

# IMPACT OF INDIVIDUAL ABSORPTIVE CAPACITY ON THE INNOVATIVE WORK BEHAVIOR: MEDIATING ROLE OF INDIVIDUAL AMBIDEXTERITY

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## ABSTRACT

The main objective of the study is to investigate the impact of Individual absorptive capacity on the innovative work behavior. Meanwhile, the study has also examined the mediating role of individual ambidexterity in the relationship between the of individual absorptive capacity on the innovative work behavior. Few scholars have carried out an empirical research and suggested that the purpose of knowledge development for the subsistence is required for its significant role of individual variables as compared to the organizational variables. The acknowledgement regarding practices that need individuals to work together through the external condition and then attain appropriate knowledge that would supports to identify opportunities. The current research recommended that absorptive capacity might cause delay in the growth of fundamental new knowledge assets because of probability of research within limit and decreased variety. By the processes of exploitation and exploration the managers of an organization have gained benefits from external resources, the managers would need great amount of absorptive capacity which includes the variables such as interaction, cognition, action and motivation. this research work offered the worthy understandings into the association among the significant models of absorptive capacity, IWB in an open innovation setting and ambidexterity, it has some valuable restrictions separately from the common relation with the quantitative empirical research by using the information through survey.

## Keywords:

absorptive capacity, ambidexterity, innovative work behavior

Article Received: 18 October 2020, Revised: 3 November 2020, Accepted: 24 December 2020

## Background

Innovative work behavior (IWB) among manager is very crucial in the unstable and rapidly changing circumstances that have resulted due to increase in competition and changes in technology that occurs at very fast pace, for the success of company's functions where IWB is considered as even far more important (Jason & Geetha, 2019). In the developing markets companies lack in terms of innovative abilities and have no access to knowledge, these companies are dependent on external source of information that is required to develop external assets for knowledge to support and enhance the internal innovation methods in link to motivate the improvements through supporting these companies to discover new

prospects of growth and convert them into services and products (Bjørnskov & Foss, 2016; Hertenstein & Williamson, 2018). It would highlight the new improved actions that support in organizing the flows of knowledge beyond the company's limitation (Eckhardt, Ciuchta, & Carpenter, 2018; Remneland Wikhamn & Styhre, 2019).

The term open innovation is known as "a dispersed process of innovation that depends on the willful managed flows of knowledge beyond the company's limitation, by mean of non-pecuniary and pecuniary perspectives in order among the company's business model" (Eckhardt et al., 2018). By the assumption of open innovation actions, companies are demanding

more from workers to assimilate, identify and employ external knowledge (Eckhardt et al., 2018; Wal, Criscuolo, & Salter, 2017). Current study highlights the main role of managers and individual workers which are human capital variables for instance the company's managerial abilities for the motivation of open innovation in the developing economies.

Several scholars have shared their discussion about the developing concern during investigation for an open innovation at individual level, due to the reason eventually the persons who guarantee that open innovation is taken towards action (Bogers, Chesbrough, & Moedas, 2018; Naqshbandi & Tabche, 2018) see (Khan, Lew, & Marinova, 2019; Pérez, Bárcena, & Manzanedo, 2019).

According to this research, the researcher has assumed an ability which depends upon the perception of open innovation and targeted the performance of managerial knowledge which is associated with their abilities during the endorsement of innovative work behavior (IWB) (Santoro, Vrontis, & Thrassou, 2018). Individuals play their role as of knowledge employees or the boundary spanners who are particularly known for recognizing external knowledge and for investigation of the external knowledge, by the methods of knowledge integration and sharing and perform as the carters of knowledge, innovation and creation (Fernandes, Ferreira, & Peris, 2019; Pérez et al., 2019).

The knowledge and information of workers plays an important role in the investigation of external knowledge and building assumption based on external knowledge, the individual level of research examines the open innovation methodology which has attained a vital role in academic research work. On the other hand research work has supported in term of giving acknowledgement on the problem of individual significance in the activities of open innovation, very few understand about individual managers to administrate the absorption of external knowledge process and how it impacts their capability to

provide improved performance for their companies (Bogers et al., 2018; Lowik, Kraaijenbrink, & Groen, 2016; Wal et al., 2017).

Earlier studies has stressed on the requirement for managers to use knowledge associated ability (for instance ambidexterity and absorptive capacity) in link with the appropriate detention of potential impact regarding practices of open innovation. The earlier studies have stressed about the significant performance of absorptive capacity in the open innovation model as it supports in the recognition and attainment of external knowledge (Ferreira, Mueller, & Papa, 2018; Santoro et al., 2018; Wal et al., 2017).

The researchers also illustrated that Innovative work behavior (IWB) has a positive impact on the individual absorptive capacity (Pérez et al., 2019). Although, the current research work recommend that the absorptive ability might delay the growth of new knowledge (Lichtenthaler, 2016). However, the external and internal knowledge plays a significant roles in innovative outcomes and to stabilize the internal and external forms of knowledge that is fundamental for growth and development (Appleyard, He, & Henkel, 2017; Galati & Bigliardi, 2019; Krzeminska & Eckert, 2016; Lopes, 2020). Individual ambidexterity discusses about the manager's behavioral orientation to integrate the exploitation activities and knowledge exploration and hence it is very important to develop stability among internal and external knowledge for the accomplishment of innovative work behavior (IWB). Although, there is a flaw in the acknowledgement of how employees impact their ambidextrous ability and absorptive capacity to utilize internal and external knowledge both in the perception of open innovation in link to integrate innovative behavior practices in their companies.

The individual absorptive capacity was primarily discussed by the researchers (Almeida, Moraes, & Campos, 2019) as "the capability of a company to investigate the worth of new, external data, integrate and operate it to accomplish the commercial requirements." Due to its significance

and ability of an organization the absorptive capacity has been studied extensively in the field of organizational theory and the strategy. However, the scholars MAJHI, SNEHVRAT, and CHAUDHARY (2020) highly recommended that organizational absorptive capacity is based on the individual absorptive capacity, the enhancement of interest that has been developed for the analysis of individual absorptive capacity (Almeida et al., 2019; Khan et al., 2019; Lowik et al., 2016). Individual absorptive capacity is known as the capability of an individual to identify, integrate and operate the flow of new knowledge from the external knowledge assets (Forés & Camisón, 2016; Khan et al., 2019). The researchers followed the earlier research studies in hypothesizing the individual absorptive capacity as it depends upon four various individual practices.

Secondly, the employers investigate and to integrate the knowledge through expressing it, keeping in their memory and utilizing it when it is required for the development (Ocasio, Rhee, & Milner, 2020). Thirdly, employees impact their creative and cognitive capabilities to change the integrated knowledge. Lastly, the employees manipulate the improved knowledge and utilize it in the innovation of new product, services and their methods. Following are the agreed contract, which the scholars recognized and collectively integrated practices as an ability of individual potential absorptive and exploitation and innovative practices as individual understand the absorptive capacity.

### **Hypothesis Development**

The researchers Rafailidis, Trivellas, and Polychroniou (2017) targeted on the exploitation and exploration practices of administrators in this research work, hence the clash at the company-level practices of individual ambidexterity in open innovation 2050083-7 of exploitation and exploration and individual absorptive capacity (Hudson, Jaynes, & Kress, 2017). Exploration needs administrators to attempt in initiating new

projects, create difference in regular behavior that depends on their current knowledge utilization.

On the other hand, exploitation depends on the gradual innovation regarding current practices and support from the earlier knowledge. Administrator's exploration practices consists of the investigation of business processes, new technology, systems, markets, routines and new rules reconsideration of strong decisions, faiths and adoption regarding long-term orientation (Giannoccaro, Nair, & Choi, 2018; Ocasio et al., 2020). As compared to the administrators exploitation practices that consists of enhancement and utilization of current knowledge, processes, improvement and extension in current technologies, the extension in current decisions and beliefs, products and the adoption of short-term orientation (Giannoccaro et al., 2018; Hudson et al., 2017).

Furthermore, at the higher level of organization regarding investigation, scholars have claimed that it acts as a one-dimensional construct; the conflicting outcomes related to the results of absorptive capacity regarding company's performances in the wrong engagement of absorptive capacity (Kale, Aknar, & Başar, 2019). Thus, at an organizational level a consecutive engagement of absorptive capacity first stated by the researcher Ferreira et al. (2018), they empirically studied and in favor of further study (Kale et al., 2019).

Related to the investigation at individual level the researchers, Ferreira et al. (2018) claimed that the individual absorptive capacity is different from the complementary degrees of individual realized absorptive capacity and the individual potential absorptive capacity. The researchers claimed that "the individual participants of the company are accountable for the achievement of external knowledge and in link to illuminate the employers level of ACAP, the linked degrees required to be isolated" and advanced towards the separate individual level of absorptive ability into realized and potential dimensions.

The difference among realized and potential absorptive capacity play an important role, Individual Ambidexterity in Open Innovation 2050083-5 and the Individual Absorptive Capacity due to the attainment of new advanced knowledge from external sources of the company is required to be earlier recognized and integrated such as potential absorptive capacity previously it may be utilized and changed which is realized absorptive capacity. Innovative work behavior and Individual absorptive capacity in technology based industries is considered through competitive benefits and fast-changing and innovation is very important for all workers and non-routine and non-standardized 2050083-6 work activities (Amabile & Pratt, 2016; Eskiler, Ekici, & Soyer, 2016).

According to this research the workers are required to investigate further than the developed practices and target on the growth, procedures, approaches and operations of new ideas (Eskiler et al., 2016). Innovative work behavior (IWB) is known as “the planned development, overview and operation of new ideas within the group of work-performance or company in linkage towards the advantages of role outcomes, the company and the group (Shanker, Bhanugopan, & Heijden, 2017).

Innovative work behavior (IWB) supports individual in terms of motivation, to develop and recognize ideas in link to transform herself or himself as well as the job condition (Shanker et al., 2017). The wide range of study and research refers the Innovative work behavior (IWB) as a difficult behavior which consists of three different tasks of behavioral such as idea realization, idea promotion and the idea generation (Hughes, Lee, & Tian, 2018; Shanker et al., 2017). These methods of innovation needs administrators to be involved in extra-role behavior and the discontinuous practices while and the researcher may be predictable to be engaged in integrated behaviors in any interval” (Nisula & Kianto, 2016). The earlier studies suggested a positive association among the innovative behavior and the

individual level capabilities (Nisula & Kianto, 2016; Pérez et al., 2019).

Innovative work behavior (IWB) of managers increases by the Individual absorptive capacity (Pérez et al., 2019). Individual absorptive capacity supports the administrators to modify and approach external knowledge in further efficient manner by the active recognition of changes, trends and events. The approach towards the wider range of knowledge increases the implementation and development of ideas which increases the Innovative work behavior (IWB).

In the same way, more individual absorptive capacity enables the attainment of sensitive information and the tacit knowledge, hence the Innovative work behavior is (IWB) increased (Afsar & Umrani, 2019). In short, the individual realized absorptive capacity (which consists of assimilation and recognition practices) and the individual potential absorptive capacity (which consists of assimilation and recognition practices) which support the individuals in the development of idea and its execution respectively (Ferreira et al., 2018; Naqshbandi & Tabche, 2018; Nisula & Kianto, 2016).

H1: Individual absorptive capacity has significant impact on thee innovative work behavior.

H2: Individual ambidexterity has significant impact on thee innovative work behavior.

The current research recommended that the absorptive capacity would delay the growth of fundamental new knowledge assets because of the probability within limited search and decreased variety (Lichtenthaler, 2016). These research studies highlighted the requirement for administrators and companies for the stability in their attainment of knowledge base among incremental and radical knowledge. The scholars reported about the integration among external and internal knowledge for innovation outcomes and their significant role during the stability of two knowledge (Appleyard et al., 2017; Galati & Bigliardi, 2019; Krzeminska & Eckert, 2016; Lopes, 2020).

By the processes of exploitation and exploration the managers of an organization are gained benefits from external resources, the managers would need great amount of absorptive capacity which includes the variables such as interaction, cognition, action and motivation (Lowik et al., 2016). Thus, the scholars claimed that individual ambidexterity plays a significant role in administrator support for stability and the usage of incremental and radical knowledge in their job place. The manager's role as a gatekeeper require to exploit and explore various resources of knowledge respectively in link to stimulate benefits from integrated optimum knowledge (Bloodgood, 2019).

The innovative outcomes of administrators is strongly associated with their capability to integrate the inflow of knowledge from internal and external resources both (Bloodgood, 2019). However, the absorptive capacity of administrators which supports the administrators to assimilate external knowledge, acquire, identify and assimilate it with the internal knowledge associated to utilize similarly, it is reported that individual absorptive capacity of administrators plays a vital role towards leveraging ambidexterity benefits of internal and external exploration and exploitation knowledge simultaneously. In short, the appropriate amount of absorptive capacity supports in ambidexterity or the exploitation and exploration 2050083-8 detection simultaneously (Collazos, Lozada, & Charry, 2020; Limaj & Bernroider, 2019; Müller, Buliga, & Voigt, 2020; Simon, 2018). Thus, the researcher postulated that:

The current research recommended that absorptive capacity might cause delay in the growth of fundamental new knowledge assets because of probability of research within limit and decreased variety (Lichtenthaler, 2016). These results highlighted the requirement for the administrators and organizations to stabilize their attainment of knowledge which is based among incremental and radical knowledge. The study reported that the complementarity of external and internal

knowledge for innovative output and the significant role in the stability of two (Appleyard et al., 2017; Galati & Bigliardi, 2019; Krzeminska & Eckert, 2016; Lopes, 2020).

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The scholars assuming the capabilities and perception as the open innovation model reminder on the other hand in this perception the absorptive capacity is an effective perception, the Individual Ambidexterity in Open Innovation 2050083-9 and Individual Absorptive Capacity targeted on the employment of external resources within the



organization on the other hand it ignored various important methods of knowledge for instance the development of internal knowledge (Collazos et al., 2020; Ferreira et al., 2018; Santoro et al., 2018).

Hence, it is important to notice that different knowledge based abilities for instance exploitation and exploration retention both from the limits of outside and inside of the firm (Santoro et al., 2018). Various researchers stressed upon the requirement of integrated external and internal knowledge in the processes of innovation. Rafailidis et al. (2017) recommended that manager level ambidexterity and the individual ambidexterity as “an administrator’s behavioral orientation to integrating the exploitation and exploration associated with practices within a specific period”. Hence, individual ambidexterity act as a managerial ability which would perform an important role in the leveraging of individual absorptive capability for the purpose of Innovative work behavior (IWB). Thus, the researchers postulate that:

H3: Individual absorptive capacity has significant impact on the Individual ambidexterity.

H4: Individual ambidexterity Mediates between the Individual absorptive and innovative work behavior

### **Methodology**

For this study, the total distributed questionnaires were 124 to collect data for analyzing the proposed hypotheses. In this study, the researchers had chosen to do oversampling as it helps in minimizing errors and the issue of non-response rate (Hair, Hult, & Ringle, 2016; Henseler, Hubona, & Ray, 2016). In addition, the sample size significantly contributes to the accuracy of the results, therefore, it is assumed that the larger the sample size the better the accuracy of results and the smaller the sample size the higher the tendency of the occurrence of errors. Besides,

Akter, Fosso Wamba, and Dewan (2017) also argued that the potential loss arising from non-cooperative subjective and potential damages can also be made up through oversampling. Furthermore, oversampling is mainly chosen as it does not let the occurrence of non-response rate and bias to influence results. According to Akter et al. (2017), the minimum acceptable response rate for social research survey is 50%.

To perform data analysis, we used descriptive analysis followed by the inferential analysis to statistically analyze the data collected from the survey. For statistical data analysis, the SEM approach is found as the suitable technique, as it is a second generation SEM technique. According to Mikalef and Pateli (2017), it works really well with the models involving multiple latent variables, such as Structural Equation Models, having a set of various cause and effect relationships. In addition, it is a powerful and a flexible tool of research for making predictions and statistical model building (Ringle, Sarstedt, & Mitchell, 2018). Therefore, to measure the structural and the measurement models, we employed the Smart PLS-SEM which is also referred as the PLS path modeling. The measurement model was initially estimated by analyzing the validity and reliability of the model’s constructs. Secondly, the structural model was determined through carrying out the regression analysis, and the bivariate correlation analysis. This will provide the effects of relationships on the latent constructs involved in the model.

### **Results**

In order to evaluate the PLS-SEM path, a two-step process was employed which will report the results (Henseler, Ringle, & Sarstedt, 2015). These steps include the estimation of the outer and the inner models, also referred as, the measurement and structural models, respectively.

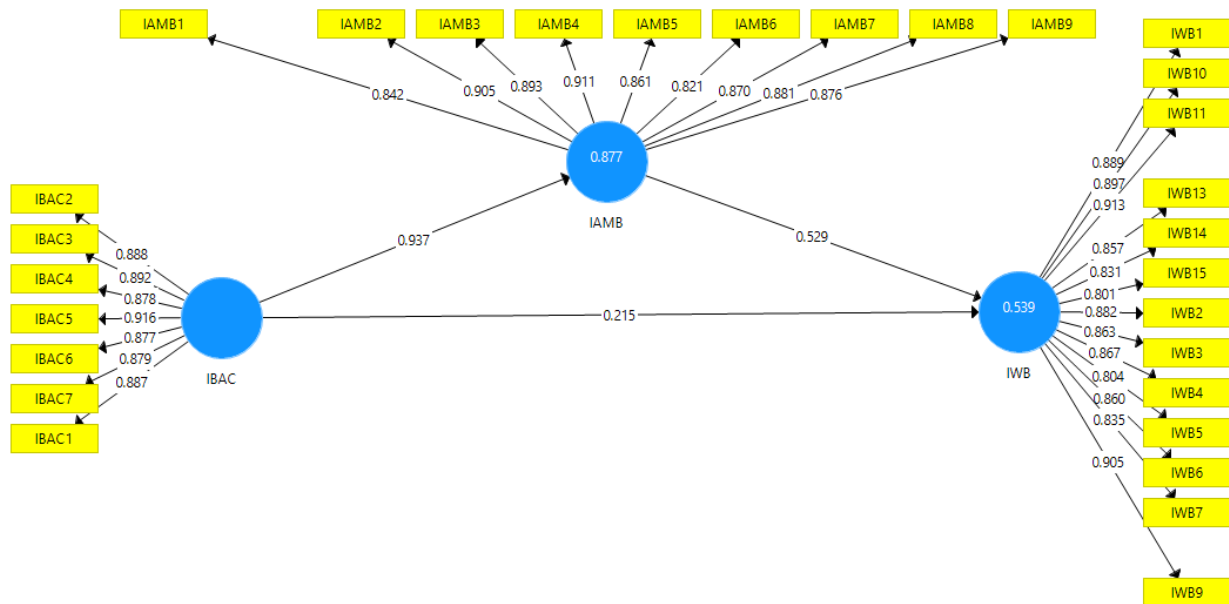


Figure 1: Measurement Model

Researchers explain that the measurement model assessment connotes observing the items individual reliability, internal consistency reliability, and the constructs' convergent and

discriminant validity and the content validity (Hair, Sarstedt, & Ringle, 2019; Henseler et al., 2015; Ringle et al., 2018).

Table 1: Outer Loadings

	IAMB	IBAC	IWB
IAMB1	0.842		
IAMB2	0.905		
IAMB3	0.893		
IAMB4	0.911		
IAMB5	0.861		
IAMB6	0.821		
IAMB7	0.870		
IAMB8	0.881		
IAMB9	0.876		
IBAC2		0.888	
IBAC3		0.892	
IBAC4		0.878	
IBAC5		0.916	
IBAC6		0.877	
IBAC7		0.879	
IWB1			0.889
IWB10			0.897
IWB11			0.913
IWB13			0.857
IWB14			0.831
IWB15			0.801

<b>IWB2</b>			<b>0.882</b>
<b>IWB3</b>			<b>0.863</b>
<b>IWB4</b>			<b>0.867</b>
<b>IWB5</b>			<b>0.804</b>
<b>IWB6</b>			<b>0.860</b>
<b>IWB7</b>			<b>0.835</b>
<b>IWB9</b>			<b>0.905</b>
<b>IBAC1</b>		<b>0.887</b>	

Individual items reliability can be checked through observing each indicator’s outer loadings (Hair et al., 2019; Henseler et al., 2015; Ringle et al., 2018). Following Hair, Matthews, Matthews, and Sarstedt (2017) rule of thumb, all items ranging from 0.70-0.99 loadings were retained in the model.

In this study, sufficient convergent validity is successfully achieved as all the AVE values and the obtained coefficients fall within 0.50 – 0.86, which confirmed the achievement of convergent validity. Meanwhile, obtaining satisfactory results for the composite reliability, and item loadings also ascertains that items belong to the distinct latent constructs.

Table 2: Reliability

	<b>Cronbach's Alpha</b>	<b>rho_A</b>	<b>CR</b>	<b>(AVE)</b>
<b>IAMB</b>	<b>0.961</b>	<b>0.962</b>	<b>0.967</b>	<b>0.763</b>
<b>IBAC</b>	<b>0.955</b>	<b>0.956</b>	<b>0.963</b>	<b>0.789</b>
<b>IWB</b>	<b>0.971</b>	<b>0.972</b>	<b>0.974</b>	<b>0.744</b>

Once the convergent validity is ascertained, the discriminant validity of the constructs is measured which can be done by following Hair et al. (2017) recommendation of making a comparison between the cross-loadings and the indicator loadings. This criterion requires each indicator loadings to be greater in value than the cross-loadings value. Discriminant validity tests that whether concepts which are expected to be unrelated are in fact, not found to be related. Another criterion suggested

by Shuhaiber (2018) is to take the square roots of all the AVE values and compare them with the AVE squared correlations, and the former should not be less than the latter to achieve sufficient discriminant validity. More specifically, in a correlational matrix, the diagonal elements are required to exhibit greater value in comparison to the off-diagonal elements in the rows and columns.

Table 3: Validity

	<b>IAMB</b>	<b>IBAC</b>	<b>IWB</b>
<b>IAMB</b>	0.874		
<b>IBAC</b>	0.837	0.888	
<b>IWB</b>	0.730	0.711	0.863



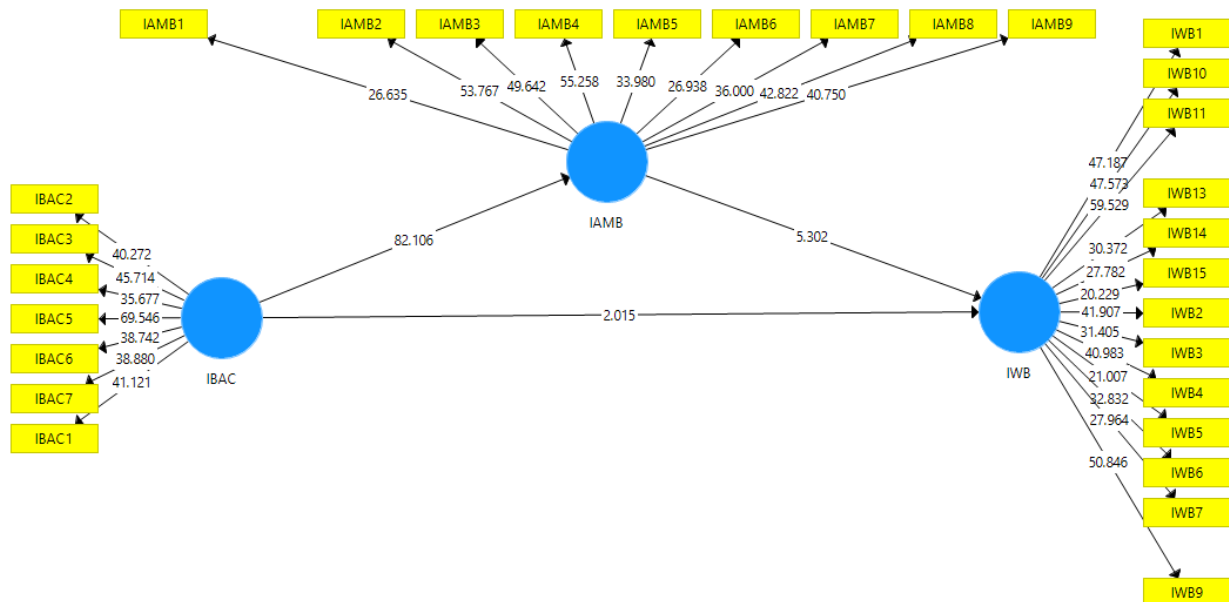


Figure 2: Structural Model

Table 4: Direct Relationships

	(O)	(M)	(STDEV)	( O/STDEV )	P Values
<b>IAMB -&gt; IWB</b>	0.529	0.526	0.100	5.302	<b>0.000</b>
<b>IBAC -&gt; IAMB</b>	0.937	0.937	0.011	82.106	<b>0.000</b>
<b>IBAC -&gt; IWB</b>	0.711	0.704	0.069	10.305	<b>0.000</b>

Once the reliability and validity of the constructs is ascertained, the second step of PLS path analysis commences i.e. the inner model estimation (structural model). A few important criteria involved in assessing structural model are: checking the path coefficients’ significance (t & p values, and standard errors), R<sup>2</sup> value, observing effects size, and the test for predictive relevance. Thus, to check the path coefficients’ significance

and to obtain the t-statistics and standard errors for testing the proposed hypothesis, a standard bootstrapping method was employed. In this procedure, 5000 bootstrap samples were taken as a benchmark (Hair et al., 2016; Mikalef & Pateli, 2017; Shuhaiber, 2018). The procedure thus presented complete estimates of the structural model, as well as the moderating variable (See Figure 2 & Table 4, 5).

Table 5: Mediation

	(O)	(M)	(STDEV)	( O/STDEV )	P Values
<b>IBAC -&gt; IAMB -&gt; IWB</b>	0.496	0.493	0.095	5.240	<b>0.000</b>

Afterwards, the R-squared value was computed as it shows the percentage of variance in dependent variable that is explained by the independent variables. Another name for R-square is the coefficient of determination (Hair et al., 2016; Henseler et al., 2016; Ong & Puteh, 2017). In

another definition, it represents the share of variance for a dependent variable which is explained by the set of one or more independent variables (Hair et al., 2016; Hair et al., 2017; Henseler et al., 2016). According to Hair et al. (2017), the acceptable and satisfactory range for

R<sup>2</sup> is determined by the research context and research type. However, 0.10 is the minimum threshold level suggested by Hair et al. (2016). Other researchers like Shiau, Sarstedt, and Hair (2019) also opined some values of R-square and

described that the closer the value to 1 the more the predictive power, therefore when R<sup>2</sup> equals to 0.67 it is denoted as substantial, when it equals to 0.33 it is denoted as moderate, and when it equals to 0.19 it is denoted as weak.

Table 6: R-Square

	R Square
IAMB	0.877
IWB	0.539

The last step in PLS structural model evaluation is to perform the predictive relevance test. For this test, a blindfolding method was employed to

calculate the Q<sup>2</sup> value as proposed by Akter et al. (2017) and Hair et al. (2017).

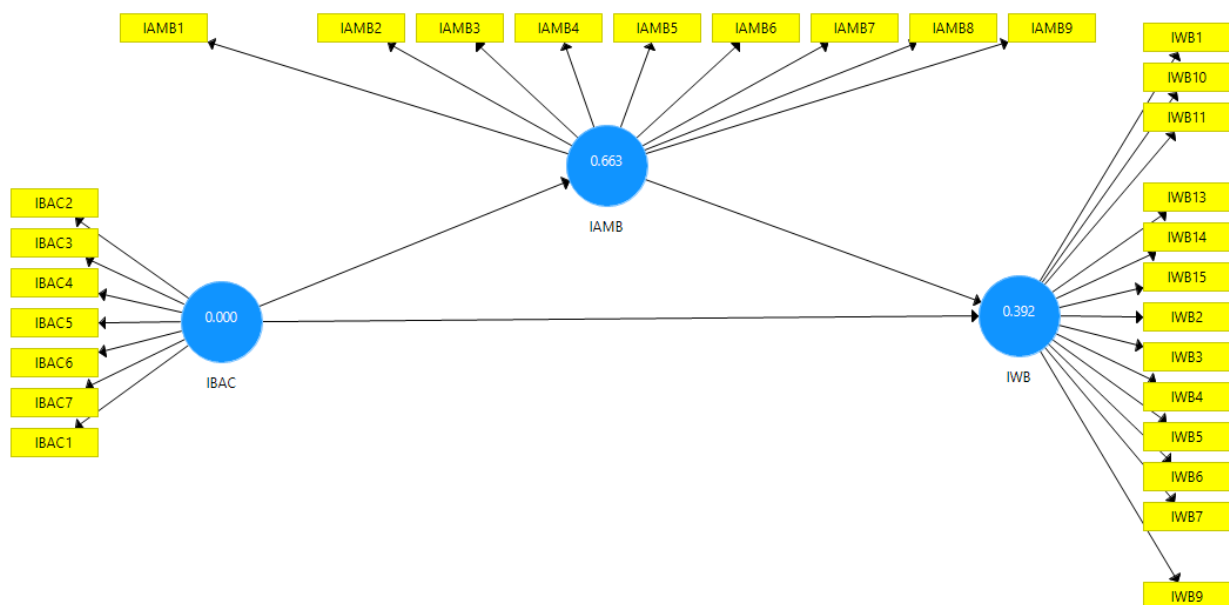


Figure 3: Blindfolding

The Q<sup>2</sup> value shows the predictive accuracy of the model. As a guideline, for a particular endogenous construct, the Q<sup>2</sup> value should be greater than 0 to indicate the structural model’s predictive accuracy

for that construct. Adhering to a rule of thumb, the predictive relevance is indicated as small, medium and large when the values of Q<sup>2</sup> are 0, 0.25 and 0.50, respectively (Hair et al., 2019).

Table 7: Q-Square

	SSO	SSE	Q <sup>2</sup> (=1-SSE/SSO)
IAMB	1953.000	659.018	0.663
IBAC	1519.000	1519.000	
IWB	2821.000	1714.046	0.392

**Conclusion**

Various administrators operated as a caretakers and further more estimated to support in the employment of new knowledge in their companies respectively. This research work targeted on the

administrators who participated in these doubles roles and the variables influencing their innovative behavior in the settings of open innovation. In this perception, the research discovered importance and significance of two

abilities, ambidexterity and absorptive capacity at the individual level.

The wide range of research discovered the significance of ambidexterity and absorptive capacity for different degrees of company's outcome (Lichtenthaler, 2016; Müller et al., 2020). However few work responsibilities have been done on absorptive capacity and individual ambidexterity both, there is an absence of understanding due to the transformation among the two models at the individual level. The reason behind it that both models plays a role with exploitation and exploration of knowledge and from a distance it might appear same. Although, according to the current theory, this research variant among the influence of two models. On the other hand, individual absorptive capacity is imagined as the consecutive exploitation and exploration of new knowledge by the administrator, individual ambidexterity is imagined as the stability among two various forms of new knowledge such as radical incremental.

This research work also discussed about the innovation research study through clarifying the performance of individual administrators in operating and recognition of new knowledge which is initiated from the external resources of the companies. In these settings of open innovation, the research work further enhanced the reinforcement and knowledge of innovative managerial work behavior. The research referred only to the administrators in double role (for instance the implementation and identification of new knowledge). Further studies are required for the theoretical construct that could stay in the scenario of administrators who are having various roles.

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