

A Modern Strategy for the Development of Academic Staff Based on University-Industry Knowledge Transfer Effectiveness & Collaborative Research

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Abstract

University and industry has substantially contributed to enhancing the quality of life. As a result, trans-disciplinary scientific communities have come to play a vital role to produce new knowledge with effective applications for rapid technological change and innovation to be a competitive globally. For this purpose study provide a framework for the development of academic staff of higher education. We used University-Industry collaboration as the channel to develop and encourage teachers, doctors, professors and researchers with the help of research relationship. The paper contributes to the literature on university-industry interactions to improve applied knowledge, skills and practices of academic staff and enhancement on technology innovation and commercialization. Secondly, our aim to provide an efficient mechanism of knowledge transfer effectiveness (KTE) and collaborative research (CR) those are available to transfer and share knowledge and information from university to industry effectively and to eliminate major obstacles of knowledge transfer by using productive knowledge transfer indicators (KTIs). Research findings indicates the question is, how the process of university-industry interaction will be managed at different stages for the success of knowledge transfer and how knowledge gap is reduced through effective interactions. By adopting this framework any university or industry can easily cross the threshold in the grown-up academic and research collaborational community.

Keywords: Professional development of academic staff; university-industry collaboration; knowledge transfer effectiveness; collaborative research; knowledge transfer indicators

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1.0 INTRODUCTION

The success of science and technology (S&T) policies is judged from the fact that how much it has contributed to the advancement of knowledge, which then can be harnessed in terms of new technological development. In this direction, the developing countries are experiencing post academic revolution leading to a new privatized and international or globalized mode of scientific development. As a result, trans-disciplinary scientific communities have come to play a vital role to produce new knowledge with effective applications for rapid technological change and innovation to be a competitive global (Kharbanda, 2011). Academic staffs are the heart and soul of the university, and only with a well-qualified academic staff will it be possible to have meaningful development in higher education and corporate sectors (HEC Pak, 2011). Academics work in increasingly complex institutional environments. Universities become more engaged with commercial activities at the same time that they generate new internal structures to manage research activities. Faculty members are the principal agents through whom these

interactions develop and mature (Monica, 2010). Professional Development of academic staff is important to renew knowledge and skills of faculty members. It is an essential element to improve quality of education delivered to students. In general, development of an individual in his academic career and professional role (Villegas-Reimers, 2003). It is an essential element to improve quality of education delivered to students. By the use of professional development activities teachers knowledge, skills and teaching capabilities could be enhanced and the immediate beneficiaries could be students and society in general (Aslam, 2011).

In university-industry Collaboration knowledge transfer emphasize on existing personal communication, cooperative education, and personal exchanges (Abeda, 2011). Knowledge transfer exchange is a highly valuable activity and an interactive process involving the interchange of knowledge between research users (Industry and Stakeholders) and research producers (University's Researchers). There are a number of hindrances exist in exchanges of knowledge between university and industry. In this context, our attempt to eliminate major obstacles by using

productive knowledge transfer indicators. We aim here to provide an efficient mechanism of knowledge transfer effectiveness and collaborative research is available to transfer and share knowledge and information from university to industry effectively. The supportive mechanism will be a favorable in the development of academic staff. When lecturers can situate themselves in an organization for a period of time, they are able to judge whether what they know theoretically still applies. They therefore enhance both their teaching and research capacity (Saran, 2009, Cilingir, 1984).

The next section briefly reviews the current literature, aim to establish theoretical framework for our examining research. The third section discusses the methodology of this research. Next, the fourth section gives an overview of our empirical findings. Section 5 covers theoretical framework and conclusions.

■2.0 LITERATURE REVIEW

University-Industry collaboration is an essential and dynamic factor in social as well as in technological development in almost all fields of life. Since 1980s, research is considered as a major factor in the development of human societies and era. As far as development of any nation concerns, universities and industries play vital character (Abeda, 2011). The research collaboration with university and industry seems to be almost double within ten years and increasing exponentially (Elmuti, 2005). For the last two years more or less 20,000 corporate collaborations are established globally and number of collaborations in developed nations raised up to twenty percent annually since 1987 (Adnan, 2004). University- Industry research collaboration is producing a very huge impact in national economy. Frederick Winslow Taylor, the father of modern management theory, illustrates that changing in corporate culture and business behavior provokes the enhancement of scholarships that is not due to ownership but partnerships (Abeda, 2011). The education condition is one of the most import affection for the foundation of the collaboration (Normah, 2011). Working with industry can enhance the impact and importance of research conducted at university. In many fields, especially engineering, industrial partners have information about important real world problems that may be quite useful for the research agenda of university researchers (Andrea, 2006).

The academics with a relatively strong reputation may well prefer to use relatively traditional channels of knowledge transfer. These channels are also relatively passive channels (e.g., publishing and going to conferences) that do not require extra efforts on the side of the researchers that we surveyed. This may indeed point out that the highly reputable scientists that would be an interesting match for industry (the star scientists) are relatively hard to motivate for using the 'more involved' channels of knowledge transfer, depending on a strong personal networking effort (Reginald, 2006). Knowledge transfer exchange is a highly valuable activity and an interactive process involving the interchange of knowledge between research users (Industry and Stakeholders) and research producers (University's Researchers). The assertion signal that knowledge transfer is a holistic concept that necessities leveraging and organizations assets or "Social capital in the creation of human capital"(Lorraine, 2010). Developing effective knowledge transfer between university and industry requires collective learning based on close interaction between knowledge generation and knowledge application (Yi Wang, 2007).

Many scholars have confirmed that the staff's learning abilities and the skill of management and structural characteristics positively influence the amount of transferred knowledge. (1) Research has shown that differences in the strategic and goals, lack of understanding of each other's operational requirement, diversity in culture and procedural differences may rise adversity and can affect the quality of partnership interaction; and flow of knowledge transfer.(2) Rigidity and strong protection mechanism reduce the amount of information disclose and information sharing (Patthareeya, 2012). Exactly, the question is how the process of university-industry interaction will be managed at different stages for the success of knowledge transfer and how knowledge gap is reduced through effective interactions (Yi Wang, 2007). The paper aims to improve the strength of both partners through exchanges of knowledge transfer effectiveness and identifying available opportunities. Strategies of more joint and integrated working environment not only will reduce the weaknesses of industry but also it will be more beneficial to improve applied knowledge, skill and practices of lecturers, researchers and post-doctoral.

■3.0 FINDING AND DISCUSSION

Reviews of literatures specify that problem arise from differences in organizational culture, operation practice, inflexible policies and manner in which knowledge and resource cannot be combined. To build strong relationship between university and industry we have generate two mechanisms. i. KTIs (Knowledge Transfer indicators) ii. Shared practice in collaborative research (CR). Framework of the study clarifies that how KTIs will increase effectiveness of knowledge transfer and how shared practice create reliability between university and industry partners in sharing explicit and tacit knowledge and exchange essential information.

The study attempt to improve flow of knowledge and effectiveness of knowledge transfer between partners, the strategy will be the cause of eliminating the knowledge gap between university's research and industry partner. Flexible and smooth flow of knowledge and information could be helpful in the development of academic staff.

■4.0 THEORETICAL FRAMEWORK

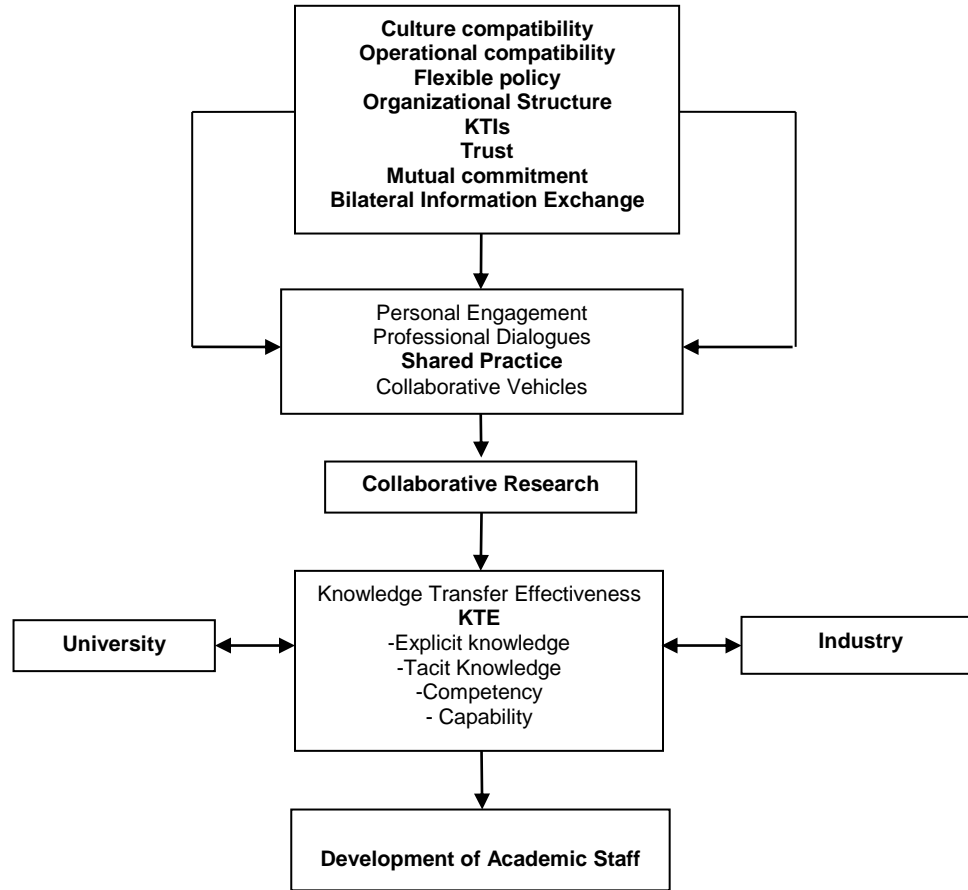


Figure 1 Framework for the development of academic staff

■5.0 CONCLUSION

Our strategies of more joint and integrated working environment; and strengthening cooperation between university and industry for knowledge exchanges effectiveness and collaboration in research and innovation. Framework of this study enlighten that culture compatibility, operational compatibility, flexible policy, strategic organizational structure of university and industry, highly affect on the effectiveness of knowledge transfer. Influence of trust, mutual commitment and bilateral information exchange are the powerful utensil of creating and sharing explicit and tacit knowledge between partners and improve their competences and capabilities in innovative works. Relevance of underlying pattern of shared practices (personal engagement, professional dialogues and collaborative vehicles) in both understanding and developing capacity for collaborative working. With the help of these mechanisms academic staff will learn to develop application oriented research as well. Academic researchers are interested in the design, development and use of technological architectures. Working with industry will be more valuable to develop highly knowledgeable, skilled and experienced academic staff in higher education institution.

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