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# Analysis of knowledge transfer practices: Insights from a medical device manufacturing organization

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#### Abstract

This paper reports on an empirical analysis of knowledge transfer practices in a large multinational organization operating in the medical technology sector in Ireland. The goal of the research is to ascertain the extent and nature of knowledge sharing that takes place within this organization. To do this, the relevant literature was synthesized and affinitized and a conceptual model was developed relevant to the study was developed. Key factors related to effective knowledge transfer in practice were then isolated. A survey was then created which contained 25 items and a 5 point Likert scale to measure the level of agreement with each of the items. Data was then collected from 111 operators in a production unit. The findings presented herewith expand the discussion on knowledge sharing and discusses knowledge transfer practices in a real world context specific setting. The analysis reveals that respondents believe that effective communication has the strongest influence on the organization's overall performance, followed by trust, then motivation, then leadership. Rewards were found to be least important factor but still important in the overall context of knowledge sharing. A greater understanding of knowledge sharing practices provides the critical information needed to guide the development of tailored support structures in order to equip employees with the skills and competences needed to become more effective in practice.

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#### 1. Introduction

The strategic importance of knowledge transfer is well documented in the literature <sup>1,2,3</sup>. It can be defined as the process by which an organization leverages knowledge and information among members, thereby promoting learning and producing new knowledge or understanding. It is a transformation process where information is gathered, processed, transferred and absorbed in a creative way. A synthesis of the literature reveals that individuals share knowledge in organizations for either personal or egotistical reasons or for altruistic or social reasons. For example, some individuals may share knowledge to gain personal advantage or reward<sup>4</sup>. They may expect that their efforts will help them to develop a good reputation and improve their status within the organization<sup>5</sup>. Others may choose to share knowledge in order to do the right thing or to help develop relationships with others<sup>4,6</sup>. For example, such individuals may be committed to the organization and they may want to see the organization benefit from their knowledge.

Knowledge transfer is a complex and difficult activity<sup>2</sup> and in practice, "knowledge sharing proves to be a significant barrier for effective knowledge management". Bock et al. found that an individual's knowledge does not transform easily into project or organizational knowledge. In other words, it is hard to take an individual's personal tacit knowledge and transform it into an asset that can be absorbed and used by an organization. Moreover, an organization's knowledge is distinctive and unique<sup>5</sup>. It is also hard to appropriate. This is because knowledge is socially constructed and developed in a context specific environment. Furthermore, each organization's learning experience is distinctive and so organizational knowledge is difficult to take from one project or organization and use in another<sup>5</sup>. Also, organizational knowledge is often tacit in nature and embedded in a unique and often unspoken culture or system of norms and beliefs<sup>9</sup>. Tacit knowledge is understood or implied without being explicitly stated. It is s the kind of knowledge that is difficult to transfer to another person. Therefore it is difficult to copy or reproduce in another setting.

Hansen<sup>9</sup> found that the key problems with transferring knowledge in projects or organizations center around two key factors. These are (a) people are not willing to share and (b) people are not able to share. People are not willing to share knowledge because they may operate in an environment of secrecy and competition and do not trust their colleagues with their knowledge. Cabrera and Cabrera<sup>5</sup> found that many people did not did not have sufficient time to participate in knowledge sharing activities. They also found that many people did not understand the value in sharing their knowledge with others and so were not motivated to share their knowledge with others. People are not able to share knowledge with others because of organizational barriers or impediments. Various factors have been identified as impediments for knowledge sharing, including inadequate organizational structures, unfriendly organizational cultures, and lack of cross functional integration<sup>10</sup>. Effective knowledge sharing cannot be forced or mandated<sup>1.</sup> Firms desiring to promote knowledge sharing must develop and foster appropriate work environments<sup>10</sup>. Structures and work systems must be flexible enough to allow continuous improvement and support structures to facilitate the generation and transfer of new ideas must be developed.

Over the last two decades researchers and practitioners have developed a plethora of tools, methods and solutions in an attempt to address tacit knowledge transfer problems. Despite this, research indicates that organizations are struggling to convert tacit individual skills and competencies into explicit tangible project deliverables. It seems that the concept of knowledge sharing is still not very well understood or managed in practice and organizations are failing to implement the potential benefits. Furthermore, insufficient research has been conducted in this area and there are few comprehensive or practical guides available to managers in this domain. The research conducted for this paper is an attempt to address this deficit. The goal of this paper is to develop a better understanding of the actual dynamics of knowledge sharing within a large multinational manufacturing organization based in Ireland. A conceptual framework was developed comprising 5 key elements namely (i) trust, (ii) communication, (iii) leadership (iv) motivation and (v) rewards. From this, a 25 items survey was developed. Data was captured from 111 operators in a production unit of a large medical device manufacturing organization in Ireland. Findings from this analysis are presented herewith. Our work attempts to expand the discussion on knowledge sharing in a real world context specific setting. As the conceptual framework and survey are based on best practice literature the discussion adds to academic debate by validating and contradicting previous studies. Finally, a greater understanding of knowledge sharing practices can help practitioners to focus their efforts and avoid potential pitfalls. They are also in a better position to design and develop specific structures and systems to overcome challenges and problems.

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