-hypotheses were supported except only one sub-hypothesis (H05a). The most important line of AT impact was indirectly tested through H06 and H07. It was revealed that all sub-hypotheses were supported except one (H07a). Collectively, H08 that measures the impact of the mediator AT was tested and found supported with the strong association as the path coefficient reaches the closest level to 1.00.

### CONCLUSION

This study addressed the impact of the mediator, abroad training quality (AT), on the constructs of abroad trainee and the abroad training factors on the creativity of the Saudi public employees who attended at least one training session outside Saudi Arabia. The training was held in Dubai, Istanbul, and Kuala Lumpur. To measure the impact of the effect of trainee factors and training factors on creativity through the mediating role of abroad training quality in Saudi Arabia organizations. Having developed a conceptual framework, multi sub-hypotheses were proposed and tested using a series of statistical analyses using SEM and other tools available in SPSS and SmartPLS. The results have shown that half of the six sub-hypotheses was supported when training did not consider AT. However, when AT was involved, only one sub-hypothesis was rejected, and the other five sub-hypotheses were supported. Moreover, when the impact of AT on EC was directly tested, it was found supported; however with the weak association (0.330) compared with the corresponding association under AT involvement (0.803). The result could play an important role in setting future abroad training sessions as the involvement of a mediator makes a big difference in the achievement of the employees which would benefit the organizations where employees were coming from.

### REFERENCES

- Amabile, T. M. (1996). *Creativity In Context* (Boulder, CO, Westview Press).
- Bell, B. S., &Kozlowski, S. W. (2011).Collective Failure: The Emergence, Consequences, And Management Of Errors In Teams. In *Errors In Organizations* (Pp. 128-156). Routledge
- Bisogno, M., &Vaia, G. (2017). The Role Of Management Accounting In Family Business Succession. *African Journal OfBusiness Management*, 11(21), 619-629.
- Brady, M. K., &Cronin Jr, J. J. (2001). Some New Thoughts On Conceptualizing Perceived Service Quality: A Hierarchical Approach. *Journal Of Marketing*, 65(3), 34-49.
- Bryman, A., &Bell, E. (2011). *Reliability And Validity In Qualitative Research*, 3<sup>rd</sup>Edition. Oxford: Oxford University Press.
- Bryman, A., &Bell, E. (2015). *Business Research Methods* (Vol. 4th).Glasgow: Bell &Bain Ltd.

- Bryson, J. M. (2018). *Strategic Planning For Public And Nonprofit Organizations: A Guide To Strengthening And Sustaining Organizational Achievement*. John Wiley & Sons.
- Burrow, J., & Berardinelli, P. (2003). Systematic Performance Improvement—Refining The Space Between Learning And Results. *Journal Of Workplace Learning*, 15(1):6-13.
- Cameron, E., & Green, M. (2019). *Making Sense Of Change Management: A Complete Guide To The Models, Tools And Techniques Of Organizational Change*. Kogan Page Publishers.
- Cronin Jr, J. J., & Taylor, S. A. (1992). Measuring Service Quality: A Reexamination And Extension. *Journal Of Marketing*, 56(3), 55-68.
- Dabholkar, P. A., Thorpe, D. I., & Rentz, J. O. (1996). A Measure Of Service Quality For Retail Stores: Scale Development And Validation. *Journal Of The Academy Of Marketing Science*, 24(1), 3.
- Dias, N. M., & Seabra, A. G. (2017). Intervention For Executive Functions Development In Early Elementary School Children: Effects On Learning And Behaviour, And Follow-Up Maintenance. *Educational Psychology*, 37(4), 468-486.
- Earley, P. C., & Peterson, R. S. (2004). The Elusive Cultural Chameleon: Cultural Intelligence As A New Approach To Intercultural Training For The Global Manager. *Academy Of Management Learning & Education*, 3(1), 100-115.
- Edmondson, A. C. (2018). *The Fearless Organization: Creating Psychological Safety In The Workplace For Learning, Innovation, And Growth*. John Wiley & Sons.
- Gilal, F. G., Ashraf, Z., Gilal, N. G., Gilal, R. G., & Channa, N. A. (2019). Promoting Environmental Performance Through Green Human Resource Management Practices In Higher Education Institutions: A Moderated Mediation Model. *Corporate Social Responsibility And Environmental Management*, 26(6), 1579-1590.
- Gronroos, C. (1984). A Service Quality Model And Its Marketing Implications. *European Journal Of Marketing*, 18(4), 36-44.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). *When To Use And How To Report The Results Of PLS-SEM*. Published By: European Business Review.
- Jaccard, J., & Jacoby, J. (2019). *Theory Construction And Model-Building Skills: A Practical Guide For Social Scientists*. Guilford Publications.
- Mcclelland, D. C. (1967). *Achieving Society* (Vol. 92051). New York, NY: Simon.
- Mccracken, M., & Wallace, M. (2000). Towards A Redefinition Of Strategic HRD. *Journal Of European Industrial Training*, 24(5):281-290.
- Milošević, I., Živković, D., Manasijević, D., & Nikolić, D. (2015). The Effects Of The Intended Behavior Of Students In The Use Of M-Learning. *Computers In Human Behavior*, 51, 207-215.
- Muñoz-Doyague, M. F., González-Álvarez, N., & Nieto, M. (2008). An Examination Of Individual Factors And Employees' Creativity: The Case Of Spain. *Creativity Research Journal*, 20(1), 21-33.

- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A Conceptual Model Of Service Quality And Its Implications For Future Research. *Journal Of Marketing*, 49(4), 41-50.
- Phillips, A. W., Reddy, S., & Durning, S. J. (2016). Improving Response Rates And Evaluating Nonresponse Bias In Surveys: AMEE Guide No. 102. *Medical Teacher*, 38(3), 217-228.
- Pollack, B. L. (2009). Linking The Hierarchical Service Quality Model To Customer Satisfaction And Loyalty. *Journal Of Services Marketing*, 7(1), 53-73.
- Rust, R. T., & Oliver, R. L. (Eds.). (1993). *Service Quality: New Directions In Theory And Practice*. Sage Publications.
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J. H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive Model Assessment In PLS-SEM: Guidelines For Using Plspredict. *European Journal Of Marketing*, Vol. 53 No. 11, Pp. 2322-2347.
- Stufflebeam, D. L. (2003). The CIPP Model For Evaluation. In *International Handbook Of Educational Evaluation* (Pp. 31-62). Springer, Dordrecht.
- Tarhini, A., Elyas, T., Akour, M. A., & Al-Salti, Z. (2016). Technology, Demographic Characteristics And E-Learning Acceptance: A Conceptual Model Based On Extended Technology Acceptance Model. *Higher Education Studies*, 6(3), 72-89.
- Warr, P., Bird, M., & Rackham, N. (1970). *Evaluation Of Management Training: A Practical Framework, With Cases, For Evaluating Training Needs And Results*. Gower Press.
- Yeh, Y. C. (2004). The Interactive Influences Of Three Ecological Systems On R & D Employees' Technological Creativity. *Creativity Research Journal*, 16(1), 11-25.