TRANSFERABILITY OF THE SYNOPTICAL AND INCREMENTAL PLANNING APPROACH TO TECHNOLOGY PLANNING: A LITERATURE REVIEW

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ABSTRACT

Planning is regarded as a common and standard practice both in the industry and science. There is a wide range of different planning areas in companies, such as sales planning, personnel planning, procurement planning, marketing planning, technology planning etc. The significance of each area varies depending for instance on the industry sector, organizational structure, economic situation. For technology-oriented companies technology planning is of essential importance, as it defines which technologies need to be provided for which period in order to produce certain products. In an increasingly complex environment technology planning supports companies to master the overall complexity as it creates transparency over technological strategies and objectives. Further, technology planning gives an overview of company-relevant technologies and the corresponding activities such as research and development activities, e.g. via technology-roadmaps. Often the question arises how companies can conduct their technology planning more effectively and efficiently as well as in accordance to their contextual framework. Technology managers demand for more guidance respective how to set up their technology planning especially in terms of changed markets and technological environments, e.g. in times of leaps in technology. Examples for disruptive technologies are analog cameras relative to digital cameras, cellular phones to wired phones, MP3-Player to Portable CD-Player. Against the background of growing competitive pressure, more complex technology chains, increasing derivatization, reduced product and technology life cycles, technology planning in contrast to general planning strongly focuses on factors influencing its technological competitiveness, such as technology development of e.g. competitors. A lot of work has been accomplished in the field of planning and planning approaches in general. But only very few of these works have included technological aspects in terms of context and design possibilities. This aspect, i.e. different objects of observation depicts the major difference between the disciplines of general planning and the more specific technology planning. Based on the fact, that little systematic knowledge is available respective a technology planning approach, its design dimensions and contextual factors, a well-established and often applied approach of general planning will be investigated. The aim of this paper is to give a judgment whether the approach, the synoptical and incremental approach suit for being transferred to the discipline of technology planning. A literature review gives a better understanding of the approach´s characteristics. Further research paths for technology planning will be recommended in order to fill the gap both in science and practice.

Keywords: synoptical and incremental planning approaches, technology planning approach, transferability, literature review.