A DISCOURSE ON TECHNOLOGY PATRONS:

INSIGHTS FROM CROWDFUNDING

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Thesis Abstract

Patrons are widely recognized to be instrumental in the nourishment of creative endeavors like art, music, etc. But the role of a patron and the phenomenon of patronage have never been explored in the context of technology. Many individuals enthusiastic about technology demonstrate interest in non-profit supporting technology research and development through donations, crowdfunding, etc., and thus significantly impact the emergent technologies ecosystem. For instance, individuals have donated approximately 0.8 billion USD as funding for 40 thousand technology projects on just a single reward-based crowdfunding platform Kickstarter. Even with such a large scale of growing technology patronage activities in the world, there is hardly any research on them. To study these behaviors should, therefore, be a significant contribution to the research on human-technology interactions, and to technology entrepreneurs, especially by using the well-known concept of patrons. Hence, the primary aim of the thesis is to initiate a general discourse on technology patrons and patronage, and derive relevant empirical insights specifically in the crowdfunding context.

The thesis begins with a brief background on some of the topics relevant to understanding the context (Ch.1). The introduction narrows down from general crowdfunding to reward-

based crowdfunding of technologies. We describe four key research motivations for exploring this new field of non-profit supporting of technology – a) economic and innovation impact, b) opportunity to shift academic discourse (from consumer to non-consumer roles, technophobia to technophilia, profit to non-profit), c) practical implications for start-ups, developers and platforms, and d) an uncharted territory, in terms of roles, concepts, theories, etc. Based on an extensive analysis of past literature (Ch.2) we present several fundamental gaps, using which we identify four key research objectives – 1) define the role of a technology patron, 2) build a theoretical foundation for the patronage domain, 3) highlight the importance of technology in patronage, and 4) investigate creation of patrons from consumers. We further develop precise research questions to address these objectives, which are each tackled separately in the four different chapters (Ch.3 to Ch.6).

In the first of the core chapters (Ch.3), we introduce the role of '*Technology Patron*'. We begin with a review and classification of all existing techno-centric roles studied in recent Information Systems literature (limited to MISQ and ISR journals) to understand the landscape of technology roles. We define technology patron as '*a technophile who provides financial or other support to the research and development of technology without any financial incentive*'. We also create a more parameterized definition in terms of member, support, and return (intrinsic and extrinsic) to fit it within the landscape and clearly differentiate with other similar roles like technology investor. In the next chapter (Ch.4), we attempt modelling the phenomenon of technology patronage using the key human and non-human actors and their inter-relationships. We use the research methodology of Actor-Network Theory to this end. We first identify all the key actors

(patron, beneficiary, technology, platform, community, portfolio, and environment), then propose elementary actor-networks at the micro and macro levels of the phenomenon, and finally combine them into an integrated descriptive model named as the *Technology Patronage Model (TMP)*. In Ch.5 we apply the TPM to the real world. Using TPM, we empirically investigate how certain broad technology characteristics can not only influence patron contribution behavior directly, but also indirectly through various aspects of beneficiary behavior and peer group behavior. We apply Seemingly Unrelated Regression for analysis on real crowdfunding data from Kickstarter.com.

Our narrative shifts to the pre-patronage phase in Ch.6, more specifically to how patrons can be created from ordinary consumers. We use the Elaboration Likelihood Model to investigate the role of reward, risk, and affective cues (invoking altruism, technophilia, and recognition) in enticing potential consumers to donate and provide referrals. We conduct a 2 x (2x2) mixed-factorial experiment using the three factors and several control variables, and analyze the data using a general linear mixed-effects model. Our findings show that donation and referral likelihood of potential consumers were positively impacted by reward value and negatively by perceived risk. Interestingly, affective cues only helped in raising the likelihood of referral, and not donation.

We conclude with a discussion on academic and practical implications of this study, along with some limitations, and an agenda for future research in this domain. We hope this thesis would serve as a solid foundation for many more studies on technology patrons and patronage.