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Investigating the link between Potential Absorptive Capacity and Realized Absorptive Capacity: The Role of Learning orientation and Internal Relational Embeddedness

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ABSTRACT

This study explores a mechanism and contingencies in the relationship between potential absorptive capacity and realized absorptive capacity. Companies' environments are becoming more uncertain in modern days which makes it necessary for these companies to continuously acquire knowledge from the external environment, exploit useful knowledge, and discard existing redundant knowledge. To achieve this, organizations proactively seek and apply externally acquired knowledge by unlearning old knowledge and beliefs. In this study, Potential absorptive capacity will lead to realized absorptive capacity through the relationship of organizational unlearning. Learning orientation positively moderates the relationship between potential absorptive capacity and organizational unlearning. The relationship between organizational unlearning and realized absorptive capacity is moderated positively by internal relational embeddedness. This is a quantitative study based on 285 companies in the knowledge-intensive industry of Pakistan i.e., the pharmaceutical industry. Smart pls is used for analysis This study suggests that knowledge-intensive companies like those of the pharmaceutical industry need to develop a culture where external knowledge is continuously acquired and put into practice while unlearning old knowledge that does not remain suitable for changing environments. Employees should be encouraged to collaborate to recognize the value of new knowledge and unlearn old knowledge and habits so that organizations can exploit useful knowledge to adjust to the changing environments.

Keywords: Potential absorptive capacity, Realized absorptive capacity, Organizational unlearning.

1. Introduction:

Knowledge is one of the most important strategic resources of an organization. It increases organizational capacity and value (Mohanty,2003).It provides solutions to organizations that are rare and difficult by competitors to copy(Rua et al.,2018). Knowledge management is an organizational capacity to handle the knowledge that involves its creation, retention, transformation and usage (Cepeda & Vera,2007).To deal with knowledge-related activities, firms need another capability which is called absorptive capacity. Absorptive capacity is the ability of an organization to acquire, assimilate, transform and exploit knowledge. The acquiring and assimilation aspect of absorptive capacity is called potential absorptive capacity and the transformation and exploitation aspect is called realized absorptive capacity (Marabelli & Neweli.,2014).

As company's environment is continuously changing, knowledge gained by an organization through potential absorptive capacity is rapidly becoming useless or obsolete and it needs to be updated through the process of unlearning before its usage through realized absorptive capacity. Organizational unlearning is a way to replace old knowledge with new one (Snihur,2018).It helps organizations to reduce their dependence on existing knowledge and not to become a victim of competency trap(Fiol & O'Conor,2017).The study also explores the role of two contingency factors between the relationship of potential absorptive capacity, organizational unlearning, and realized absorptive capacity. One contingency variable is learning orientation between potential absorptive capacity and organizational unlearning and other is internal relational embeddedness between organizational unlearning and realized absorptive capacity. Learning orientation creates a culture of learning in the organization which helps to determine the type of knowledge coming in the organization and help in determining which knowledge to be updated and thereby implemented afterward. Internal relational embeddedness helps to convert the organizational unlearning which is very difficult phase for employees as they are not comfortable to unlearn old beliefs with new ones,so their cooperation and collaboration helps to ease the implementation of this process in the form realized absorptive capacity.

The paper has three section's. In the first section, the paper presents the literature review including the hypothesized relationships and the proposed research model. Section 2 contains the methodology and discussion on results and Section 3 is about discussion, future research and conclusion.

1.1 Theoretical Background and Hypothesis Development

Absorptive capacity

To explain various kinds of organizational phenomena, researchers use the variable of absorptive capacity especially in the field strategic management, technology management and international business. Absorptive capacity (ACAP) is defined as process or routines in the organization which are used to obtain, understand and, implement externally acquired knowledge to counter rapidly changing environment. This makes absorptive capacity a dynamic capability. According to Winter (2000), capability is a kind of process or routine that takes certain inputs to create outputs like Dell's production capability and the global marketing capabilities of Coca-Cola whereas dynamic capabilities are the processes through which an organization achieves change. They have long-lasting effects on the organization. This study takes absorptive capacity as dynamic capability in which an organization acquires, understands, implements and executes externally acquired knowledge to create other organizational capabilities like marketing, distribution, and production which leads to competitive advantage for the organization (Zahra & George,2002)

Absorptive capacity has four aspects which are acquiring, assimilation, transforming, and exploiting. Acquiring and assimilating is called potential absorptive capacity and assimilation and exploitation is called realized absorptive capacity. There are some commonalities in these types of absorptive capacity but are used by organizations in specific ways according to their respective environments. This uniqueness will lead to competitive advantage for the organizations (Zahra & George, 2002).

Potential Absorptive Capacity (PACAP)

It is firm's ability to obtain and assimilate new knowledge (Hurtado-Palomino et al.,2022). Potential absorptive capacity is firm's capability to sense external knowledge and obtain it as that knowledge is important for its operations to succeed. The success of the acquiring phase depends on intensity, speed and direction. The quality of firm's ability to get knowledge depends on its intensity and speed of acquisition. If a firm exerts more effort, it will acquire the knowledge quickly however in some cases, learning cycles take time to complete and resources needed for this can also take time. The direction of getting knowledge also has an effect on the acquiring process in a way that it requires the firm to have different expertise internally to obtain that knowledge.

Besides acquiring, potential absorptive capacity also includes assimilation which is the process of understanding, evaluating, and giving meaning to externally acquired knowledge. This process is idiosyncratic as it is difficult for competitors to understand and copy this process (Zahra & George, 2002).

Realized Absorptive Capacity (RACAP)

Company can convert and make use of the knowledge gained (Singh et al.,2023). Realized absorptive capacity is the transformation and exploitation of externally acquired knowledge. Transformation is the firm's ability to combine its existing and newly acquired knowledge. The result of this process is either adding or deleting existing knowledge or by continuing with the same knowledge in a way different than the past. In transformation phase, two different and incompatible knowledge combine. This process is called bisociation. This creates entrepreneurial mindset within the organization. It helps to create a sense of recognizing and noticing opportunities and an organization starts to search for new ways to face its competitors. The transformation phase of realized absorptive capacity helps to understand how organizations achieve transformation and strategic change.

The exploitation phase of realized absorptive capacity is getting maximum advantage of organization's existing competencies or creating ones with the help of newly acquired knowledge by applying in its operations. The presence of routines within the organizations is very helpful in this phase as they provide support in terms of structural, systematic and procedural mechanisms. The successful exploitation is evident by the creation of new or improved systems, processes, knowledge and new organizational structures. New ventures create new competencies by obtaining and exploiting knowledge from their environment whereas existing companies create new processes and routines to apply newly learned knowledge to either improve their existing actions, processes and procedures or generate new ones (Zahra & George,2002).

According to Flor et al(2018),there is a positive relationship between potential absorptive capacity as acquired knowledge through potential absorptive capacity needs to be used or exploited through realized absorptive capacity.If organization does use the knowledge acquired or in other words has poor realized absorptive capacity,the gained knowledge through potential absorptive capacity is a wastage.Potential absorptive capacity help firms to get the knowledge about gaining a competitive advantage but whether firm achieve

competitive advantage or not depends upon realized absorptive capacity of the firm(Zahra & George,2002;Jansen et al,2005).

The above discussion leads to first hypothesis of the study i.e

H1: Potential absorptive capacity increases realized absorptive capacity

Relationship of Organizational Unlearning with Potential Absorptive Capacity and Realized Absorptive Capacity

Knowledge is an important resource for organizations nowadays. New knowledge becomes problematic when it is not aligned with existing knowledge, behaviour, or organizational routines. In these situations, there must be a mechanism that encourages the replacement of old knowledge, behaviour and routines with new ones in order for organization to grow and this mechanism is unlearning.

According to Sinkula (2002) and Akgun et al (2003:2007), Organizational unlearning deals with changes in organizational routines. It is memory elimination generally but more specifically, it is a change procedures (Nonaka et al.,2001).When environment changes, it encourages organizations to revisit their old attitudes regarding customers, competitors and suppliers(Sinkula,2002).According to Mitchell & Sackney(2000) and Wenger (1999),unlearning is the a part of learning process but not all types of learning involves unlearning because in some cases new knowledge does not contradict with old knowledge rather it complements it but in other cases, learning process involves unlearning e.g. an employee needs to unlearn ways of working on a machine with a feeder on the left side to work properly on newly introduced machines with a feeder on right side. He cannot properly use the new machine without unlearning his previous beliefs and habits relating to old machine. Therefore, this study argues that unlearning is essential to get new knowledge which is not compatible with the older one especially for those organizations working in a rapidly changing environment. These companies need an internal mechanism where old knowledge can be replaced with new knowledge (Rebernik & Sirec,2007)

According to Zahra and George (2002), an absorptive capacity has four dimensions acquiring, assimilation, transforming and exploitation. The acquiring and assimilation are called potential absorptive capacity and transformation and exploitation make realized absorptive capacity. Both types of absorptive capacity complement each other. Potential absorptive capacity (PACAP) deals with internal processes like reflection, intuition, and interpretation whereas realized absorptive capacity (RACAP) is about efficiently putting gained knowledge into practice. According to Purvis, Sambamurthy & Zmud (2001), PACAP helps in understanding and assimilating new methodology. When members are experts in certain type of knowledge, it becomes easier for them to exploit new knowledge relating to their specialization (Balognun & Jenkins, 2003). So PACAP is about mental shortcuts regarding people, places and things e.g., how the world is and what is possible and not possible (mental models) and how the world should be seen and what outcomes are expected (mindsets) whereas RACAP converts combination of existing and newly acquired knowledge.

Although most researchers on the topic of absorptive capacity claim that RACAP is created through PACAP(Zahra &George,2002;Cohen & Levinthal,1990) .Very few studies acknowledge that there is a gap between what we can do(PACAP) and what we finally

realize or put into practice(RACAP).This gap is evident from what people actually see and what they believe or expect the world would be(Purvis et al.,2001).It is difficult for humans to convert what they see or feel into practice due to many factors like fear of unknown , mental shortcuts, lack of awareness or organizational structures which increases resistance to change what they do or how they do it . According to Tripsas & Gavetti (2000), experience drives management cognition which helps to manage knowledge. Therefore, PACAP is a path-dependent capability that is affected by previous knowledge and experience of employees that become internal to organizational routine (Balongun & Jenkins,2003). These routines create structural rigidity and prevents members to think creatively (Howard-Grenville,2005) which results in RACAP being undervalued (Lyndon,1989). In order to innovate, organizations have to remove old logics that not only become useless/obsolete but also prevent transformation of Potential absorptive capacity to realized absorptive capacity (Wensley & Navarro,2015). In this scenario, unlearning is required where organizations sense old logics and mental models and replaced them with new knowledge and routines (Carrion et al.,2012). It helps put pressure to alter its previous path. Organizational unlearning minimizes the competition between old and new knowledge which is helpful for those who used old knowledge in the past (Grisold et al.,2017)

Although acquisition, assimilation, transformation and exploitation of knowledge are done by learning process, an unlearning context is needed for proper utilization of newly acquired knowledge. Unlearning is not only forgetting old knowledge but also creating a room for new knowledge (Huber,1991; Bogenrieder,2002; Nystrom & Starbuck,1984; Day & Nedungad,1994; Bettis & Prahalad,1995). Mitigating the competition between old and new knowledge is helpful for employees who were using old knowledge in the past. Organizations can revisit old knowledge and generate new organizational routines and behaviour to get competitive advantage (Pu, K., & Liu,2023).

According to research done by Ortega et al., 2022, organizational unlearning is important to acquire knowledge and change it into action. In his research, social media acquires external knowledge from the environment (PACAP) but it also gives chance to people to evaluate, criticize, and give feedback before converting it into their actions (RACAP).

Considering the above discussion, second and third hypotheses of the study are as follow:

H2: Potential absorptive capacity increases organizational unlearning.

H3: Organizational unlearning increases realized absorptive capacity.

Mediation of Organizational unlearning between Potential Absorptive Capacity and Realized Absorptive Capacity

To have proactiveness, organizations continuously acquire knowledge from external environment because their environmental factors like customer, competitors, technology and suppliers etc., are continuously changing. This ability of an organization is referred to as potential absorptive capacity (Zahra & George,2002). This acquired knowledge needs to be converted into practice through realized absorptive capacity but this study conceptualizes that before conversion, it goes through the process of unlearning which is replacement of old knowledge with new knowledge. because what an organization acquires do not fully turned into practice (Purvis et al.,2001). Organization has some existing routines and procedures which are not fit for current changes in the environment. They need to be replaced with newly acquired knowledge to align the organization with the changing environment. Potential

absorptive capacity has a feature of reflecting and evaluating the knowledge that organization previously held to determine the usefulness of knowledge. When organizations get new knowledge through potential absorptive capacity and become aware of changing environments, they want to get aligned themselves with that environment. This encourages organizations to unlearn their previous beliefs, procedures and routines. The new destination that organizations want to achieve creates 'ba' according to Nonaka and Konno (1998) and Kaiser et al (2016) which makes it easier for them to unlearn existing knowledge. This unlearning is important because existing knowledge and routines create rigidity which prevents organizations to adapt new changes.

New knowledge coming out after replacing old knowledge needs to be put into practice which is realized absorptive capacity so that only useful knowledge is applied and employees only work on useful ideas rather than working on old routines and ideas which are obsolete in a changing environment. This discussion allows us to expect that

H4: Organizational unlearning acts as a mediator between Potential Absorptive Capacity and Realized Absorptive Capacity.

Learning Orientation as moderator between Potential Absorptive Capacity and Organizational Unlearning

Learning orientation (LO) is a value of an organization that encourages its members to generate knowledge to gain competitive advantage (Baker et al., 2022). Learning orientation and organizational learning are two different concepts. Organizational learning leads to organizational-related learning outcomes like information processing behaviour, information generation, information distribution and institutional memory. It is a construct that is behavioral in nature while learning orientation is cognitive in nature. LOs are values and intentions of firm to learn and be engaged in open-mindedness that questions the assumptions of organizational priorities for learning (Baker et al., 2022).

In unlearning, there is a belief that mental models in the market should be regularly evaluated and substituted with new ones if needed. Learning orientation is more strongly linked with the concept of examining old beliefs and ideas periodically and replacing them with new knowledge to get and maintain competitive advantage. Organization's drive to challenge and replace mental models is essential to achieve higher order learning to get and maintain competitive advantage and this is what learning orientation does with organizational learning outcomes (Nystrom & Starbuck, 1984).

The construct of learning orientation emerged in order to differentiate firms on the basis of their willingness to replace their old and existing knowledge. The firms having low level of learning orientation can get and share new information but their hard to change mental models prevent them to appreciate adaptive learning and incremental innovation (Baker et al., 2022).

Learning orientation encourages firms to unlearn existing knowledge about the market customer and competitors that becomes obsolete to avoid competency trap and to make decisions proactively (Baker & Sinkula,2002).

According to Gutierrez et al.,2012, learning orientation influences the type of knowledge collected by the company which is the potential absorptive capacity because learning orientations are organizational values for learning, so they are helpful in evaluating to determine whether the incoming knowledge is useful or not. According to Bennet (1998), when organizations have high levels of learning orientation, top management motivates its employees to look for new ideas to challenge the status quo which is achieved through unlearning old beliefs and behaviors. One of the dimensions of learning orientations is open-mindedness that help firms to change their old paradigms. Learning orientation is more than just adaption but it goes further to question the old knowledge along with its development and processing (Zhang & Tansuhaj,2007).

Learning orientation helps members to make sense of newly obtained knowledge, share their views and change previously acceptable norms and beliefs which further help them to incorporate new ways of doing things (Wu et al.,2020). This will lead to the expectation of the study that in the presence of learning orientation, potential absorptive capacity leads to unlearning.

According to Peng and Lin (2017), learning orientation raises questions about the knowledge coming in the organizations especially its dimension of open-mindedness that encourages unlearning. It helps members to deeply involved in learning processes. It is a culture which encourages employees to get external knowledge to improve customer value by using their understanding. Wu et al (2020) were was of the view that learning orientation helps members to understand new knowledge, shared that knowledge among themselves, change pattern of shared meanings and take actions accordingly. Learning orientation determines basic norms and values which further determines which knowledge to acquire, share and integrated in the the organization.

Considering the above discussion, fourth hypothesis of the study is as follows:

H5: Learning orientation positively moderates the relationship between potential absorptive capacity and organizational unlearning.

Internal relational embeddedness as a moderator between Organizational Unlearning and Realized Absorptive Capacity.

Meyer et al (2020) and Oehmichen & Puck (2016) define internal relational embeddedness as connections with other members within an internal network of business groups. Transformation and exploitation of externally acquired knowledge requires members of an organization to share knowledge with one another (Spender,1996). Smith et al (2005) were of the view that if members from different parts of organization communicate with each other, they can share the value of new knowledge. It creates common understanding among members and bring everyone on board (Reon board McEvily,2003). When people share knowledge, they can also give feedback to each other regarding usefulness of knowledge in rapidly changing environment (Leonard & Mcevil,1993).

Strong ties among the employees can increase joint problem-solving skills which help the organization to solve its problems as there is diversity of ideas given by different employees. (McEvil and Marcus,2005). Wu,2000; Tsai & Ghoshal,1998 claimed that sharing ideas and communicating freely can develop trust among employees that help them to cooperate with each other in applying newly learned knowledge. Employees start respecting each other and give suggestions to each other to improve themselves (Nooteboom,1996). As employees start trusting each other, they become motivated to share and apply knowledge (Mura et al.,2013).

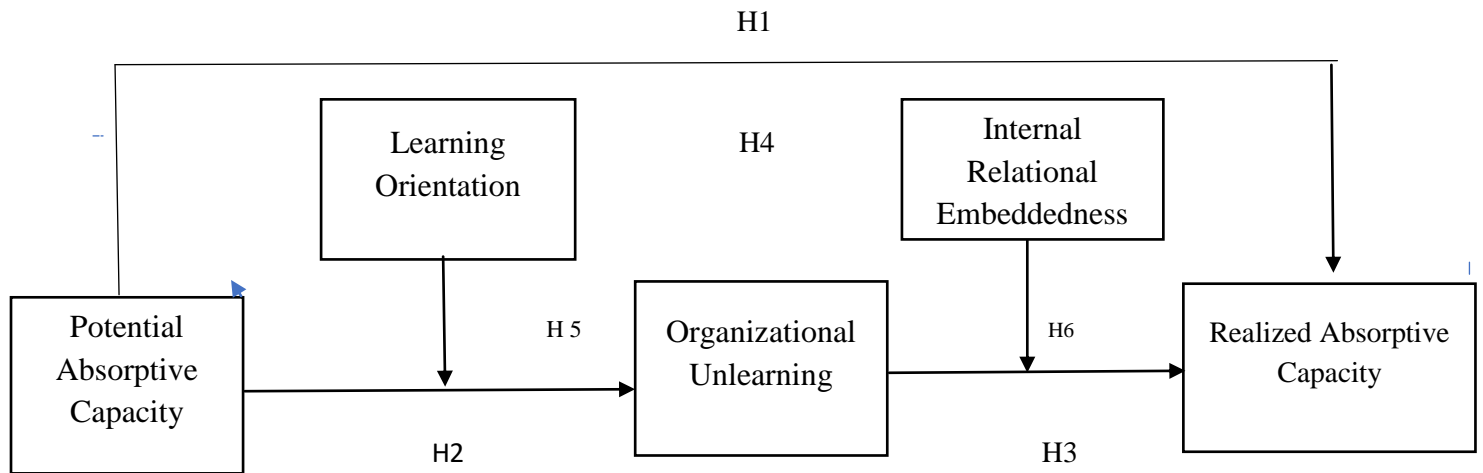
As an organization unlearning is difficult to absorb by the employees because they need to change their previous habits, beliefs, and behaviors (Blacker et al,1999), They need a space or cushion which is called “ba” by Nonaka and Konno (1998), where they can share knowledge. This ba is provided by the cooperation among employees where they can communicate easily and get relief from the pain created by the unlearning process (Nonaka,1998). According to Tsang and Zahra (2008), replacement of old knowledge with new one is not easy as it causes chaos and anxiety. This necessitates an organization to create culture where employees can freely communicate with each other. In the presence of internal relational embeddedness, organizational unlearning easily converted into realized absorptive capacity.

According to Duodu & Rowlinson (2020) and Wang et al (2020), Internal relational embeddedness is one of component of internal social capital. Social capital is an asset or a resource created by developing interaction and network by individual or social unit. As realized absorptive capacity is internally developed phenomenon, intra-organizational relational aspect can have an influence on this process. When employees have trust on each other's and have common understanding, the company's ability to transform the knowledge increases (Eber & Maurer,2014). Selivanovskikh et. al(2020) were of the view that in the presence of mutual trust and cooperation among members of an organization, it is more likely for the organization to transform valuable knowledge generated(in this case through organizational unlearning) into practice for achieving new goals as this trust creates open communication among members which makes this transformation easier(Levin & Cross, 2004;Smith et al., 2005). Interaction among members help create knowledge mobilization, generates ways to exchange feedback and member start understanding knowledge from each other which help them to solve problems jointly(McEvelly & Marcus,2005). Trust among members increases the chance that new individual knowledge integrates into organizational knowledge using transformation through realized absorptive capacity which ultimately becomes organizational collective knowledge (Selivanovskikh et al.,2020).Existence of high internal relational embeddedness gives confidence to the members that their knowledge is trustworthy and reliable and chance of transforming it into practice is higher (Fisher et al.,2004 ;Schoorman et al.,2007;Ortiz et al.,2021).The confidence that their knowledge is reliable is very important and helpful to counter the chaos created by organizational unlearning in this study where they abandon their existing routines, knowledge and procedures. Internal relational embeddedness reduces opportunistic behaviour (Ortiz et al.,2021) thereby reducing cost of knowledge searching and verification (Deyer & Chu,2003) which further increases the chance of its use (RACAP) (Selivanovskikh et al.,2020).

The above discussion leads to 5th hypothesis i.e.

H6: Internal relational embeddedness positively moderates the relationship between organizational unlearning and realized absorptive capacity.

Conceptual Model



2. Underpinning Theories

The model of this research is based on two theories. One is knowledge-based view and dynamic capability theory.

2.1 Knowledge based view.

According to this theory, organizational knowledge is the most important resource which provides support for strategic flexibility (Serenko.,2022). Knowledge based view is an extension of RBV. The Vast majority of researchers agree that knowledge-based view (KBV) is an appropriate view considering current rapidly changing environment. The realization that knowledge is a resource develops the connection between KBV and RBV. Penrose (1959) and Wernerfelt (1984) were of the view that firms can compete on the bases of their capabilities which is foundation stone of modern RBV of the firm.

According to Wernerfelt (1984), organization consists of various kinds of assets backed by knowledge. In modern economies, knowledge-based resources are the main resources of companies. Knowledge based resource can give competitive advantage to the companies because competitors cannot easily copy them.RBV's literature emphasizes that firms differentiate from one another on the bases of capabilities and competencies formed by the knowledge.

2.2 Dynamic Capability

It is identifying and reconfiguration of resources to deal with rapid changes in the environment to gain competitive advantage (Chen et al., 2022). This study also uses the theory of dynamic capability and takes realized absorptive capacity which is the dependent variable in this research as dynamic capability which is influenced by independent variables like potential absorptive capacity and organizational unlearning which are also dynamic capabilities. If the company's environment becomes turbulent and dynamic, companies need skills and abilities to reconfigure resources available internally (TPS,1997). In these kinds of environments, RBV is not enough to support competitive advantage. For example, Famous tech companies like IBM, Texas Instruments and Philips etc. have valuable resources and have got patents of their products but they realized that merely having these resources will not help achieve competitive advantage in a rapidly changing environment. TPS categorizes this capability of reconfiguring and redeployment of resources available as dynamic capability. It is dynamic capability level one. According to TPS (1997), organizations reconfigure resources in order to keep pace with changing environments. These dynamic capabilities emerge from history of a firm and thus cannot be copied by competitors. TPS declare dynamic capabilities as heterogenous and cannot even easily codify. These dynamic capabilities can give competitive advantage which last long.

3. Research Design

It is a process of collecting, analyzing and inferring various results from data. It creates connection between research problem conceptually generated in the research and relevant empirical research. According to Cook & Cook (2016), there are three kinds of research designs each serve their respective purposes? These designs are descriptive, exploratory and explanatory. Descriptive research narrates a situation or event as it is without telling the reasons of happening of such event or situation. This type of research design can be used for unexplored areas. Exploratory design can be used for the phenomenon which is not yet clearly known. This research does not provide final conclusion about the problem but only explore it to certain degree. Explanatory studies/designs explain why a certain situation occurs. It investigates cause and effect relationships between variables of the research thereby finding the answers to 'what' and 'how' questions.

3.2 Population and Sampling

Population

According to Creswell (2013), First step is to decide about the population of a research. The population of this study are knowledge intensive industry i.e. pharmaceutical industry of Pakistan. There is total 969 pharmaceutical companies in Pakistan according to Drug Regulatory Authority of Pakistan (DRAP). Top 10 firms in this sector make 46% of market share which is greater than that of India which is earning 39%. The reasons of choosing

pharmaceutical industry are research networks of the industry with other institutions. involving suppliers in product and development activities, making drug formation and development system, encountering challenges of regulated prescription drug and being fastest growing economic sector (Ramy et al.,2022).It is dynamic and knowledge intensive industry in Pakistan according to trade development association of Pakistan(Trade Development Association of Pakistan,2022)This study will help exploring how various variables of knowledge management operates in the industry to meet above mentioned challenges. This sector is regulated by drug regulatory authority of Pakistan (DRAP) whose main goal is to ensure safe, effective and high-quality supply of medicines to hospitals and general public along with their easy accessibility and affordability. Pharmaceutical companies need to continuously scan their environment to know latest development in the filed like, introduction of new manufacturing technology, changes in customer, competitor and suppliers.

3.3 Sampling Method, Sample size and Technique.

It is difficult to do research on a whole population considering limited time and resources available. Researcher always takes portion of population which is true representative of population which saves time and resources of researcher. This study took 283 companies as sample size by using stratified random sampling technique. The list of companies is taken from the website of DRAP (Drug regulatory authority of Pakistan). Many companies in different provinces got their license cancelled by the authorities because of various issues. So the number boiled down to 346.Out of 346 firms, 247 in Punjab,40 in KPK,4 in Balochistan and 55 companies are in Sindh. Details are provided in DRAP and can be assessed at <https://public.dra.gov.pk/pu/alien> (Licensing and Inspection).

This study will use co-variance-based SEM by using Smart pls as it contains reflective indicators and objective is to test the theory (Hair et al.,2017). This study will use following Yamane's formula (1967) to calculate sample size because according to Chaokromthong, K., & Sintao, N. (2021), Yamane's formula is best when population is known and research is survey based like this study.

$$n = N/(1+N(e)^2)$$

The variables in this formula are:

n = the sample size

N = the population of the study

e = the margin error in the calculation

Population of the study N= 969.

$$n = 969/1 + 969(0.05)^2 = 283.12 \text{ approximately } 283 \text{ sample size}$$

<https://public.dra.gov.pk/pu/alien> (Licensing and Inspection).Firms details are also provided in annexure 2.

Measures:-

In this study, scales are adopted for all the constructs. To measure potential absorptive capacity, scale is adopted from Nguyen et al.,2021.This scale measures how the knowledge is being absorbed from the external environment and assimilated in the organization e.g daily searching of information from industry and cross departmental support to solve problems etc. Organizational unlearning is adopted from the study done by Zhang et al.,2021.Some of the questions ask to measure organizational unlearning are “Our company abandons outdated beliefs of product development in a timely manner whenever necessary”, “Our company provides a favorable context for changing those obsolete beliefs” and “Our company changes team decision making process frequent” etc. These questions measures how organization is updating the old knowledge when needed by external environment. Realized absorptive capacity scale is adopted from the research of Nguyen et al.,2021. This scale measures how an organization is transforming and exploiting the knowledge as indicated by the questions like “ our company applies new knowledge in practical work”, “our company has an ability to work more effectively by adapting to new technology” and “ our company successfully link existing knowledge with new insights” etc. Learning orientation is measured using the scale developed by Bai & Choi et al.,2021.This questions in the scale like “Our company is encouraged to actively utilize acquired new knowledge or new technology.”, “Our company shares success or failure cases and uses them for learning.” and “Our company shares and learns know-how with each other to improve business methods and procedures” etc.Internal relational embeddedness is measured by scale developed by Sanchez et al.,2014 to measure the cooperation among employees in an organization. Questions such as “ our company members share information and learn from each other” , “our company members are skilled at working together and to diagnose and solve problems” and “ our company members have close relationship with their colleagues across the firm” etc.

Results:

Measurement Model:

The result shows that the all indices of measurement model (Table 1) meet required criteria.All constructs are reliable as indicated by Cronbach’s alpha value of all constructs which is higher than 0.7.Factors loadings of all constructs are 0.7 or more that 0.7.Average variance extracted(AVE) exceeds threshold value of 0.5(Hair et al.,2019).HTMT ratio(Table 2) is also less than 0.9(Henseler et al.,2015) which show discriminant validity. Discriminant validity is also indicated by Fornell Larcker Criteria as shown in table 1.

Table 1

	Outer loadings	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)	VIF
IRE1	0.762	0.839	0.879	0.883	0.601	1.634
IRE2	0.800					1.770
IRE3	0.729					1.701

IRE4	0.761					1.859
IRE5	0.821					1.737
LO1	0.817	0.848	0.850	0.898	0.687	1.746
LO2	0.850					2.079
LO3	0.820					1.922
LO4	0.828					1.903
OU1	0.728	0.852	0.854	0.890	0.575	1.707
OU2	0.747					1.752
OU3	0.769					1.811
OU4	0.752					1.660
OU5	0.782					1.870
OU6	0.771					1.863
PAC1	0.808	0.792	0.796	0.865	0.616	1.676
PAC2	0.797					1.595
PAC3	0.744					1.489
PAC4	0.788					1.555
RAC1	0.833	0.831	0.837	0.888	0.665	1.886
RAC2	0.843					2.047
RAC3	0.742					1.506
RAC4	0.839					1.924

HTMT Ratios

Table 2

	IRE	LO	OU	PAC	RAC
IRE					
LO	0.125				
OU	0.134	0.65			
PAC	0.155	0.346	0.549		
RAC	0.132	0.395	0.654	0.597	

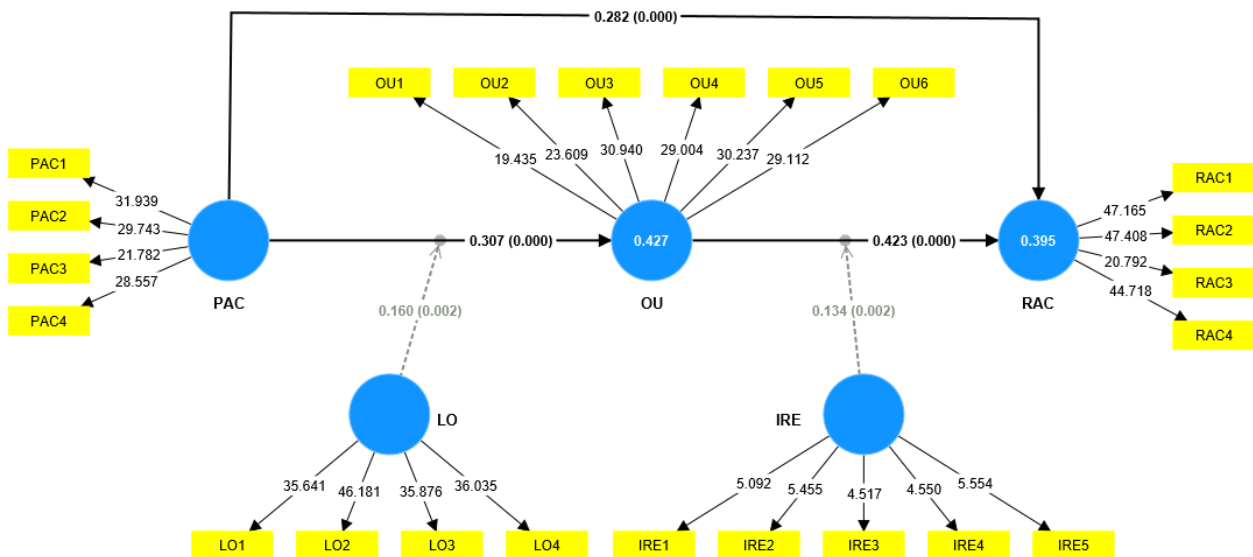
Table 3

Correlations (Fornell Larcker Criteria)

	IRE	LO	OU	PAC	RAC
IRE	0.775				
LO	0.084	0.829			
OU	0.116	0.556	0.758		
PAC	0.134	0.288	0.454	0.785	
RAC	0.121	0.337	0.554	0.488	0.816

Model Fit Indices

	Saturated model	Estimated model
SRMR	0.057	0.057
d_ULS	0.882	0.898
d_G	0.267	0.269
Chi-square	450.581	454.005
NFI	0.843	0.842



Structural Model:

The study uses bootstrapping(5000 resamples) which helps to produce standard errors and t-statistics to calculate the statistical significance of path coefficient and confidence intervals. The detailed results are presented in table 4(Direct effects) and in table 5 (indirect effect)(Henseler et al.,2009).

Direct effects (SEM path coefficients) Table 4

	Original sample (O)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
IRE -> RAC	0.020	0.049	0.416	0.677
LO -> OU	0.452	0.051	8.942	0.000
OU -> RAC	0.423	0.049	8.689	0.000
PAC -> OU	0.307	0.051	5.979	0.000
PAC -> RAC	0.282	0.054	5.252	0.000
LO x PAC -> OU	0.160	0.053	3.026	0.002

IRE x OU -> RAC	0.134	0.044	3.062	0.002
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R-Square

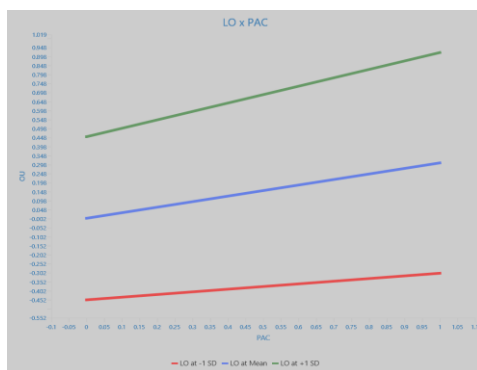
	R-square	R-square adjusted
OU	0.427	0.421
RAC	0.395	0.387

Specific Indirect Effects for Mediation and moderation Table 5

	Original sample (O)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
LO -> OU -> RAC	0.191	0.034	5.566	0.000
LO x PAC -> OU -> RAC	0.067	0.022	3.038	0.002
PAC -> OU -> RAC	0.130	0.024	5.419	0.000

Moderation Graphs

Moderating Effect of LO between PAC and OU



Moderating Effect of IRE between OU and RAC



4. Discussion, Future Research and Conclusion:

Knowledge has dynamic nature, so it is getting obsolete and need to be updated. This research shows that before exploiting or use of knowledge, it is determined whether or not previous knowledge need updation so that only the knowledge which is useful in changing environment is implemented. This updation is done by the process of organizational unlearning. If the previous knowledge is aligned with changing environment can be implemented without any updation as shown by the acceptance of H1 where potential absorptive capacity increases realized absorptive capacity. This study is compatible with previous studies(Zahra & George,2002;Jansen,2005)

The potential absorptive capacity of the firm creates an envisioned future for an organization where the organization needs to adapt to new changes happening in the environment. This prompts the organization to go through the process of unlearning where old beliefs are replaced with new knowledge. The potential absorptive capacity creates Ba proposed by Nonaka where organizations go through unlearning as “Ba” which acts as a cushion for them to update their knowledge, So H2 is accepted(Carrion et al.,2012; Grisold et al.,2017) Updated knowledge through the process of unlearning is useless unless it is implemented through realized absorptive capacity. This allows H3 to be accepted.H4 is the mediation of organizational unlearning between potential absorptive capacity and realized absorptive capacity. Old knowledge creates rigidity which increases the competency trap for an organization. Organizations cannot change in the presence of this rigidity. This rigidity is removed by organization unlearning which helps an organization to update by replacing old beliefs so that only updated and useful knowledge is realized. The results are compatible with various studies (Huber,1991; Bogenrieder,2002; Nystrom & Starbuck,1984; Day & Nedungad,1994; Bettis & Prahalad,1995; Pu, K., & Liu,2023)

If an organization has a learning culture in the form of learning orientation, it helps an organization to gain useful knowledge as learning orientation has an ability to determine which knowledge should be allowed to come in the organization and also decides whether the existing knowledge is compatible with changing environment or it needs updation through organizational unlearning where existing knowledge should be replaced with new one. This makes H5 acceptable where learning orientation positively moderates the relationship between potential absorptive capacity and organizational unlearning (Baker et al., 2022; Peng and Lin 2017; Wu et al 2020)

Collaboration and connectedness among employees is very useful as it makes it easy to review the knowledge in terms of its usefulness in changing environments and unlearn old knowledge if necessary. Collaboration and connectedness among employees again provide “Ba” where they unlearn old beliefs and update them because it gives the confidence to unlearn else unlearning is difficult to go through. Implementation of new habits, beliefs, and knowledge is also possible only when all employees are on the same page thereby accepting H6 which is internal relational embeddedness positively moderates the relationship between organizational unlearning and realized absorptive capacity. This is compatible with the results of various researches(Blacker et al,1999; Mura et al.,2013; Duodu & Rowlinson (2020) ; Wang et al 2020

Future research should use qualitative or mixed methods to validate the results. As this study is done only in pharmaceutical industry of Pakistan which makes it industry-specific. Future research should conduct similar research on other industries to increase generalizability.

Some industries are knowledge-intensive where their performance is determined by their ability to convert knowledge into creative services or products (Heirati & Siahtiri,2019). These industries should keep updating their knowledge according to the changing environment by unlearning process thereby implementing new routines. On the other hand, it is also important to exploit(RACAP) the new knowledge through suitable procedures and processes otherwise new and updated knowledge can be wasted.

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