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# Analysing Success Factors in the Development of Absorptive Capacity in Pharmaceutical Organisations based in Pakistan

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*Abstract:* Absorptive capacity is a developing research topic within the knowledge management field, whereby different models and methods of capturing new knowledge is being explored. Business Processes and human-centred systems at macro level, in relation to absorptive capacity, have been explored by researchers, but typically in a generalised form. Antecedents highlighting the successful implementation of absorptive capacity processes have not been studied extensively so far. Therefore, this study, through critical exploration of existing success factors within pharmaceutical organisations based in Pakistan, attempts to highlight the requirements for the effective development of absorptive capacity in the workplace. The results show that factors relating to employees and management, both mid-level and senior, are critical in the successful development of absorptive capacity. Furthermore, this study explores new pathways for critical evaluation of absorptive capacity in relation to employees and management within pharmaceutical organisations.

*Key-Words:* Absorptive Capacity; Knowledge Management; Case Study; Knowledge Intensive Organisations.

## 1 Introduction

Employee knowledge has become one of the most important and valuable components owned by an organisation [1]. In order to survive and maintain a competitive advantage, organisations operating in the pharmaceutical industry are now having to make greater use of what their employees already know, in the form of tacit knowledge.

Sources of organisational knowledge may be placed into two broad categories: 1) generation of knowledge within the organisation (internal organisational knowledge) and 2) acquiring knowledge from outside the workplace (external, typically found in an extended supply chain). Organisations require specific capabilities to deal with the knowledge captured from extended supply chains, including successful absorptive capacity [2].

Absorptive capacity is the ability to deal with new knowledge; this is defined as the intelligence to recognise the value of new external knowledge entering an organisation, its assimilation and its application into an organisation.

In the last two decades, Knowledge Management (KM) has gained growing importance in academic research, with organisations now striving to gain a competitive edge in the ever-changing technological environment [3]. Knowledge from outside of an organisation has gained growing importance; firms who possess effective knowledge process

capabilities enhance their knowledge memories, according to [1]; therefore, it is important for organisations to enhance their capabilities to deal with new knowledge entering the organisation.

The purpose of this paper is to explore the critical success factors which play an important role in the development of absorptive capacity in the workplace. It is found that critical factors typically relate to mid-level and senior management and employees, and these directly affect absorptive capacity and factors relating to it. However, antecedents related to procedure related factors directly affect the absorptive capacity process. The findings of this investigation have direct implications for decision makers in organisations who deal with new knowledge entering the business. This paper contributes to the growing literature of absorptive capacity in the KM field, but also to the broad field of organisational research, by exploring critical factors related to knowledge management in the workplace, as highlighted by [4].

### 1.1 Absorptive Capacity and its Evolutionary path

Absorptive capacity was first introduced by [2]; they defined absorptive capacity in terms of the capabilities of an organisation to deal with new

knowledge obtained from outside of the organisation, as illustrated in Figure 1.

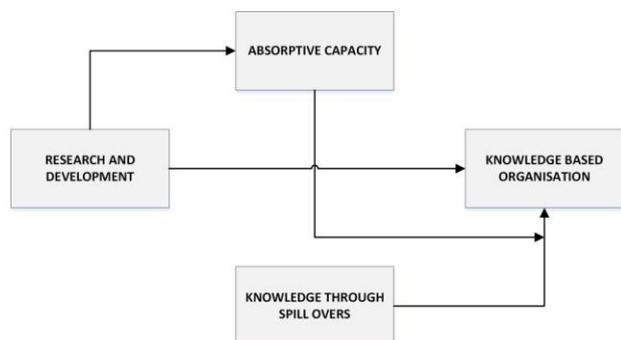


Figure 1. New knowledge Path of an Organisation, adapted from [2].

They further added that it is the “ability of an organisation to recognise the value of new external knowledge, assimilate it and apply it to commercial ends”. This three component definition, shown in Figure 2, was redefined by [5] who introduced four components of absorptive capacity namely as acquisition and assimilation which referred to potential absorptive capacity and transformation and exploitation of knowledge. This was referred to as ‘realised absorptive capacity’.

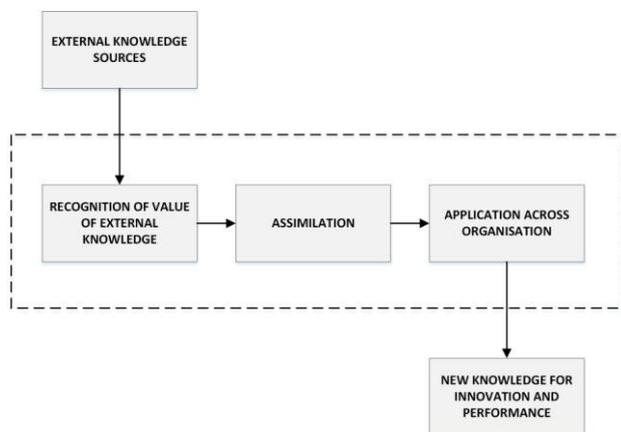


Figure 2. Three Components of Absorptive Capacity, adapted from [2].

The basic components have been discussed in different dimensions in relation to knowledge process activities and Figure 3 shows the absorptive capacity process found in literature in a generalised form.

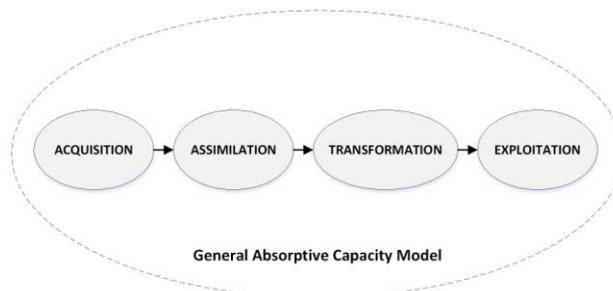


Figure 3. General absorptive capacity model, adapted from [5].

Absorptive capacity has been discussed from different perspectives and this construct has evolved in recent published literature after its introduction by [2]. The development of absorptive capacity has been viewed by incorporating different antecedents both inside and outside of the organisation, as suggested by [6] and [7], who suggested that antecedents should be applied within an organisation for the development of absorptive capacity. [8] and [9] focused on antecedents external to an organisation, while [10] focused more on knowledge sharing practices. [11] studied absorptive capacity from an innovation perspective and [12] took into account entrepreneurship in relation to absorptive capacity.

There has been an extensive debate on the development of absorptive capacity inside the organisation. Researchers have suggested different strategies and methods to absorb external knowledge possessed in an external supply chain and have critically evaluated the knowledge process activities inside the organisation, such as [13, 14, 15]. This emerging construct has been discussed at macro level in extensive studies which is understood at strategic level only, whereas, some studies, such as [16], have discussed the human involvement in developing absorptive capacity.

[16] suggested that absorptive capacity may be enhanced by internal information systems, if managed effectively; they argued that information shared by managers across an organisation may help employees absorb knowledge more easily and in turn enhance absorptive capacity. [10] studied methods for enhancing absorptive capacity through human resource practices and suggested that knowledge transfer may be effectively conducted by taking into account an employee’s ability and their motivation to process knowledge. They further suggested that training employees has a positive impact in the development of absorptive capacity. They discussed that incentive systems for employees, performance based promotion and internal communications have significant impact on

absorptive capacity generation and knowledge based activities. The work of [17] studied absorptive capacity from the perspective of network ties of employees in an organisation. Overall, absorptive capacity has been studied in different antecedents, but not in great depth at macro level.

This study focuses primarily on analysing the critical success factors which contribute to the development of absorptive capacity in knowledge intensive environments, taking into account the views of employees and managers operating together in the pharmaceutical industry.

## 2 Research Methodology

This study uses a qualitative and action research approach to explore the views of employees and managers in relation to the success factors required in the development of absorptive capacity inside an organisation. New insights may be explored by using a step wise inductive approach and in-depth interviews. The steps taken to conduct this study include: Collection of data; Gathering of feedback from employees; analysing the data obtained; planning; implementation; and evaluation of results.

### 2.1 Unit of Analysis

Participants involved in this study comprised employees from large pharmaceutical companies based in Pakistan, employing more than 500 employees. The companies involved are in a continuous process to acquire new knowledge from outside their organisations in order to grow in size, survive in a turbulent marketplace and be considered a knowledge intensive company.

Eighteen junior employees, five mid-level managers and two senior managers were interviewed by adopting an action research approach. 18 of the interviews were conducted at the interviewees' place of work, whilst 7 were conducted at their home residence, due to personal connections with the authors.

### 2.2 Research Process

Initially, interviews were conducted with eight junior employees, two mid-level managers and one senior manager for initial data collection regarding the process of knowledge absorption and factors involved in this process within the collaborating organisations. General information regarding the success factors relating to employees, business process and management were also obtained.

Research intended to explore the success factors of organisations attributing to the development of absorptive capacity. Therefore, in-depth interviews lasting between 50-90 minutes in length were conducted for further data collection purposes; this provided a strong research input. The feedback obtained from employees was open and positive. The feedback process was conducted through informal conversations with all levels of employees. Employees talked openly about the success factors they feel would improve the development of absorptive capacity, especially related to specific business processes and management.

During the action planning stage, employees were interviewed in small groups, with separate face-to-face interviews being conducted with both levels of managers. In the implementation phase, the remaining employees were interviewed. It was noted that employees were well aware of the KM processes employed within their organisations and at times it was felt that junior employees knew better than management. For example, employees needed specific flow paths to absorb new knowledge. This requirement was generated by employees and managers were not clear about the process which had been internally developed.

During the evaluation phase, interview responses were analysed and reported on. Following the interview analysis, an evaluation report regarding the success factors were prepared and the findings are now discussed.

## 3 Results

The adopted research process provided an in-depth understanding of knowledge management processes in the collaborating pharmaceutical companies. Different success factors were highlighted by employees and managers operating in the collaborating companies. Surprisingly, a lot of similarities were found in the responses received during interviews. Following the evaluation of interviews conducted, the following factors for the development of absorptive capacity in organisations were concluded:

### 3.1 Management Related Success Factors

Senior management support for knowledge management activities in relation to the absorption of new knowledge from outside of the workplace was highlighted as beneficial by the majority of employees and managers during interview; establishment of a network-connected database for

improved access to previous references and alignment of new knowledge with incoming knowledge was highlighted by the majority of mid-level managers; and Training related to how to improve knowledge management practices, especially in how to use new and emerging technologies, were identified as potentially beneficial to all employees within the organisation.

### 3.2 Employee Related Success Factors

Involvement of employees in the development of KM activities was highlighted as potentially beneficial. Senior management further emphasised that employees are the only entity within an organisation whom have to face new knowledge first, therefore, it is necessary for employees to keep themselves abreast with knowledge entering the business at the first possible opportunity;

Employee motivation was highlighted by mid and senior level management as employees with low motivation could affect the KM process, especially when dealing with new knowledge acquired from outside of the organisation; and

The technical skills of employees were highlighted by both levels of management. Management commented that their organisations should invest more in new knowledge acquisition systems in order to keep a track of the skill levels of their employees.

### 3.2 Process Related Success Factors

Technological bases were commented upon by both parties, stating that business processes should be enhanced to improve the capture, management and sharing of new knowledge acquired into the organisation;

Interdepartmental collaboration should be improved in order to enhance business processes to align existing knowledge with new knowledge; this point was highlighted by employees and managers both as a successful factor for acquisition and assimilation of new knowledge; and

Refined Research and Development (R&D) processes and updated process techniques should be improved to assist with continuous process development for aligning changes in the organisation due to new knowledge acquired.

## 4 Discussion and Analysis

This study focuses on the development of absorptive capacity in pharmaceutical companies based in

Pakistan. The results of the investigation highlight that absorptive capacity development is not only a function that employees and managers must adhere to, but that the involvement of senior management is also equally important.

Employees' efficiency in absorbing new knowledge is dependent upon the involvement of management in addition to the improved alignment of business processes with knowledge management practices; this finding is aligned with the study conducted by [5] and [16]. The results of the interviews directly highlight that, without involvement of management, the absorptive capacity of an employee or organisational may not be processed effectively. Results also highlight that conducting knowledge acquisition in a smooth process is one of the success factors of absorptive capacity. Technical infrastructure and R&D spending in organisations highlighted as success factors by employees and managers are also grounded into the original work of absorptive capacity carried out by [2].

From an employee's perspective, the success factors lay in the domain of managers, whereas, as a manager, employees are the first point of call to define success factors. Senior management hold a balanced view in the development of absorptive capacity as they are in the picture of both the capabilities of employees and the organisation, plus opportunities available outside the organisation for development of absorptive capacity.

## 5 Conclusions and Further Work

Absorptive capacity, being a process to absorb new knowledge from outside the boundaries of an organisation, is dependent upon specific factors in an organisation. Success factors are related to employees and business processes, as well as management. Success factors identified in this study are meshed with different processes and routines found within organisations. The success factors suggested by each participant has its own importance, but it is recommended that an order of priority of each success factor is developed and should be adhered to in different studies; this further study and analysis from different perspectives of an organisation would improve the current state of research relating to absorptive capacity. Diverse participants with experience in different fields and with different educational background may be incorporated to study absorptive capacity further.

This study was carried out in a knowledge intensive environment with pharmaceutical companies based in Pakistan. The results of this

study may be different to that of other industries and could be compared with similar studies in future. Moreover, limited participants were selected for this study and the results may not be the generalised view of other organisations operating in knowledge intensive environments.

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#### References:

- [1] Nonaka, I. A Dynamic Theory of Organizational Knowledge Creation. *Journal of Organization Science*. Vol.5, No. 1, 1994, pp. 14-137.
- [2] Cohen, W.M. and Levinthal, D. Absorptive Capacity: A New Perspective on Learning and Innovation. *Administrative Science Quarterly*. Vol. 35, No. 1, 1990, pp. 128-152.
- [3] Teece, J.D., Pisano, G., and Shuen, A. Dynamic Capabilities and Strategic Management. *Journal of Strategic Management*. Vol. 18, No. 7, 1997, pp. 509-533.
- [4] Volberda, H.W., Foss, N.J., and Lyles, M.A. Absorbing the Concept of Absorptive Capacity: How to Realize Its Potential in the Organization Field. *Journal of Organization Science*. Vol. 21, No. 4, 2010, pp. 931-951.
- [5] Zahra, S.A. and George, G. Absorptive Capacity: A Review, Reconceptualization, and Extension. *The Academy of Management Review*. Vol. 27, No. 2, 2002, pp. 185-203.
- [6] Jansen, J.J.P., Van Den Bosch, F.A.J., and Volberda, H.W. Managing Potential and Realized Absorptive Capacity: How do Organizational Antecedents Matter?. *Academy of Management Journal*. Vol. 48, No. 6, 2005, pp. 999-1015.
- [7] Todorova, G. and Durisin, B. Absorptive Capacity: Valuing a Reconceptualization. *The Academy of Management Review*. Vol. 32, No. 3, 2007, pp. 774-786.
- [8] Lane, P.J. and Lubatkin, M. Relative absorptive capacity and interorganizational learning. *Strategic Management Journal*. Vol. 19, No. 5, 1998, pp. 461-477.
- [9] Lane, P.J., Salk, J.E., and Lyles, M.A. Absorptive capacity, learning, and performance in international joint ventures. *Strategic Management Journal*. Vol. 22, No. 12, 2001, pp. 1139-1161.
- [10] Minbaeva, D., Pedersen, T., Björkman, I., Fey, C.F., and Park, H.J. MNC knowledge transfer, subsidiary absorptive capacity, and HRM. *Journal of International Business Studies*. Vol. 34, No. 6, 2003, pp. 586-599.
- [11] Su, Z., Ahlstrom, D., Li, J., and Cheng, D. Knowledge creation capability, absorptive capacity, and product innovativeness. *R&D Management*. Vol. 43, No. 5, 2013, pp. 473-485.
- [12] García-Moralesa, V.J., Bolívar-Ramosa, M.T., and Martín-Rojasb, R. Technological variables and absorptive capacity's influence on performance through corporate entrepreneurship. *Journal of Business Research*. Vol. 67, No. 7, 2014, pp. 1468-1477.
- [13] Evans, R., Gao, J., Owodunni, O., Shah, S., Mahdikhah, S., Messaadia, M., and Baudry, D., A Framework for Improving the Sharing of Manufacturing Knowledge through Micro-Blogging, in *Advances in Production Management Systems. Innovative and Knowledge-Based Production Management in a Global-Local World*, 2014, pp. 19-26.
- [14] Evans, R.D., Gao, J.X., Woodhead, S., Martin, N., and Simmonds, C. An Investigation into Collaboration and Knowledge Management during Product Development in the Aerospace and Defence Industry. *International Conference on Knowledge Management and Information Sharing*, Barcelona, Spain, 4-7 October, 2012, pp. 113-118.
- [15] Piorkowski, B.A., Gao, J.X., Evans, R.D., and Martin, N. A dynamic knowledge management framework for the high value manufacturing industry. *International Journal of Production Research*. Vol. 51, No. 7, 2012, pp. 2176-2185.
- [16] Lenox, M. and King, A. Prospects for developing absorptive capacity through internal information provision. *Strategic Management Journal*. Vol. 25, No. 4, 2004, pp. 331-345.
- [17] Khachlouf, N., Quélin, B.V., and Soparnot, R. Network ties and absorptive capacity for learning and decision-making. *Journal of Decision Systems*. Vol. 23, No. 1, 2014, pp. 4-23.