

The Star Citizen Phenomenon & the “Ultimate Dream Management” Technique in Crowdfunding

Short Paper

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Abstract

Developing and keeping a community motivated is critical for success, particularly in self-hosted crowdfunding. Existing research has identified social capital as an important driver of such endeavors. However, the process of how social capital can be developed, managed, and targeted towards a common goal in digital settings is mostly unknown. Applying social exchange theory and a mixed-methods approach, we leverage a large dataset of one of the world’s most-funded crowdfunding projects – Star Citizen – to zoom in on the process of social capital development as a success factor. We depict how repeated social exchange and reciprocity norms foster the emergence of a cohesive and supportive community from a crowd of strangers. Moreover, we explain how this is used by Start Citizen within five themes of a novel and IS-enabled managerial technique focusing on dreams. Our insights generalize to contexts beyond crowdfunding that require the engagement of crowds for joint value creation.

Keywords: Crowdfunding, management technique, dreams, social exchange, social capital

Introduction

*“Your customers don’t care about you. They don’t care about your product or service. They care about themselves, their **dreams**, their goals. Now, they will care much more if you help them reach their goals, and to do that, you must understand their goals, as well as their needs and deepest desires.”* (Steve Jobs)

Reward-based crowdfunding can be described as an “open call, mostly through the Internet, for providing financial resources [...] in exchange for the future product or some form of reward” (Belleflamme et al. 2014). From a phenomenological perspective, the largest reward-based crowdfunding project to date – Star Citizen – an online space opera simulation currently under development by the start-up Cloud Imperium Games (CIG) represents an extreme case that has received almost no scholarly attention. Although this digital consumer product’s release is yet to come, enthusiastic backers have donated more than 230 million

US dollars so far – a record sum –, to become one of the more than two million virtual inhabitants and pilots in the game. The product’s development is almost completely community funded. Contemporary crowdfunding research struggles to explain how CIG and its CEO Chris Roberts (CR) managed to spark and sustain a worldwide euphoria for a vision of a digital product, a dream that has yet to fully materialize. Deeper understanding of how in this outstanding case dreams were turned into an enduring multimillion-dollar financing offers the promise of valuable insights for crowdfunding research.

Research in IS has only begun to brush the surface of the positive role of social capital (i.e., “features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (Putnam 1995, p. 67)) in crowdfunding (e.g., Hoegen et al. 2018), revealing for instance the helpful roles of reciprocity (Beaulieu and Sarker 2013) and meaning development (Greenberg et al. 2013) in evoking the crowd. We deepen this debate and offer a theoretical foundation that carries an ontological order explaining the formation of vital social capital through continuous human interaction and reciprocity (a social norm to respond to positive actions also with positive actions (Fehr and Gächter 2000)). We elaborate on this by researching: Can repeated social exchanges that largely operate under norms observable in coherent groups (indirect reciprocity) explain the crowdfunding success of Star Citizen?

For this research project we rely on social exchange theory (SET) (Blau 1964; Thibaut and Kelley 1959) and a sequential mixed-methods approach (Venkatesh et al. 2013) that fuses qualitative evidence from CIG’s management, backers, and experts with quantitative evidence from time series regressions. In particular, we posit and show that a novel and innovative management technique that relentlessly and fundamentally centers on the five themes of igniting, nurturing, (re-)understanding, sustaining and building on customer dreams through social exchange that we coin “Ultimate Dream Management” (UDM) was fundamental to Star Citizen’s success. This management technique seems especially suited for developing, leading, and engaging crowds in digital settings for joint value creation. Following Kramer (1975), we define a management technique as a set of activities, principles and rules “developed to guide managers in [...] managing scarce resources more effectively and efficiently toward the attainment of group goals and ultimately of society’s goals” (p. 47).

We provide empirical evidence that CIG successfully relies on frequent, value adding, and meaningful human interactions with its community in the *campaign* and *post-campaign* phase. These – predominantly digital – interactions are governed by exchanges of social and material resources that are instrumental to nurturing, (re-)understanding, and sustaining the customer dream that was ignited in the campaign phase. Over time, these repeated social exchanges foster the emergence of social structure and norms, which in turn lead to the formation of shared schemata, such as a shared vision, shared knowledge and cohesion (Coleman 1986; Emerson 1976). What results is a fragile fabric of social capital wrought by collective respect, loyalty, trust, support, information flow, and even identity and culture among the exchange participants: elements that drive crowdfunding success (Hoegen et al. 2018). Finally, this setting and a resulting deep understanding of its backers’ dreams allow the venture to build on these dreams in a superior way. The venture thereby raises significant amounts of funding in mutual interest, in exchange for equivalent and (specifically tailored) amounts of future utility when the dream becomes reality.

Our research contributes to the ongoing theoretical debates in crowdfunding research by linking social exchange theory with extant research on social capital and crowdfunding. Thereby it provides a dynamic model and ontological order that facilitates understanding and explaining the emergence (and active digitally mediated generation) of social resources vital to successful crowdfunding. Moreover, we contribute to the recent debate on the pivotal role of dreams in crowdfunding by shifting the emphasis away from the dream of the founder towards the dreams of the backers (Allison et al. 2017) and the central role of exchange on this dream between venture and community (Wang et al. 2018). From a practitioner’s perspective, we describe a novel and IS-enabled managerial technique focusing on customer dreams which is portable and transferable to projects beyond crowdfunding that require the development and engagement of crowds for general joint value creation (e.g., open source communities).

Theory

We invoke social exchange theory (SET) as a theoretical umbrella concept. SET facilitates a coherent theorizing about the relationships and structures that encompass and shape a crowdfunding process and has mainly been used in IS research to understand information sharing online (e.g., Choi et al. 2015). For

our endeavours, SET's theoretical breadth allows the simultaneous inclusion of relationship and resource-oriented contemporary debates in crowdfunding research, for instance on social capital and communication, benefits and gifts (Hoegen et al. 2018). SET views human interaction as being fundamentally affected by the exchange of social and material resources, such as information. Moreover, SET posits that repeated exchange leads to the formation of social norms and structures, which in turn generate systemic resources, inter alia social capital. Indeed, social capital is found to mobilize human resources (e.g., effort, capabilities) for reaching joint value creation and funding goals via crowd interaction (Gleasure and Morgan 2018). Fundamental for this manuscript is that, at bottom, according to SET, social capital emerges at the level of individual inter-human relationships due to repeated exchanges. SET centers around the primacy of exchanges in the emergence of obligations, expectations, trust and identity, each of them factors that antecede a shared vision and knowledge, cohesion and social capital among exchange participants (Coleman 1986; Emerson 1976). Along this underlying ontological order of emergence, the latter constructs are – on the relationship-level between venture and backer community – of pivotal importance for successful crowdfunding. Moreover, SET postulates that exchange necessarily occurs within a relationship which in turn is decisive for the nature of reciprocity (the complimentary return) of an exchange (Gouldner 1960). SET distinguishes between *restricted exchange* governed by norms of direct reciprocity (e.g., quid-pro-quo or give and get), which is observable in professional, instrumental, or market-oriented relationships, and *generalized exchange* that follows norms of indirect reciprocity, meaning that no prompt or equal return is expected (Ekeh 1974). Generalized exchange is observable for instance in partnerships, where the value of the relation is higher than that of the exchange. Generalized exchange, due to the norm of reciprocity fosters trust, supportive attitudes, and cohesiveness, because “generosity [generalized exchange] is of two kinds: doing a kindness and requiting one” since “all men detest ingratitude” (Cicero 44 BC, I, XV, p. 51, II, XVIII, p. 235). In the following, we show how repeated (and intensive) social exchange and reciprocity norms foster understanding of the emergence of a cohesive and supportive community of backers from a crowd of unrelated strangers and, moreover, how these concepts can be understood as cornerstones of the UDM technique that enabled Star Citizen's record funding success.

Methods and Data

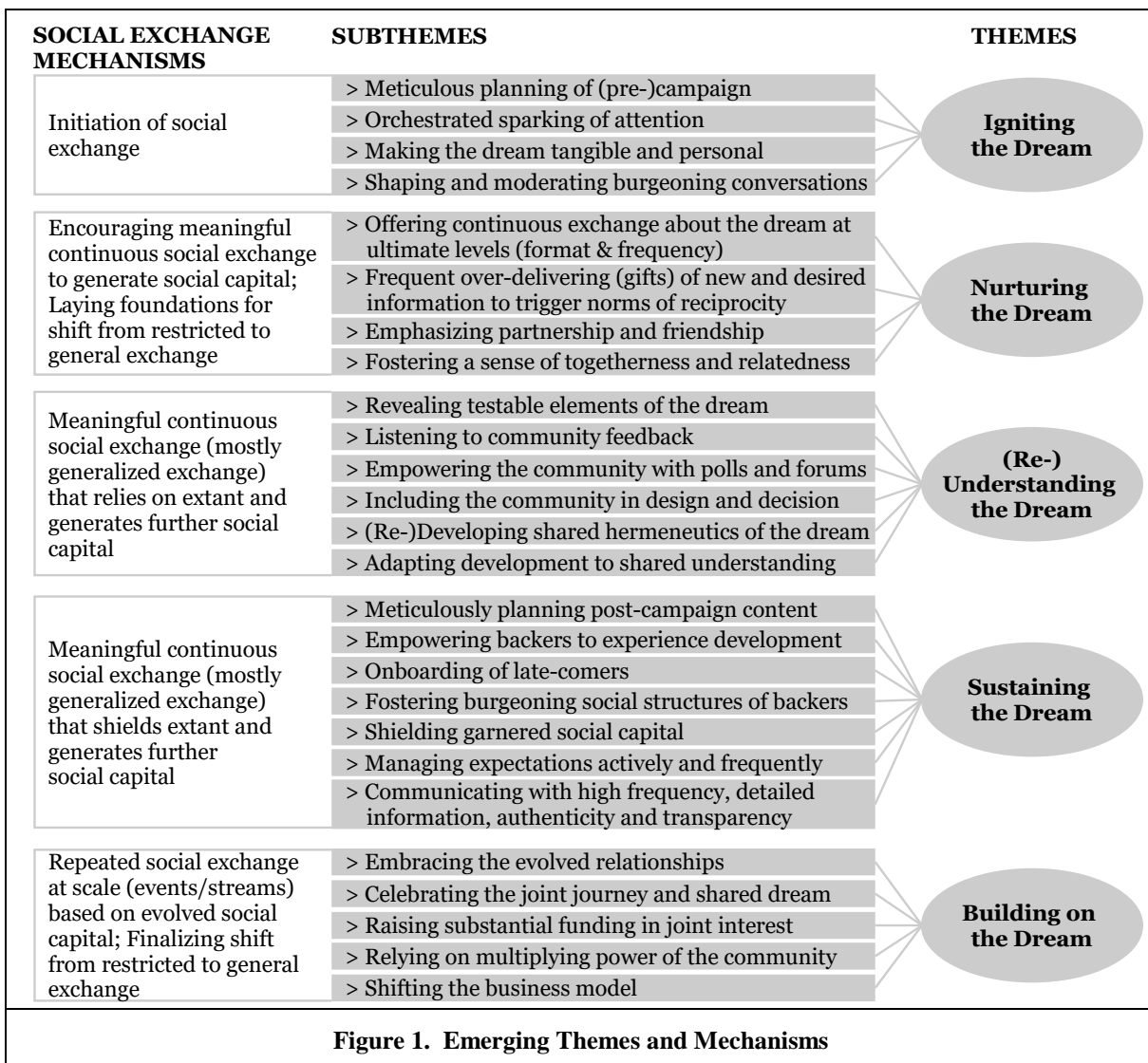
To capture the details of social interaction as well as their large-scale impacts throughout the Star Citizen project, we rely on a sequential mixed-methods approach that fuses the advantages of quantitative and qualitative research to explore the phenomenon holistically and to draw meta-inferences. For the entire project we thereby follow the suggestions of Venkatesh et al. (2013). From our research question we began with the qualitative part of our project – which will be the focus of this short paper. Drawing on a single case study to explore the context and interactions of the Star Citizen project, we collected primary qualitative data via semi-structured interviews (17 with backers, 2 with industry experts, and 3 with the top management team (TMT) of CIG). Moreover, we broadened evidence with secondary qualitative data (mainly videos, 5 talks with backers and 5 videos from the TMT of CIG). All data was analyzed inductively first via open coding. We then went on iteratively relating and abstracting the initial codes via axial and selective coding which finally resulted in the five managerial themes of UDM we present in this short paper (Strauss and Corbin 1998). In doing so, social exchange theory was used for theoretical scaffolding to focus our results (Walsham 1995).

We then sequentially started our second (i.e., quantitative) step, as the qualitative part provided us with the necessary case expertise and in-depth understanding of social interactions. We use these results for time series regressions to analyze the relationship of social exchanges reflecting the five themes of UDM and funding success. We harness daily data – encompassing over five years on UDM-related social exchange and performance from campaign day one – collected from the Star Citizen website, Factiva, Facebook and Twitter, and accordant computerized text analysis (LIWC), supplemented with internal data. This second step is research in progress and not the focus of this paper, but we provide first analyses in the appendix.

Going Beyond Crowdfunding: Ultimate Dream Management

“*Star Citizen matters [...] because it is a bold dream*” (CR_2). We posit that the crowdfunding success of Star Citizen was not a result of entropy or tail risk. It rather is the result of a meticulously planned and authentically executed management technique, which is particularly suited for digitally developing large

crowds for joint value creation such as in crowdfunding. At its center lies repeated social exchange about a “dream” that is the strongly desired (future) product or wish-fulfilling ideal state. Social exchange between the venture and the community of backers is managed to be of an enduring, continuous, authentic, informative and utility-generating, but also an empowering and inclusive nature. Moreover, this orchestrated interaction includes daily information, regular video shows and formats that center on the dream and the conversations with the community, live streams, behind-the-scenes coverage, real world events such as conventions or project anniversary celebrations. In short, social exchange on the dream is maximized to ultimate levels, lending the technique its name: Ultimate Dream Management. “He [CR] is successful at selling a dream” (Backer_1), “For a lot of people it is just a game that they have been dreaming about” (Backer_2). UDM encompasses five interrelated themes that describe managerial aspects centering on the dream: igniting, nurturing, (re-)understanding, sustaining, and building (overview see Figure 1).



Theme 1: Igniting the Dream

The initial social exchanges with prospective backers need to “grab their attention” (CR_1). Hence, they are meticulously planned: “I spent a year building a prototype and a very sophisticated trailer” (CR_1). Situations where there is large underserved demand facilitate this and “Star Citizen qualified for that”

(CR_1) as *“It’s a game that has not been available for a long time”* (Backer_3). In fact, recent research shows that even portraying a product as a personal dream, as done by CR from very early on, is already conducive to funding success (Allison et al. 2017). Moreover, successful projects typically have a high amount of early contributions signaling overall success probability (Colombo et al. 2015). To aggregate interest, CIG started to interact with prospective backers even *before* the actual crowdfunding campaign by launching a teaser site one month *before the campaign* and starting a conversation about the dream in Reddit, particularly in the community of a game (called *Freelancer*) produced by CR ten years before. CIG flanked this with high quality visual material outlining the dream to spark interest and bolster the dream’s tangibility (Xiao et al. 2014). This orchestration resulted in 10,000 people signing up solely through viral promotion within the first 24 hours of the campaign launch, and later on the same day the number reached 30,000 when Star Citizen was actually announced by CIG. At this stage, Star Citizen benefited from the high profile, network of relationships, and track record of past successes of its CEO, factors that drive crowdfunding success (Davies and Giovannetti 2018; Beier and Wagner 2015).

To connect with prospective backers, Star Citizen relied on a dual approach that embraced both an established crowdfunding platform, as well its own self-hosted website. Established platforms like Kickstarter and Indiegogo have dedicated audiences and supportive networks that facilitate initially finding a community and foster the project awareness during the campaign phase: *“They help to get the message out to other people who are generally interested in crowdfunding”* (CR_1). To individualize and customize the social exchange with prospective backers, CIG combined this approach with their website as a pledging platform. Moreover, this allowed CIG to interact directly with the community, to actively moderate the conversation about the dream and to dynamically adapt the format of social exchanges as well as the content of rewards accordingly. Simultaneously, the switch-over to self-hosting avoids the margins charged by established platforms so that *“more dollars go straight to development”* (CR_1) which increases the effect of a pledge and the authenticity of the project – thereby making investment decisions more likely (Hoegen et al. 2018).

Theme 2: Nurturing the Dream

In UDM the focus and wording of the social exchanges are *“not just about raising money”* (i.e., restricted exchange) which CR coined *“the biggest mistake I see other crowdfunding campaigns make”* (CR_1). Instead, the exchange of CIG emphasized partnership and friendship (i.e., the norms governing relationships of generalized exchange), e.g. *“I would like to build a universe with you”* (CR_3). CR notes *“It [crowdfunding] is more than just a pre-purchase device [restricted exchange], [...] it is allowing the community itself to experience the journey of making the game alongside you”* (CR_1). Indeed, this emphasis on generalized exchange is rooted in a view that sees the community itself as a key resource: *“Probably the greatest power of crowdfunding is the fact that you get to build your community very early in the process. You got a whole bunch of very invested people that actually fight alongside you and campaign alongside you to have other people join and hopefully make the game you are making as good as possible”* (CR_1). Indeed, the aspects of togetherness and relatedness are enforced by several exchanges in which CR describes his own social identity as that of a Star Wars and space fan and PC gamer *“I never stopped playing games nor loving them”* and *“I want to build a game [...] where you can find your own fortune in the stars wherever your spaceship takes you. I want to be able to share this experience with my friends”* (CR_3). In essence, the CEO himself actively identifies himself as a member of the targeted social group. Potential backers thereby know that they share the same social identity and social norms, allowing potential backers to identify directly with the CEO and, by extension, the project, thereby generating understanding, trust and coherence, elements that nurture relationships characterized by generalized exchange (Gleasure and Morgan 2018). A backer noted: *“He [CR] really loves space, so it is a dream come true”* (Backer_4) and *“CR got me when he said that he was a Star Wars fan”* (Backer_5).

Moreover, after igniting the dream, CIG avoided an impression of a one-time and market-based restricted exchange (backing and going away). Instead, a meaningful conversation about the dream was started that offered additional content and facets of the dream, essentially keeping backers immersed and involved, which generates social capital as artefacts. CR notes: *“It is this interacting with the community that gets them excited and more and more engaged”* and further: *“Two days after launch, everybody was like: ‘Okay. What else am I going to see?’”* (CR_1). Consequentially, UDM puts an emphasis on continuous exchange about the dream in various formats. This includes daily content releases through its primary communication channel, the “Comm-Link” at the Star Citizen website, containing text, concept art, in-game

footage, various video shows, live-streams from the development studio, but also non-digital events such as conventions with (potential) backers. Moreover, the information provided was often of ultimate detail, such that continuously re-visiting the website was not only utility-generating for backers, but a constant over-delivery of meaningful content (a form of generalized exchange) triggered norms of indirect reciprocity as no equal return was expected from backers. Following SET, this nurtures the development of a cohesive, enthusiastic, and supportive community, and in particular, it facilitates the emergence of social capital and shared schemata, including a shared vision of the dream among exchange participants (Coleman 1986; Emerson 1976). *“They completely changed that [the way backers receive continuous information]. That’s why there is also this constant hype”* (Backer_6). We posit that the resulting positive atmosphere augments crowdfunding performance as it makes backers not only consider re-backing more, but also to act as multipliers attracting new backers in their local social structures.

Theme 3: (Re-)Understanding the Dream

“Our intention has always been to make Roberts Space Industries YOUR site. It’s not a public advertisement for the game; it’s a private community for those who are making the game happen. We want your input on what we’re doing and we want to share our plans with you” (Star Citizen Website). A central pillar of UDM is that the interpretative monopoly of what the dream exactly is, will be lost once the dream is successfully ignited in the community of backers. Then, the dream becomes socially constructed, such that the venture is in constant need of re-understanding the dream and the wishes of the backers to make sure it meets the demand. Enhanced information flow enabled through relationships characterized by generalized exchange facilitates this, but in particular, a continuous conversation about the dream is conducive: *“Interacting with and getting feedback from your community is invaluable to making sure you meet the demand”* and *“We were constantly engaging and asking what they wanted”* (CR_1). A CIG TMT member described this as: *“being able to pivot, listening to the community, providing feedback and answering in a timely manner”* (TMT_1). Understanding those wishes is augmented through community empowering interactions that include polls and feedback exchanges in forums facilitated by a company’s own online platform. UDM also embraces continuous social exchange on alpha versions of the dreamed of product made available to customers willing to test and improve it, and moreover, listening closely to the community in the decision and design processes. E.g., CIG launched a modelling competition called *“The next great starship”* as a weekly video show, where a community designed spaceship entered judged rounds to determine one final ship to be included in the game. Most notably, Star Citizen unveiled the fact that *“People love to collect starships”* (CR_1). *“Some people restore cars, some people play with boats. And I can’t think of a bigger money sink than boats. I buy Internet star ships!”* (Backer_7). Initially however, CIG was not aware of this circumstance, but observed that users pledged multiple times at multiple levels. Roberts notes: *“We asked: ‘Why are you guys doing this, you already got the game?’”* and found out that *“Add-on spaceships was the number one request and we would have never discovered that”* (CR_1). In fact, collectible starships emerged to become a pivotal funding source, which underlines the crucial role of re-understanding the dream.

Theme 4: Sustaining the Dream

Star Citizen raised a notable amount of 2.1 million US dollars during its Kickstarter campaign, which however only lasted for a limited time. This raises the question: *“If new people come late to the party, how do you get them to join?”* (CR_1). In fact, 99 percent of Star Citizen’s crowdfunding occurred in the *post-campaign phase (i.e., beyond Kickstarter)*, which underlines the crucial role of the venture’s capability to sustain a dream for Ultimate Dream Management. Clearly, to allow for continuous, extended and individualized interactions *beyond the campaign phase*, having a self-hosted crowdfunding platform (in addition to an established platform) is beneficial. Moreover, an active management of content, including a content plan and road map is essential to constantly delivering meaningful exchange, further new bits and pieces, sneak previews, or new developments of the now shared dream. *“Every day, there was something written down or some updates. I looked at it twice a day to see if there was any new information”* (Backer_8). Essentially, this empowers backers to experience the company’s product creation journey.

Sustaining the dream implies active expectation management. This avoids damage to the emerged fragile fabric of social capital. Open and repeated exchange, especially when there are schedule shifts or difficulties in the realization of the product, is essential to UDM. Repeated exchange of authentic and transparent

nature fosters confidence, but also shared knowledge and understanding of difficulties encountered can even spark cohesive and supportive attitudes to overcome challenges in the realization of the shared dream. *“We know everything that is going on and why the game isn't out yet, what the problems are. And with the clarity of that I was able to put confidence in it because I knew if something was to go wrong, we would know about it”* (Backer_9). Moreover, the social exchange spans interactions with a crowd, which by the law of large numbers (in the case of Star Citizen over 2 million backers) will also include a subpopulation of skeptical backers. This subpopulation will more easily see that their expectations are not being fulfilled, if they are not fully and repeatedly informed about the process in a transparent way. Thus, community management *ahead of product launch* is vital. This includes positively supporting community-to-community events, initiatives and even the formation of social structures (formal, e.g. organizations/clans, and informal, e.g. casual meetings such as “Bar Citizen”). This onboards latecomers and sustains the conversation about and embeddedness in the jointly shared dream. *“People are supporting each other and have become friends in the meantime, waiting for the game”* (Backer_6), *“It's the friends, it's the people. It's the fun. That's what I really enjoy”* (Backer_10), and *“Three years ago, I was at BritzenCon, community-run event, and the guy got up for 45 minutes and gave the lore of their org. It is all written on their own, and I had goosebumps by the end. In a way, I was listening to it like a Dungeons and Dragons campaign”* (CIG employee, TMT_2).

Theme 5: Building on the Dream

Successful UDM allows a company to fundamentally change its business model by building on and empowering the community. This also shifts the business model: *“It is really our fans out there that are beating the drum [...] everyone should be very aware that this is essentially our sales force”* (CR_1). Further, by building on the community, platform, promotion, publisher, and retail margins are diminished which shifts the business model further. When established relations are that of a friendship or partnership *“I think there is just a huge amount of love here, and excitement”* (participant at Citizen Con, CIG's annual community convention), a pledge transcends from restricted exchange to supportive generalized exchange: *“As I understand you don't have to buy anything. You can earn the ship in the game. But by buying it, you are supporting”* (Backer_4). Indeed, when social structures (e.g., backer organizations) have evolved through repeated social exchange, mutually funded larger pledges from the crowd become possible (in Star Citizen the case of limited capital ships tailored exactly to the wishes of the community) and can, despite their virtual and future character, be fostered by classical instruments such as sales or the creation of scarcity (limitation, which may even transform pledges to an investment). As the excited, cohesive and substantial community now jointly shares the dream with the venture, community events or livestreams are able to raise substantial amounts of funding, indeed in a joint interest and supportive effort to make the dream reality.

Discussion and Contributions

To chart the course ahead and following our qualitative inferences, we summarize the essence of the five identified themes in proposition *P1: The five aspects of UDM are positively correlated to crowdfunding success*. In this short paper, we focused on the qualitative part of our mixed-method project to introduce UDM and its five themes. Until ICIS 2019, we advance the quantitative analysis to explore performance impacts of UDM-related social exchange using proxies for the themes. We thereby wish to shed light on the role of continuous interactions and the recurrence of generalized exchange on pledges. Moreover, we will explore the role of social exchange for re-backing as well as for the generation of new backers. Finally, we further develop meta-inferences based on qualitative and quantitative results.

By studying this most extreme case of reward-based crowdfunding through the lens of SET, our inferences directly contribute to the research streams on social capital in crowdfunding (Beaulieu and Sarker 2013; Mollick 2014) and on social exchange in virtual communities (Liang et al. 2008). In particular, we provide a theoretical framework that carries an ontological order explaining the formative process of social capital in a more microscopic and nuanced detail: We qualitatively and quantitatively shed light on the understudied role of repeated inter-individual exchange and reciprocity in the emergence of social capital that fuels crowdfunding (Hoegen et al. 2018). We contribute a theoretical view on crowdfunding that complements the market-related conceptualizations (rewards, marketing, perks, etc. [i.e., restricted exchanges]) highlighted in earlier crowdfunding research, and thereby opens the crowdfunding-success

debate to new realms that emphasize its sociological aspect, in particular the central role of human interactions based on norms observable in friendships (generalized exchange). This facilitates deeper understanding that there is more to crowdfunding than rewards and *funding*, it is also about a *crowd*, building relationships, and the togetherness of experiencing a journey. Arguably, as crowdfunding research slowly matures towards a joint theoretical understanding, we argue that a future crowdfunding theory will have to embrace both – *social* and *economic* – aspects; this is what the Star Citizen Phenomenon uniquely reveals, especially since detailed chronological project data is available online. In fact, to gain clues in this quest, this work suggests that a look beyond campaign data is necessary, as crucial parts of the social and managerial processes occur outside it. Another key contribution is to describe a novel managerial technique – UDM – that is made possible by recent developments in information technology and which is particularly apt for reward-based crowdfunding. This technique embraces the idea that social capital is not simply exogenously “given”, but can, especially in an IS-enabled context, be actively nurtured using the hallmarks of UDM. Thereby, UDM embodies a technique that focusses on previously unexplored success drivers in crowdfunding: the antecedents of social capital formation. However, UDM can be generalized beyond crowdfunding to better understand settings where developing, managing, and keeping a large set of people motivated towards reaching a common goal is important. Examples of such settings are distributed work environments, open source development, or value co-creation with customers, but also IS-enabled social initiatives targeting strongly desired states, e.g. climate change or environment protection movements.

In conclusion, our mixed-methods approach allows us to draw meta-inferences on Star Citizen, revealing both the critical role of human interactions and an underlying new management technique – ultimate dream management (UDM). UDM recognizes the central role of continuous, meaningful, and transparent social exchange about a shared dream of a future product for building relationships and reciprocity-based social capital leading to sustained crowd engagement and subsequent crowdfunding success.

References

- Allison, T. H., Davis, B. C., Webb, J. W., and Short, J. C. 2017. “Persuasion in Crowdfunding: An Elaboration Likelihood Model of Crowdfunding Performance,” *Journal of Business Venturing* (32:6), pp. 707-725.
- Belleflamme, P., Lambert, T., and Schwienbacher, A. 2014. “Crowdfunding: Tapping the Right Crowd,” *Journal of Business Venturing* (29:5), pp. 585-609.
- Beaulieu, T., and Sarker, S. 2013. “Discursive Meaning Creation in Crowdfunding: A Socio-material Perspective,” in *Proceedings of the 34th International Conference on Information Systems*, R. Baskerville and M. Chau (eds.), Milan, pp. 1-10.
- Beier, M., and Wagner, K. 2015. “Crowdfunding Success: A Perspective from Social Media and E-Commerce,” in *Proceedings of the 36th International Conference on Information Systems*, T. Carte, A. Heinzl, and C. Urquhart (eds.), Fort Worth, TX, pp. 1-22.
- Blau, P. 1964. *Exchange and Power in Social Life*, New York, NY: Wiley.
- Choi, B. C. F., Jiang, Z., Xiao, B., and Kim, S. S. 2015. “Embarrassing Exposures in Online Social Networks: An Integrated Perspective of Privacy Invasion and Relationship Bonding,” *Information Systems Research* (26:4), pp. 675-694.
- Cicero, M. T. 44 BC. *De Officiis*. Transl. by Walter Miller (1913), Cambridge, MA: Harvard Univ. Press.
- Coleman, J. S. 1986. “Social Theory, Social Research, and a Theory of Action,” *The American Journal of Sociology* (91:6), pp. 1309-1335.
- Colombo, M. G., Franzoni, C., and Rossi-Lamastra, C. 2015. “Internal Social Capital and the Attraction of Early Contributions in Crowdfunding,” *Entrepreneurship Theory and Practice* (39:1), pp. 75-100.
- Davies, W. E., and Giovannetti, E. 2018. “Signalling Experience & Reciprocity to Temper Asymmetric Information in Crowdfunding Evidence from 10,000 Projects,” *Technological Forecasting and Social Change* (133), pp. 118-131.
- Fehr, E., and Gächter, S. 2000. “Fairness and Retaliation: The Economics of Reciprocity,” *Journal of Economic Perspectives* (14:3), pp. 159-181.
- Gleasure, R., and Morgan, L. 2018. “The Pastoral Crowd: Exploring Self-Hosted Crowdfunding Using Activity Theory and Social Capital,” *Information Systems Journal* (28:3), pp. 489-515.
- Gouldner, A. W. 1960. “The Norm of Reciprocity: A Preliminary Statement,” *American Sociological Review* (25:2), pp. 161-178.
- Greenberg, M. D., Hui, J., and Gerber, E. 2013. “Crowdfunding: A Resource Exchange Perspective,” in *CHI'13 Extended Abstracts on Human Factors in Computing Systems*, Paris, pp. 883-888.

Ekeh, P. P. 1974. *Social Exchange Theory: The Two Traditions*, Cambridge, MA: Harvard Univ. Press.

Emerson, R. M. 1976. "Social Exchange Theory," *Annual Review of Sociology* (2:1), pp. 335-362.

Hoegen, A., Steinger, D. M., and Veit, D. 2018. "How Do Investors Decide? An Interdisciplinary Review of Decision-Making in Crowdfunding," *Electronic Markets* (28:3), pp. 339-365.

Kramer, H. E. 1975. "The Philosophical Foundation of Management Rediscovered," *Management International Review* (15:2/3), pp. 47-54.

Liang, T. P., Liu, C. C., and Wu, C. H. 2008. "Can Social Exchange Theory Explain Individual Knowledge-Sharing Behavior? A Meta-Analysis," in *Proceedings of the 29th International Conference on Information Systems*, R. Boland, M. Limayem, and B. Pentland (eds.), Paris, pp. 1-18.

Mollick, E. 2014. "The Dynamics of Crowdfunding: An Exploratory Study," *Journal of Business Venturing* (29:1), pp. 1-16.

Putnam, R. 1995. "Bowling Alone: America's Declining Social Capital," *Journal of Democracy* (6:1), pp. 65-78.

Strauss, A., and Corbin, J. 1998. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, Thousand Oaks, CA: Sage.

Thibaut, J. W., and Kelley, H. H. 1959. *The Social Psychology of Groups*, New York, NY: Wiley.

Venkatesh, V., Brown, S. A., and Bala, H. 2013. "Bridging the Qualitative-Quantitative Divide: Guidelines for Conducting Mixed Methods Research in Information Systems," *MIS Quarterly* (37:1), pp. 21-54.

Walsham, G. 1995. "Interpretive Case Studies in IS Research: Nature and Method," *European Journal of Information Systems* (4:2), pp. 74-81.

Wang, N., Li, Q., Liang, H., Ye, T., and Ge, S. 2018. "Understanding the Importance of Interaction between Creators and Backers in Crowdfunding Success," *Electronic Commerce Research and Applications* (27:1), pp. 106-117.

Xiao, S., Tan, X., Dong, M., and Qi, J. 2014. "How to Design your Project in the Online Crowdfunding Market? Evidence from Kickstarter," in *Proceedings of the 35th International Conference on Information Systems*, M. D. Myers and D. Straub (eds.), Auckland, pp. 1-8.

Appendix

Table 1. Time Series Regression with OLS Estimates (1,438 observations, daily)			
Theme	Variable	ΔPledge (USD)	Std. Error
<i>Igniting</i>	Attention via Kickstarter campaign ^a	159,875.05 ^{***}	(32,270.42)
<i>Igniting</i>	Attention via stretch goals ^b	48,913.82 ^{***}	(9,307.51)
<i>Nurturing</i>	Direct interactions (event attendance of CR)	86,057.99 ^{**}	(39,163.41)
<i>Nurturing</i>	Fan-oriented Generalized Exchange (Comm-Link)	23,847.32 ^{***}	(9,125.07)
<i>Nurturing</i>	Generalized Exchange: Post netspeak (RSI/CR) ^{d,e}	7,094.68 [*]	(3,772.52)
<i>Re-understanding</i>	Concept ship sale (dream re-understood)	123,744.64 ^{***}	(15,092.30)
<i>Re-understanding</i>	Concept ship Q&A session (understanding) ^c	43,151.25 ^{**}	(20,013.71)
<i>Sustaining</i>	Interactions: Youtube videos uploaded ^d	50,211.45 ^{***}	(17,853.02)
<i>Sustaining</i>	Interactions: Number of media articles ^d	25,790.02 ^{**}	(12,350.20)
<i>Sustaining</i>	Generalized Exchange: Article informal score ^{d,e}	22,678.97 [*]	(13,081.08)
<i>Sustaining</i>	Generalized Exchange: Article friends score ^{d,e}	30,536.90 ^{***}	(6,180.43)
<i>Sustaining</i>	Generalized Exchange: Article emotional tone ^{d,e}	635.57 ^{**}	(256.01)
<i>Sustaining</i>	Social media exchanges (RSI/CR shares) ^d	241.37 ^{***}	(48.94)
<i>Building</i>	Limited capital (multi-person) ship sale	119,744.04 ^{***}	(18,353.08)
<i>Building</i>	Sales announcement ^c	133,870.15 ^{***}	(14,844.80)
<i>Building</i>	CIG exclusive events ^c	239,406.14 ^{***}	(84,406.66)
<i>Building</i>	Live stream sale ^c	123,806.37 [*]	(67,769.05)

Notes: Adjusted R-squared is: 0.314. Significance is: *** p<0.01, ** p<0.05, * p<0.1. Further controls are not presented. a: True for first and last campaign week; b: True for three days after announcement and before achievement; c: 1 day lagged variable; d: Moving average three weeks; e: LIWC scores: Netspeak = Internet slang (Facebook and Twitter); Informal = informal language; Emotional = positive tone; Friends = friendship context is emphasized.

Table 1. Regression Analysis