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# Top Management Support as an Enabling Factor for Academic Innovation through Knowledge Sharing

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***Abstract*—**Educational institutions are today facing increasing pressures due to economic, political and social upheaval. This is only exacerbated by the nature of education as an intangible good which relies upon the intellectual assets of the organisation, its staff. Top management support has been acknowledged as having a positive general influence on knowledge management and creativity. However, there is a lack of models linking top management support, knowledge sharing, and innovation within higher education institutions, in general within developing countries, and particularly in Iraq. This research sought to investigate the impact of top management support on innovation through the mediating role of knowledge sharing in Iraqi private HEIs. A quantitative approach was taken and 262 valid responses were collected to test the causal relationships between top management support, knowledge sharing, and innovation. Employing structural equation modelling with AMOS v.25, the research demonstrated that knowledge sharing plays a pivotal role in the relationship between top management support and innovation. The research has produced some guidelines for researchers as well as leaders, and provided evidence to support the use of knowledge sharing to increase innovation within the higher education environment in developing countries, particularly Iraq.

***Keywords*—**Top management support, knowledge sharing, innovation, structural equation modelling.

## I. Introduction

TODAY'S higher education sector is facing global challenges due to the rapid technological change and increased demands of today's world [1]. Academic institutions need to develop their abilities and respond to these demands like business organisations [2]. Higher education institutions (HEIs) are suppliers of training, expertise, and personnel to industries [3].

As innovation has become critical to the survival of organisations and a key factor in achieving competitive advantage, top management support has been identified as the most important factor affecting innovation. It is vital to creating a supportive climate and supplying adequate resources for building organisational knowledge. Top management can help employees to address their need for empowerment, improve their personalities, and enhance their self-efficacy [4].

Knowledge and knowledge sharing are also recognised as the most significant resources for building competitive advantage [5] and the key to enhancing innovation [6]. Knowledge is considered a useful indicator for measuring the effectiveness of organisations [7]. Daud et al. [8] found the exchanging of ideas, opinions, and experiences among faculty to be critical for developing the learning process.

Higher education in Iraq is also facing rapidly changing challenges that require support from members of the top management such as academic leaders. The country is making great efforts to develop its human resources through education. In the past, the level of higher education in Iraq was advanced, the best in the Middle East and among the countries of the Arab Gulf [9]. Due to wars and the economic embargo imposed between 1991 and 2003, Iraq was distanced from the rest of the world, whilst government support for the teaching cadre, in terms of training and other relevant services, weakened. As a result, there was deterioration in the infrastructure and information technology of HEIs, and many academics and scientists across all fields and specialisations left their universities, causing a brain drain away from the country. If the education in Iraq aims for a global reach, changes will be needed on systems, methods and curricula which represent the innovation process side.

Lin [10] noted that understanding knowledge sharing enablers, processes, and outcomes is highly necessary in organisations. Previous studies have separately linked top management support with knowledge sharing [4] and innovation [11], respectively. However, a causal link between the three factors has not been developed to date. Therefore, this study seeks to examine the mediating role knowledge sharing plays in the relationship between top management support and innovation. Few empirical studies to date have produced evidence in favour of these claims, particularly in developing countries like Iraq.

## II. Research Model and Hypothesis Development

### *A. Top Management Support and Knowledge Sharing*

Hislop [6] found that information is filtered and summarised data, and that knowledge is the translated meaning of information that helps people and the organisation to develop, and that they use in making decisions.

The two types of knowledge most commonly mentioned in the literature are tacit and explicit knowledge. Tacit knowledge describes the personal and the intangible [12]. It is embedded in the minds of people, accumulated through learning, and experiences, and developed through conversations, workshops, job training, and social interaction [5]. Tacit knowledge is difficult to communicate, articulate, and transmit [6]. It has been found that members of staff in HEIs obtain this type of knowledge either by teaching courses

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or as a result of professional experience [2]. Tacit knowledge is crucial to getting things done and is the key to organisational tasks, such as creating new knowledge, generating new products, and improving procedures that lead to innovation [13]. On the other hand, explicit knowledge denotes knowledge that is articulated, objective, and captured, and has a more tangible format [14]. This type of knowledge is saved in documents and found in databases, model procedures, rules, policies, and regulations, making it easily shared between individuals and organisations. Therefore, it is more common in the workplace [5]. Kumar et al. [15] explained that the advantage of this type of knowledge is that it is easy to share and can be reused to solve similar problems. These two types of knowledge are complementary; without tacit knowledge it would be difficult to understand explicit knowledge [6].

Yang [16] described knowledge management as a process of creating, disseminating, and applying organisational knowledge so as to exploit new opportunities and enhance the performance of the organisation. It is a set of procedures, infrastructures, and technical and managerial tools that facilitate the creation, sharing, and application of knowledge within an organisation [17]. It is noted that, when considering the application of knowledge management initiatives, it is important to create a culture of knowledge sharing [6]. Mathew [1] asserted the exchanging of ideas, opinions, and experiences among faculty are critical for developing the learning process. It is thought to be the foundation of learning and research at universities and a vital pillar of knowledge management that is critical to academic innovation [18]. Through knowledge sharing, organisations can develop their skills, and competence, and increase their value [19], as well as gaining benefits, such as the ability to enhance products and services in a shorter of time [20].

Knowledge sharing refers to a two-dimensional process whereby organizational members share and exchange their knowledge. Daily interaction creates new knowledge through the process of knowledge exchange, donation and collection [21]. The donating of knowledge refers to the exchange process and communication to others of one's personal intellectual capital [22]. It refers to the capacity of individuals to share what they know and use what they learn [10]. The collecting of knowledge refers to a person's willingness to ask for, accept, and adopt new intellectual capital and know-how [13]. It is a key aspect of organisations' success because the organisation with proficiency in gathering knowledge is more likely to be unique and rare [10].

Management support is considered a driving force in providing an environment that helps employees to share and contribute their knowledge for the achievement of mutual goals [4]. It has been identified as one of the enablers that plays a potentially significant role in improving organisational knowledge [23]. Lin [10] found that the top management can strengthen employees' willingness to donate and collect knowledge in their organisation. It is believed that knowledge sharing can be encouraged by management through seminars, formal meetings, conferences, and informal knowledge-sharing sessions [24]. An empirical study conducted by Lin and Chen [25] revealed that the top management also plays a vital role in knowledge donation. Research has found that both top and middle management play significant roles in facilitating knowledge sharing by encouraging participation in decision-making, providing recognition, team building, training or assigning others to perform training, communication, and learning [26]. Although these studies have provided insights into managers' perceptions of knowledge sharing, little empirical research has sought to understand the specific nature of management support that can affect knowledge-sharing behaviour, and there is a call for research into how management affects the knowledge sharing process in the HE sector within developing countries, such as Iraq. Thus, this research suggests the following:

H1. Top management support has a positive influence on knowledge sharing in Iraq's private HEIs

### *B. Top Management Support and Innovation*

Kamasak and Bulutlar [27] indicated that innovation is a source of power for today's organisations. It is a primary source of economic growth, providing organisations with opportunities to grow faster and gain higher profits [28]. Innovation is related to organisational learning, gives organisations an awareness of the latest developments, and helps them to absorb new and related knowledge [29]. Therefore, organisations that have the capacity to be innovative will be able to respond to challenges and exploit new product and market opportunities more quickly than non-innovative organisations [30].

White and Glickman [31] stated that the term innovation referred to the creation, adoption, and application of new ideas, methods, programmes, and devices new to the organisation.

The literature has suggested that product and process innovation enable organisations to realise competitive advantage. It is argued that, through these types of innovation, organisations can reduce the costs of production and become more efficient [32]. Organisations with greater product and process innovation capabilities can achieve a better response from the environment and more easily build the capabilities they need to enhance organisational performance [29]. Within the higher education environment, Rogers [33] asserted that educational institutions were one means of adopting and applying innovation. Innovation also has the ability to improve the learning outcomes and quality of provision of education [34].

Product innovation is embodied in the outputs of an organisation. It is associated with the success of organisations and allows them to establish a dominant position in the competitive marketplace [30]. Process innovation refers to a change in the carrying out of an organisation's tasks and targets [35]. It is considered the main engine of economic and social development. This research defines innovation as accepting, developing, and implementing new products such as courses, research projects, teaching materials, curricula, and processes, by developing and using new technology, good

financial management, and the continuous improvement of skills.

Past literature has demonstrated that top management support can enhance innovation, playing an essential role by providing an appropriate environment, and making beneficial decisions [36]. Griffin [37] found that senior managers could influence projects by providing resources such as manpower, engineering, manufacturing, and financial support. Top management support also provides greater market experience and product commercialization [38]. Top management support has been shown to affect innovation speed, with moderation by technology uncertainty [39]. To enhance product and process innovation, organisations require commitment and must encourage communication among their members [40]. Top management has the capacity to allocate the human and financial resources necessary to effectively develop the innovation process [41]. Such support can actively bring together individuals from diverse areas of work to solve common problems, encouraging the development of an appropriate environment for product and process innovation [36]. Based on the preceding logic, this research predicts the following:

H2. Top management support has a positive influence on innovation in Iraq's private HEIs.

### *C. Knowledge Sharing and Innovation*

Knowledge sharing is a process that includes the exchange and sharing of tacit and explicit knowledge among members of an organisation. It has been noted that knowledge is the core component of innovation [42]. Access to knowledge may help organisational members to come up with new ways to solve problems and engage in further innovative activities [43]. New knowledge is critical to the development of innovative ideas for new products [44]. When knowledge is shared and exchanged among members, collective learning will take place, which in turn develops the stock of knowledge available to the organisation [10]. Through knowledge activities, employees can reconfigure and utilise existing knowledge in new ways so as to change and develop the tasks they perform, which in turn generates new knowledge that can be used for product and process innovation [45].

Past literature has suggested that knowledge sharing is an enabler for innovation. For instance, Holsapple and Jones [46] found that the acquisition of knowledge could help firms to create new products. Ferraresi et al. [11] showed that the knowledge management processes of capturing, sharing, and application had a significant impact on innovation through strategic orientation within Brazilian companies. A qualitative study conducted by Porzse et al. [47] in professional services firms in Eastern Europe found knowledge to have a unique connection with innovation, suggesting that collective organisational knowledge could stimulate the later.

Although the above literature has studied the link between knowledge management and innovation, research on knowledge processes and their impact on teaching staff's innovation [48] in developing countries, and particularly in Iraq, is rare. Thus, this research proposes the following:

H3. Knowledge sharing has a positive influence on innovation in Iraq's private HEIs

### *D. The Mediating Effect of Knowledge Sharing on the Relationship between Top Management Support and Innovation*

Knowledge is the key to innovation in organisations. Innovation is a process that involves defining problems and then creating new knowledge to solve them [35]. Tacit knowledge is embedded in different individuals and has to be converted into explicit knowledge. Knowledge sharing processes followed by organisational members help them to create new routines and mental models, and solve problems [5]. Top management support can encourage and promote a knowledge sharing culture among employees, through participation in decision-making processes (communication, training, and learning, and putting knowledge into practice). When organisational members donate, collect, and share knowledge, the entire stock of knowledge is made available to everyone helping to generate new ideas, and in turn improve innovation [45]. Therefore, this research argues that top management support encourages a knowledge sharing culture among members of staff, suggesting the following (see Fig. 1):

H4. Knowledge sharing processes positively mediate the impact of top management support on innovation in Iraq's private HEIs.

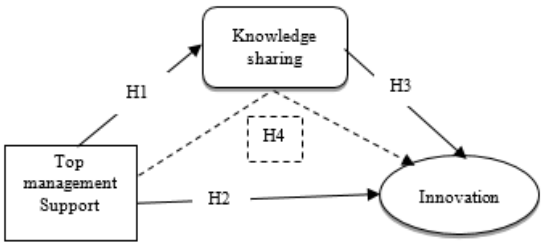


Fig. 1: Research model

## III. Method

A quantitative approach was used to investigate the relationships between top management support, knowledge sharing, and innovation. Data were collected through a survey questionnaire administered to teaching staff in private HEIs in Iraq to rate their leaders (deputy deans and heads of department), with questions based on a Likert-type scale ranging from 1= (strongly disagree) to 5 = (strongly agree).

Top management support was measured using eight items drawn from Vera and Crossan [4] and modified to suit the Iraqi environment. These measures evaluated the level of support and encouragement regarding knowledge sharing and innovation received from top management, as perceived by teaching staff within the institutes and universities.

Eight items were developed from Hooff and Weenen [21] to measure knowledge sharing. These items reflected the exchange of knowledge, experiences, and skills, regarding teaching operations and administrative issues, among members of staff, through the donation and collection of

knowledge.

Innovation in this research reflects the acceptance or development of new ideas concerned with product or process. The measurement of innovation was developed from work done in two previous studies [49], [50], modified to suit the Iraqi context.

A total of 600 questionnaires were sent to six private colleges, of which, 262 were returned and found usable for analysis.

## IV. Findings

Structural equation modelling-SEM carried out through AMOS v.25, was used in this research to investigate the causal relationships between top management, knowledge sharing, and innovation. In this method a measurement and a structural model are established [51]. The measurement model addresses and evaluates the reliability and validity of the indicators for measuring the hypothetical constructs. Meanwhile, the structural model addresses the relationships among the unobserved variables, specifying the direct and indirect relationships among them.

### *A. Construct Validity and Reliability*

The construct validity, consisting, of convergent and discriminant validity, was validated using confirmatory factor analysis-CFA, through AMOS v.25. The convergent validity was tested through investigation of the factor loadings and average variance extracted (AVE), deemed significant if greater than or equal to 0.5, according to Hair et al. [51]. Three factors (top management support, knowledge sharing and innovation) were measured, using a total of 24 items.

The reliability was assessed separately for each dimension included in the model based on the Cronbach's alpha and composite reliability (CR), each of which was required to exceed 0.7. Table I shows the convergent validity and internal reliability to be satisfactory, since all factor loadings, CR and AVE values are acceptable and significant:

TABLE I
Measurement Model Results

| Factor | Item code | Loading | α | AVE | CR |
|---|---|---|---|---|---|
| Top management support (F1) | TMS1 | 0.880 | 0.79 | | 0.78 |
| | TMS2 | 0.810 | | | |
| | TMS3 | 0.790 | | | |
| | TMS4 | 0.750 | | | |
| | TMS5 | 0.865 | | | |
| | TMS6 | 0.823 | | | |
| | TMS7 | 0.731 | | | |
| | TMS8 | 0.878 | | | |
| Knowledge sharing (F2) | KS9 | 0.810 | 0.72 | 0.74 | 0.80 |
| | KS10 | 0.860 | | | |
| | KS11 | 0.860 | | | |
| | KS12 | 0.750 | | | |
| | KS13 | 0.880 | | | |
| | KS14 | 0.854 | | | |
| | KS15 | 0.856 | | | |
| | KS16 | 0.66 | | | |
| Innovation (F3) | IN17 | 0.750 | 0.82 | 0.74 | 0.83 |
| | IN18 | 0.730 | | | |
| | IN19 | 0.857 | | | |
| | IN20 | 0.853 | | | |
| | IN21 | 0.750 | | | |
| | IN22 | 0.860 | | | |
| | IN23 | 0.773 | | | |
| | IN24 | 0.761 | | | |

Note: AVE = average variance extracted, CR = composite reliability, α= Cronbach Alpha

Discriminant validity refers to the extent to which a construct is truly different from the other constructs, the main goal being to establish internal consistency. In this research, it was assessed using criteria established by Fornell and Larcker [52]. According to them, the AVE should be greater than the squared correlation between two constructs. Table II shows that the measures utilised in this research demonstrate internal consistency for private HEIs in Iraq:

TABLE II
Correlations between Constructs and Square Roots of AVEs

| Factor | Mean | S.D. | 1 | 2 | 3 |
|---|---|---|---|---|---|
| 1-TMS | 3.310 | 0.915 | 0.72 | | |
| 2-KS | 3.350 | 0.896 | 0.345* | 0.74 | |
| 3- innovation | 3.470 | 0.876 | 0.420** | 0.260* | 0.74 |

Note: S.D. =standard deviation, TMS=Top management support, KS=knowledge sharing

The goodness of fit of the model was found to be

acceptable, as shown in Table III, which displays (1) absolute fit indices, including $\chi^2$/df, and the root mean square error of approximation (RMSEA), and (2): the model comparison indices. The fit indices used most often are the incremental fit measures, which include a normed fit index (NFI) and a comparative fit index (CFI) [51]:

TABLE III
GOODNESS-OF-FIT INDICES

| Fit index | N=262 | | | Recommended criteria |
|---|---|---|---|---|
| | TMS | KS | Innovation | |
| $\chi^2$/df | 1.332 | 1.377 | 1.485 | ≤ 2- 5 |
| RMSEA | 0.039 | 0.033 | 0.041 | < 0.05 – 0.08 |
| NFI | 0.911 | 0.950 | 0.960 | ≥ 0.90 |
| CFI | 0.988 | 0.985 | 0.977 | ≥ 0.90 |

Note: TMS=top management support, KS=knowledge sharing

### *B. Testing the Hypotheses*

According to the results from AMOS for the SEM, the structural model fit the data and all fit indices lay within the recommended criteria in the case of the Iraqi private HE surveyed. Table IV shows that top management support has an impact on knowledge sharing and innovation, with path coefficients of 0.639 and 0.362, respectively, as predicted in Hypotheses H1 and H2. Furthermore, the results show that knowledge sharing influences innovation (coefficient=0.643), supporting H3.

TABLE IV
RESULTS FOR THE DIRECT EFFECTS IN THE MODEL, BASED ON AMOS ANALYSIS

| Hypothesis | Hypothesis path | Path coefficient | Results |
|---|---|---|---|
| H1 | TMS → KS | 0.639** | Supported |
| H2 | TMS→ innovation | 0.362* | Supported |
| H3 | KS→ innovation | 0.643** | Supported |
| Fit index | $\chi^2$ / df =1.344, RMSEA= 0.042, NFI= 0.940, CFI = 0.988 | | |

Note: p*<0.05, p**< 0.01, TMS=top management support, KS= knowledge sharing

Turning to the indirect effect, Table V shows support for the mediating effect of knowledge sharing on the relationship between top management support and innovation, confirming H4, and the indirect effect (0.420) is greater than the direct effect (0.362).

TABLE V
DIRECT AND INDIRECT EFFECTS OF THE HYPOTHESISED MODEL

| Hypothesis | Hypothesis path | Effect | Estimate | Total effect |
|---|---|---|---|---|
| H1 | TMS → innovation | Direct | 0.362 | 0.782 |
| H4 | TMS + KS→ innovation | Indirect | 0.420 | |

Note: TMS=top management support, KS= knowledge sharing

## V. DISCUSSION

The results of the SEM supported the proposed relationships. Top management support was found to be positively related to knowledge sharing in Iraq's private HE (H1). The findings of this research suggest that top management support plays a key role in influencing the success of knowledge sharing among teaching staff. Individual knowledge is not easy to translate into organisational knowledge and practical use. When teaching staff have a supportive climate, they are more likely to exchange knowledge and try taking novel approaches to their work. This confirms the results of previous studies such as Brachos et al. [53], which have indicated that management support and learning orientation are crucial for fostering knowledge transfer and innovation.

This research has shown that top management support significantly affects innovation (H2). It suggests that the teaching staff in the private HEIs in Iraq believe that their managers encourage and support them with donating and collecting knowledge through discussion and exchanging of views, learning, experiences, and skills within and outside of their departments and their universities/institutes. Educated organisational members are the most critical element of innovation success, and organisations with strong educational systems do better in terms of innovation leadership. For example, organisations should formalise their training programmes, and develop and provide support for training committees [54].

Knowledge sharing processes have been found in this paper to be positively related to product and process innovation in private HEIs in Iraq (H3). Product and process innovation is enhanced when organisational members exchange information, insights, skills, lessons learned, and experiences [45]. When knowledge is used, learning takes place, which in turn leads to changes of behaviour and innovation [5]. Supar [55] noted that the encouragement and practice of knowledge-sharing activities among teaching staff could enhance performance and create opportunities for innovation. The results of this research demonstrate that the members of staff surveyed in private Iraqi HEIs were willing to donate and collect their skills, insights, experiences, expertise, information and notes, both inside and outside of their own departments, which enabled their universities to improve their product (e.g. research and projects with other sectors, new courses, and curricula) and process (taking and developing training programmes and adopting new technology) innovation.

The results of the SEM support the mediating role knowledge sharing plays in the relationship between top management support and innovation (H4). The results show that top management support is positively related to knowledge sharing, which in turn is positively related to innovation in Iraq's private HEIs. It is indicated that top management support promotes a knowledge-sharing culture among teaching staff by building trust, and respect, and encouraging commitment, team spirit, and communication. Consequently, members of staff are willing to donate and collect knowledge, skills, experiences, notes, and teaching materials, which in turn lead to new ideas for courses, curricula, research projects, and new technology, aiding product and process innovation.

## VI. CONCLUSIONS, LIMITATIONS AND FUTURE DIRECTIONS

The research aimed to evaluate the relationships among top management support, knowledge sharing and innovation

within Private HEIs in Iraq. A model was developed, consisting of three constructs: top management support, knowledge sharing and innovation. Knowledge sharing within the academic environment is considered to be a building block of efficient performance, and it plays a key role in enhancing innovation in universities. It is the foundation of learning and research in HEIs and a vital pillar of knowledge management critical to academic performance. The results of this work show that knowledge-sharing processes are the key factors in organisational success. This means that innovation will emerge if HEIs in Iraq can create or encourage a knowledge-sharing culture among their teaching staff in these knowledge-intensive institutions. Therefore, top management needs to focus on building team spirit by fostering collaboration between staff and providing support to these networks.

The sample for this research was limited to the private higher education sector, and therefore the results cannot be generalised to other sectors. Further studies should explore such relationships in sectors such as industry, to examine whether or not the results of this study are supported.

In terms of geographical area, the context was developing countries, specifically Iraq. Hence, the findings may not generalise to other countries, since cultural differences may lead to different influences holding more importance [56]. For further validity, the model could be extended to different cities, countries, and cultures, and this may lead to different findings.

The research was also limited to focusing on top management support as an enabler for knowledge sharing and innovation. It did not consider all enablers that are critical to knowledge sharing, such as individual characteristics or organisational climate. Future research could study these other factors. Further, while this research examined the direct and mediating effects of knowledge sharing on the relationship between top management support and innovation, future research might examine the processes that moderate these relationships.

## REFERENCES

[1] V. Mathew, "Service delivery through knowledge management in higher education," Journal of Knowledge Management Practice, vol.11, no. 3, pp. 1-14, 2010.

[2] S. Kim and B. Ju, "An analysis of faculty perceptions: Attitudes toward knowledge sharing and collaboration in an academic Institution," Library and Information Science, vol. 30, no. 4, pp. 282–290, 2008.

[3] R. Fullwood, J. Rowley and R. Delbridge, "Knowledge sharing amongst academics in UK universities", Journal of Knowledge Management, vol. 17, no. 1, pp.123-136, 2013.

[4] D. Vera and M. Crossan, "Strategic leadership and organisational learning", Academy of Management Review, vol. 29, no. 2, pp. 222-240. 2004.

[5] G. Von Krogh, I. Nonaka and L. Rechsteiner, "Leadership in organizational knowledge creation: A review and framework", Journal of Management Studies, vol. 49, no.1, pp.240-277, 2012.

[6] D. Hislop, Knowledge management in organisations, 3rd ed., UK: Oxford University Press, 2013.

[7] N. Tan, Y. Lye, T. Ng and Y. Lim, "Motivational factors in influencing knowledge sharing among Banks in Malaysia" International Research Journal of Finance and Economics, ISSN 1450-2887, pp. 191-201, 2010.

[8] S. Daud, R. Abdul Rahim and R. Alimum, "Knowledge creation and innovation in classroom, International Research Journal of Human and Social Sciences, vol. 3 no. 1, pp.75-79, 2008.

[9] UNESCO, Situation analysis of education in Iraq. United Nations Educational, Scientific and Cultural Organisation-Devision of educational polices and strategies, pp 1-127, Paris, France, 2003.

[10] H. F. Lin, "Knowledge sharing and firm innovation capability: An empirical study", International Journal of Manpower, vol. 28, no. ¾, pp.315-337, 2007.

[11] A. A. Ferraresi, C. O. Quandt, S. A. Santos and J. R. Frega, "Knowledge management and strategic orientation: Leveraging innovativeness and performance", Journal of Knowledge Management, vol.16, no. 5, pp. 688-701, 2012.

[12] K. Tchiijo and I. Nonaka, knowledge creation and management new challenges for managers, New York, Oxford university press, 2007.

[13] T. Kim, G. Lee, S. Paek and S. Lee, "Social capital, knowledge sharing and organizational performance: What structural relationship do they have in hotels?", International Journal of Contemporary Hospitality Management, vol. 25, no.5, pp.1-14, 2013.

[14] S. Yahya and W. Goh, "Managing human resources toward achieving knowledge management" Journal of Knowledge Management, vol. 6, no. 5, pp. 457-468, 2002.

[15] B. Kumar, D. Thiagarajan, D. Manilarasan, J. Prasanth, G. Abilesh and D. Srinvasan, "Enhancement in higher education with knowledge management", International Journal of Science, Engineering and Technology Research, vol. 2, no.3, pp.569-573, 2013.

[16] D. Yang, "The effect of knowledge management on product innovation - Evidence from the Chinese software outsourcing vendors" iBusiness, vol. 3, pp.16-22, 2011.

[17] M. Ipe, "Knowledge sharing in organizations: A conceptual framework", Human Resource Development Review, vol. 2, pp. 337-359, 2003.

[18] S. Daud and H. Abdul Hamid, Successful knowledge sharing in private higher institutions education: Factors and barriers. Paper presented at the Knowledge Management International Conference and Exhibition, K.L., Malaysia, 2006.

[19] B. Renzl, "Trust in management and knowledge sharing: The mediating effects of fear and knowledge documentation", The International Journal of management science, vol.36, pp. 206-220, 2008.

[20] C. Yang and L. Chen, "Can organizational knowledge capabilities affect knowledge sharing behaviour?", Journal of Information Science, vol.33, no.1, pp.95- 109, 2007.

[21] V. Hooff and F. Weenen, "Committed to share: Commitment and CMC use as antecedents of knowledge sharing", Knowledge and Process Management, vol.11, no.1, pp. 13-24, 2004.

[22] R. De Vries, V. Hooff and J. Ridder, "Explaining knowledge sharing: The role of team communication style, job satisfaction, and performance beliefs", Communication Research, vol. 33, no. 2, pp.115-135, 2006.

[23] K. Gupta, "A comparative analysis of knowledge sharing climate", Knowledge and Process Management, vol. 15, no.3, pp.186–195, 2008.

[24] X. Wei and F. Xie, "Knowledge management processes and innovation: An empirical analysis of firms in software cluster", International journal Human Resources Development and Management, vol. 8, no 1/2, pp.25-24, 2008.

[25] J. Lin and C. J. Chen, "Integration and knowledge sharing: transforming to long-term competitive advantage", International Journal of Organizational Analysis, vol.16, no.12, pp.83-108, 2008.

[26] S. A-Saifi, S. Dillon and R. Mcqueen, "The Relationship between Management Support and Knowledge Sharing: An Exploratory Study of Manufacturing Firms", Knowledge and Process Management, vol.23, no.2 pp 124–135, 2016.

[27] R. Kamasak, and F. Bulutlar, "Influence of knowledge sharing on innovation", European Business Review, vol. 22, no. 3, pp.306 – 317, 2010.

[28] J. Tidd and J. Bessant, Managing innovation: Integrating, technological, market and organizational change, 4th ed., London: John Wiley & Sons, 2011.

[29] D. Jimenz and R. Vall, "Innovation, Organizational Learning and performance," Journal of business research, vol. 64, pp. 408-417, 2011.

[30] A. M. Schilling, Strategic management of technological innovation, 3rd ed., New York McGraw-Hill/Irwin, 2010.

[31] S. C. White and T. S. Glickman, "Innovation in higher education: Implications for the future", New Direction for Higher Education, no.137, pp.97-105, 2007.

[32] M. Mansury and J. Love, "Innovation, productivity and growth in US business services: A firm-level analysis", Technovation, vol.28, no.1/2, pp.52–62, 2008.

[33] E., Rogers, Diffusion of innovations, 4th ed., New York, the free press, 2010.

[34] D. Albury, "Fostering innovation in public services", Public Money and Management, no.1, pp.51-57, 2005.
[35] P. Ahmed and C. Shepherd, Innovation management: context, strategies, systems, and processes, London, UK, Prentice-Hall, 2010.
[36] J. A. Correa, V. J. Morales and E. Pozo, "Leadership and organizational learning's role on innovation and performance: lessons from Spain", Industrial Marketing Management, vol. 36, no.3, pp.349-359, 2007.
[37] R. W. Griffin, Management: Principles and practices, (10th ed.), Boston, MA: South-Western Cengage Learning, 2011.
[38] E. F. McDonough, "Investigation of factors contributing to the success of cross-functional teams" Journal of Product Innovation Management, Vol.17, pp. 221–235, 2000.
[39] S. Hamdi, A. Ssilong, Z. B. Omar and R. M. Rasdi, "Impact of T-shaped skill and top management support on innovation speed: the moderating role of technology uncertainty", Cogent Business & Management, vol. 3, no.1, pp. 1-13, 2016.
[40] Y. Lee, C. Jung, H. Chang and C. Jung, "Leadership style and innovation ability: An empirical study of Taiwanese wire and cable companies", The Journal of American Academy of Business, vol. 9, no. 2 pp. 218- 222, 2006.
[41] S. Kuester, M. C. Schuhmacher, B. Gast and A. Worgul, "Sectorial heterogeneity in new service development: An exploratory study of service types and success factors", Journal of Product Innovation Management, vol. 30, no.3, pp.533–544, 2013.
[42] A. Goh, "Harnessing knowledge for innovation: an integrated management framework", Journal of Knowledge Management, vol. 9, no.4, PP.6-18, 2005.
[43] S. Rodan and C. Galunic, "More than network structure: How knowledge heterogeneity influences managerial performance and innovativeness", Strategic Management Journal, vol. 25, no. 6, pp. 541-562, 2004.
[44] W. Tsai, "Knowledge transfer in intra-organizational network: Effects of network position and absorptive capacity on business unit innovation and performance", Academy of Management Journal, vol. 44, no. 5, pp. 996 –1004, 2001.
[45] Z. Wang, and N. Wang, 2012, "Knowledge sharing, innovation and firm performance", Expert Systems with Applications, Vol. 39, No.10, pp. 8899 - 8908, 2012.
[46] C. Holsapple and K. Jones, "Exploring primary activities of the knowledge chain", Knowledge and Process Management, vol.11, no.3, pp.155–174, 2004.
[47] G. Porzse, S. Takacs, J. Fejes, Z. Csedo and Z. Sara, "Knowledge and innovation as value drivers in professional services firms: An empirical research in Central and Eastern Europe", European Journal of Business and Management, vol 4, no.8, pp.124-132, 2012.
[48] M. Subramaniam and M. Yount, "The influence of intellectual capital on the types of innovative capabilities", Academy of Management Journal, Vol. 48, No. 3, pp. 450-463, 2005.
[49] Perri, "Innovation by non-profit organizations: Policy and research issues", Non-profit Management and Leadership, vol.3, no. 4, pp.397-414, 1993.
[50] R. Daft, "Organizational Innovation", Academy of Management Journal, vol. 21, no. 2, pp. 193–210, 1978.
[51] J. Hair, W. Black, B. Babin and R. Anderson, Multivariate data analysis: A Global perspective, 7th edition, USA: Person Prentice Hall, 2010.
[52] C. Fornell and D. Larcker, "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error", Journal of Marketing Research, vol. 18, no. 1, pp. 39–50, 1981.
[53] D. Brachos, K. Kostopoulos, S. Klas and G. Prastacos, "Knowledge effectiveness, social context and innovation" Journal of Knowledge Management, vol 11, no. 5, pp. 31-44, 2007.
[54] O. Charles, "Managing knowledge and intellectual capital for improved organizational innovations in the construction industry: An examination of critical success factors", Engineering, Construction and Architectural Management, vol.11, no. 5 pp. 301–315, 2004.
[55] N. Supar Factors affecting knowledge sharing among academic staff in selectetted Malaysian higher educational institutions and the effect on performance, Doctoral thesis submitted to the University of Putra Malaysia, School of Management, 2006.
[56] G. Hofsteds, G. Hofstede and M. Minkov, Cultures and Organizations - Software of the Mind, 3rd ed., New York, US, McGraw Hill Companies, 2010.

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