



國立中山大學資訊管理學系

碩士論文

Department of Information Management

National Sun Yat-sen University

Master Thesis

延伸性目標對群眾募資成效影響之研究：

以kickstarter為例

Effect of stretch goal setting in crowd funding performance:

A case study of Kickstarter

研究生：彭翔駿

Xiang-Jun Peng

指導教授：徐士傑博士

Dr. Jack Shih-Chieh Hsu

鄭光廷 博士

Dr. Kuang-Ting Cheng

109 年 10 月

October 2020

論文審定書

國立中山大學研究生學位論文審定書

本校資訊管理學系碩士班

研究生彭翔駿（學號：M074020042）所提論文

延伸性目標對群眾募資成效影響之研究：以kickstarter為例
Effect of stretch goal setting in crowd funding performance: A case study of
Kickstarter

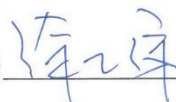
於中華民國 2020 年 7 月 30 日經本委員會審查並舉行口試，符合碩士學位論文標準。

學位考試委員簽章：

召集人 許惠媚



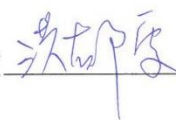
委員 徐士傑



委員 鄭光廷



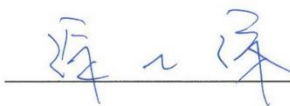
委員 洪郁雯



委員

委員

指導教授(徐士傑)



(簽名)

指導教授(鄭光廷)



(簽名)

中文摘要

近幾年群眾募資成為越來越受矚目的募資方式，有許多的專案透過群眾募資的方式成功募集到所需要的資金。其中，也有許多專案可以提前達到募資目標金額，為了有效運用多餘的資金以及所剩的募資效期，募資平台逐漸衍伸出了一種名叫「延伸目標」的特殊形式。募資方可以在原先的目標之上，再自行設立延伸的新目標，讓專案得以持續獲得投資人的青睞。本研究針對募資平台 Kickstarter 上關鍵字搜「Stretch goal」所得到之 430 筆資料進行延伸後之效率分析，並搭配目標設定理論去做解釋，結果指出延伸目標的次數以及延伸目標的金額設定皆對專案達標之後的募資效率有正向影響，而延伸目標獎勵形式的不同也會影響其募資效率。整體研究指出，延伸目標的設定細節對於延伸的募資效率會有所影響，透過合理的去設定延伸目標，才能達到更佳的募資成效。

關鍵字: 群眾募資、Kickstarter、募資成效、延伸目標、目標設定理論

Abstract

Recently, crowdfunding has become an increasingly popular way of fundraising. Many projects have successfully got the funds they need through crowdfunding. Among them, there are many projects can reach the target amount much earlier than the campaign's ending date. In order to effectively use the excess funds and the remaining fundraising period, the crowdfunding platform has developed a special form called "stretch goal". Project creators can set up new and extended goals on top of the original goal, so that the project can continue to attract investors. This study conducted an analysis based on the 430 data obtained from the keyword search "Stretch goal" on Kickstarter. Results point out that the number of stretch level and the amount of stretch goals have a positive effect on the stretch-period fundraising efficiency, and the different forms of stretch goal rewards will also influence its fundraising efficiency. The overall study pointed out that the setting details of the stretch goal will have an impact on the efficiency of the stretched fundraising. Only by setting stretch goal reasonably can we achieved a better fundraising effect.

Keywords: *Crowdfunding, Kickstarter, Funding Performance, Stretch goal,*

Goal-setting theory

Table of Contents

論文審定書...	i
中文摘要.....	ii
Abstract.....	iii
Chapter 1 Introduction.....	1
1.1 Background	1
1.2 Motivation.....	4
1.3 Research Purpose.....	7
Chapter 2 Literature Review	9
2.1 Crowdfunding	9
2.2 Goal Setting Theory	22
Definition	22
Goal Setting in Crowdfunding.....	28
Chapter 3 Research Method	30
3.1 Research Model and Hypothesis	30
3.1.1 Model description.....	30
3.1.2 Research Question 1	33
3.1.3 Research question 2	36
Chapter 4 Data Analysis and Results	39
4.1 Data Collection	39
4.2 Data Process	41
4.3 Measurement of Variables	48
4.4 Descriptive statistics.....	49
4.5 Empirical Result.....	54
4.6 Discussion.....	59
Chapter 5 Conclusions.....	64
5.1 Implications for research	64
5.2 Implications for practice	65

5.3	Limitation and future research.....	67
Reference....	69



List of Figures

Figure 1. 1 Stretch goal present on project's home page	2
Figure 1. 2 Kickstarter's home page at 2020/9/30	4
Figure 2. 1 Histograms of funding levels (E. Mollick, 2014)	12
Figure 2. 2 General model of goal-setting theory(Lunenburg, 2011)	23
Figure 2. 3 Essential Elements of Goal-Setting Theory and the High-performance Cycle (Locke & Latham, 2002)	26
Figure 3. 1 Propose research model	31
Figure 4. 1 Keywords searching for stretched project on Kickstarter	40
Figure 4. 2 Page of project creator	40
Figure 4. 3 Information of a project	41
Figure 4. 4 Result of model hypothesis.....	63

List of Tables

Table1. 1 Stretch goal detail for " Ink the State " Project.....	20
Table 2. 1 Influencing factor of funding performance	14
Table 2. 2 Research of HPC model	27
Table 4. 1 Data Description and Data Process	43
Table 4. 2 Detailed processing and classify example	44
Table 4. 3 Sample Demographics of Stretch Target & Stretch Option.....	48
Table 4. 4 Descriptive Statistics for RQ1	51
Table 4. 5 Descriptive Statistics for RQ2	52
Table 4. 6 Correlation Matrix for Variables in stretched projects	53
Table 4. 7 Result summary	56
Table 4. 8 Hypothesis testing result for RQ1	57
Table 4. 9 Hypothesis testing result for RQ2 (β /T value/P value).....	57
Table 4. 10 All significant relation for RQ2.....	58

Chapter 1 Introduction

1.1 Background

Online crowdfunding has become more popular in recent years. The transaction value in the crowdfunding market amounts to US\$6923.6million in 2019, which has grown 30.2% in comparison to 2018, and is expected to exceed US\$10000 million in 2023(Statista, 2019). In Taiwan, the growth trend is also quite rapid. Number of created projects in Taiwan crowdfunding platform has grown significantly since 2018(FINDIT, 2020), over 900 crowdfunding projects succeed in 2019, the total amount had exceeded NT\$1.67billion, and nearly 660,000 people had been funders(CrowdWatch, 2020). By collecting money on the online funding platform, entrepreneur and individual creators can raise funds from hundreds or thousands of investors. Efficiently find who that willing to support their projects and get their needed funds more easily. Besides, the costs of facilitating campaigns could also be lower with the reduced price of publicity(Fleming & Sorenson, 2016). Such factors contribute to the success of crowdfunding. In general, the project's creator also called fundraiser, the project's investor can be called backer or funder.

In reward-based crowdfunding, there is a special phenomenon named "stretch goal". The project that is about to or has reached the goal can consider announce a new higher funding goal, a corresponding reward would be given if the new goal is achieved. Such an extend of initial goal has changed the fundraising ecology, got

more and more attention with the growth of crowdfunding. However, being a newborn, stretch goal has a lot of room for development and many specifications need to be formulated. For now, stretch goal is still an unofficial setting on Kickstarter. Thus, there are no standard format for creators to use it in their projects. Lots of creativity burst out to attract more investors, various kinds of stretch ways just evolved and complicated the form of crowdfunding. In general, project creators would stretch after the initial goal reached, others could put it into home page in the begin of the project. And the stretch goal would be announced on the "update" area of the project's Kickstarter page or on the home page (**Figure 1. 1**). Project creators can choose to announce one stretch goal at one time or announce all expected stretch goals at once. Besides stretch according to funding amount, a few projects would design their goals based on backers' number.



Figure 1. 1 Stretch goal present on project's home page

Rewards of attaining the stretch goal could be in multiple ways. Project creators may promise the improvement of products' quality, gift additional items to backers, or produce more options of color for backers to choose. If the stretch goal does not reach successfully, project creators can still get all their funds. We can consider it as an alternative way for creators to evade the risk of setting too hard goals.

Since the stretch form is multifarious (some of them put keyword in picture, others may call it in a different way), it is hard to track the exact number of projects that had adopt stretch goal. But the trend of setting stretch goal is conspicuous. If we open Kickstarter's homepage and investigate those popular projects that are recommend in official, we can see most of them overfunded and have adopt stretch goal. **Figure 1. 2** shows Kickstarter's home page at 2020/9/30. Ten projects were listed, nine of them have already overfunded, and seven of them have announced stretch goal in the campaign story area. Most of the overfunded project have announced stretch goal. Such a phenomenon is easy to observe but hard to collect its statistics. The easiest way is to search through the "stretch goal" keywords. In this way, projects that have put "stretch goal" in their keywords can be find in batch.

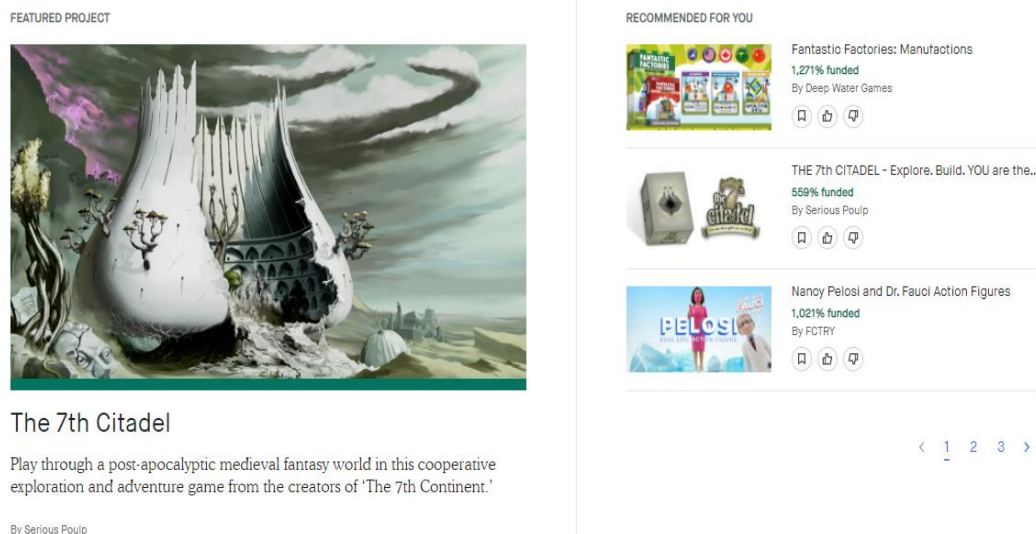


Figure 1. 2 Kickstarter’s home page at 2020/9/30

1.2 Motivation

Many studies about crowdfunding have discussed factors that may affect the funding performance of a project, most of them put focus on the performance during the time right before meeting the goal. Time factor has also been put into discussion, Dai and Zhang (2019) pointed out that funding rate is faster right before the goal achieved than after. Consumers would have stronger intentions to fund the project and were more likely to make contribution to meet the goal. The popularity of the project dropped significantly in the later stages.

Then, whenever the goal achieved, what can project creators do next has become an inevitable question. The remaining issue about the follow up treatment for those goal-reached projects had been discussed in a limited way. Most of them talk about the overfunding issue. Makýšová and Vaceková (2017) discussed the factors that

affect overfunding rate. E. R. Mollick and Kuppuswamy (2014) pointed out that overfunded campaigns are more likely to cause delivery delay. Koch (2016) summarized 5 aspects that may influence the overfunded rate. Although the topic about overfunded is often discussed, the influence about stretch goal is being neglect. The adopt of stretch goal can be considered as an alternative way to handle the overfunded. The extra money above initial goal amount can be used to upgrade their products and attract more backers. Unlike overfunded, stretch goal is a strategy after the initial goal. The aim is to keep the projects in crowds' sight and simultaneously motivates potential funds. Such "Strategies after goaled" is rarely discussed, making stretch goal still quite mysterious and untraceable.

If we think again about research of Dai and Zhang (2019) mentioned above, we can find the influence of reaching the goal or not. Given that, we assume that projects which maintain a sense of goal pursuit may have better funding rate, too. When the initial funding goal reached, the temptation for potential backers to fund just fall. The adoption of stretch goal may be the best way to maintain the goal-pursuing sense. With whole new funding goals and more rewards, not only original backers may willing to invest again, but also potential investors can be involved in. Li and Jarvenpaa (2015) had proved that although the use of stretch goal would increase the likelihood of delivery delay, the improvement of the project funding performance is

still very obvious. According to such studies, we can consider that the adoption of stretch goal is an appropriate method to keep the fully funded project going.

However, even if creators decide to announce stretch goals, there is still a problem finding out a suitable setting to keep the attention and get more investment. Corresponding argument can be inferred from the study of Li and Jarvenpaa (2015). Besides manifesting the performance of setting stretch goal, their study had also tracked daily funding performance of projects that had announced stretch goal for 7 days. Aiming to answer the question of how stretch goals influence the performance, their study found community engagement and stretch novelty (number of stretched projects in same category) are associated with better funding performance. However, Li's research did not discuss the detail of stretch goal. From stretch amount, stretch level to the stretch reward, there seems no previous discussion about how they improve the stretch performance.

For well-prepared projects or projects that got beyond-expectation responds, it is common to see them achieved 100% funding goals in only several days. The public attention would drop accordingly while the investment is still continued to open for the rest of funding period. Stretch goal comes into being. For creators with greater ambitions, it is important to formulate an attractive stretch goal to keep the funding efficiency or even improve it. However, past research has less focus on stretch goal.

Not only is there no standardized specification for stretch goals, but the details of stretch goals' effect have not been discussed. Thus, step to the next stage, our study focuses on the mechanism of stretch goal. Finding the common formats of stretch goals, unveil the mystery of stretch goal. Tracking the significant impact on the fundraising performance of stretch goal, make it easier for project creators to set appropriate stretch goal. Through in-depth discussion of stretch goal, we make up the lack of previous research on the actions of goal-reached project.

1.3 Research Purpose

To build a stretch pattern, we developed a model that takes the project characteristic and stretch method into account. Two main questions are solved in our study. First question is about the correlation between stretch goal setting and funding performance, finding which stretch characteristics could determinate the success of stretch goal setting. Question 2 refers to explore what characteristics of creators and projects lead to the choice of stretch in specific method. The combination of these understandings can consummate the cause and effect of the stretch goal.

In the first part, focusing on projects that have stretched, we looked for the relationship between the detail of the stretch goal and the performance after the project stretched, tried to find out the way to set stretch goal that would improve the funding performance more. By setting stretch goal right, it is more possible for

creators to get more supports from the backers. However, it is never easy to find the key to fundraising. Success factors of crowdfunding campaigns are diversified, the determinants of overfunding are also multifaceted(Cordova et al., 2015). There is a lot of literature finding the key success factors of crowdfunding. Koch and Siering (2015) focused on the multimedia media on projects' website, Kromidha and Robson (2016) had social media and signaling theory as the core, Song and van Boeschoten (2015) study founders and funders' mind through questionnaire and interview, and so on. Our task is to find if those factors for success can still be factors for stretch performance.

In the second part, we adopt an exploratory research to access the next section of stretch goal. We take creators' characteristics and project features into account. Given that using a stretch goal appropriately can improve the project performance. Then, further discussion, we step forward to explore the relationship between stretch goal method and those project-related aspects. By finding out which kinds of projects or which kinds of creators are preferring using such kinds of stretch goals, our goal is to understand the real situation of projects, creators, and their stretch methods. Normally, the relationship between founders and their decision making are affected by backers. Founders should capable of listening to backers' comments and efficiently turn them into opportunities (Jack et al., 2008).

Chapter 2 Literature Review

2.1 Crowdfunding

Startups' first challenge is to get enough money during the initial stage. In the past, without internet, entrepreneurs could only raise their funds through specific ways such as 3F (friends, family, fool), bank loans or equity capital, which makes it difficult for them to start the project. However, with the borderless internet becoming more widespread, targets of fundraising are no longer restricted. The idea of online crowdfunding just subverts the tradition of fundraising.

The concept of crowdfunding is developed from crowdsourcing, and the definition can also be derived from it. Ahlers et al. (2015) thought crowdfunding as an collective term of the increasingly diverse shape of fundraising, funds are gathered by groups of individuals. Belleflamme et al. (2014) defined crowdfunding as a process that one makes an open call (usually through the Internet) for finance, usual type includes donation, future product's exchange or other kinds of rewards to support the project for specific purpose. Joenssen et al. (2014) clarify crowdfunding in more detail that it may not only want to receive the funds, but also aims to build customer relationships or estimate the potential market size. The pay and return can also be divided into physical and nonphysical part. Most of the return would be providing their products as a pre-order, making crowdfunding platform often be thinking as an E-commerce platform for buying creative products. The concept of E-commerce can

also applied to crowdfunding activities (Beier & Wagner, 2015).

Crowdfunding systems including various types of form, such as equity-based, lending-based, reward-based, and donation-based. The categorization is decided on the feedback backers can receive from fundraisers. Except the donation-based mechanism, most of crowdfunding platforms earn their funds through making corporeal incentives to the potential backers. In equity-based platform, backers would get a small piece of that business in return for equity (Hagedorn & Pinkwart, 2016). In reward-based crowdfunding, backers can exchange their funds for future delivery of a new product or other special benefit, which the benefit is usually related to products of the project. Therefore, most of the reward-based projects tend to attract backers that are interested more in their products in contrast to another crowdfunding system. They enabled fundraisers to find their future customer before they start to spend money and effort to bring their ideas into true (Chemla & Tinn, 2020). In this paper, our focus is on the reward-based system like Kickstarter.

Since the British rock band organized an online campaign to raise money for their concerts in 1997, this innovative method of financing had been put into public attention. The first crowdfunding platform is called ArtistShare, a website where artists can seek donations from their fans to produce their digital works, which makes success and leads to the upsurge of reward-based crowdfunding platforms. Unlike

other platforms which are only for bands, Kickstarter and Indiegogo start to increase the variety of projects, bringing creative projects into our sight. Today, Kickstarter and Indiegogo have become the most popular crowdfunding platforms in the United States. As for Taiwan, flyingV and zeczec are the two mainstream platforms. Recently, a case in zeczec which named "ThisAttackComesFromTaiwan" has made a huge success, the power of crowdfunding in Taiwan seems to be substantial, too.

Determinants of success crowdfunding

The determinants of crowdfunding success have been studied in previous literatures (Beier & Wagner, 2015; Dikaputra et al., 2019; Etter et al., 2013). Most of them looked into the visible data on projects' website. Summarized independent variables and dependent variables are in **Table 2. 1** Influencing factor of funding performance. To evaluate funding performance, success and the raised funds are often adopted as reference.

Project duration is recognized as a burden of performance in most of literature. The longer the project is, the less funds you can get. Clauss et al. (2018) made the point that longer project duration might express a signal that the project creator did not have enough self-confidence to success it. Besides, the shorter the project is, potential investors would have to jump to their decision. Intuitive and emotional invest would be made due to the lack of time to think twice, which we can consider as

"impulse purchases" in E-commerce.

Setting of funding goal is also knowledge for project creators to learn. For projects with too high goal, the successful rate tends to decline. Failure crowdfunding means not only creators cannot get their funds; their reputation would also be damaged. Forbes and Schaefer (2017) suggest fundraisers to set a low funding goal to avoid the problem. A fundraiser is more likely to get investors' trust if they have success project before. Every success is paving the way for the next campaign, so it is better for project creators to set their goal conservatively. E. Mollick (2014) had proved that projects with higher pledge level are less likely to success the fundraising (**Figure 2. 1**). While in the meantime, several studies have found that project's funding speed would be slow down once it reached the goal (Burtch et al., 2013; Dai & Zhang, 2019).

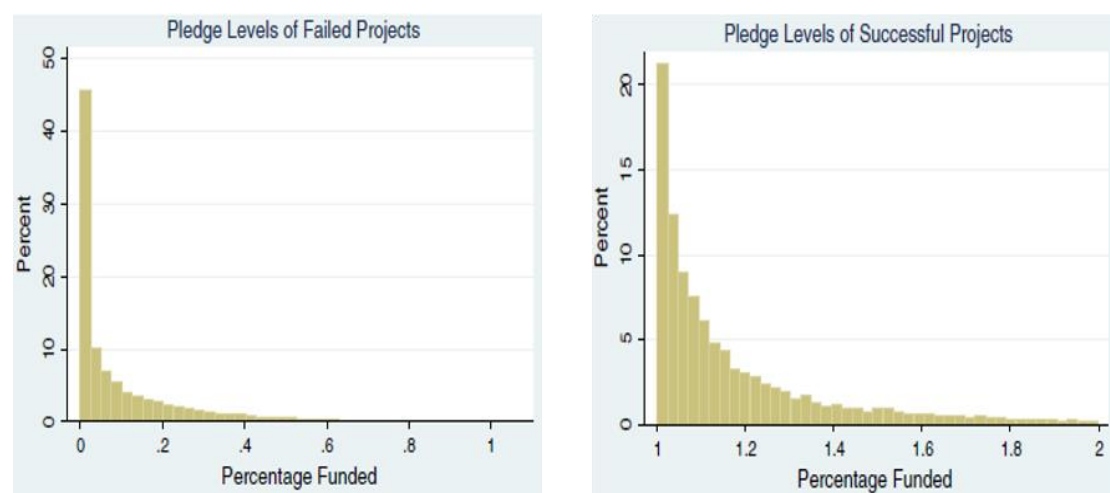


Figure 2. 1 Histograms of funding levels (E. Mollick, 2014)

Remaining issues that are often deemed as independent variables are comments, update, delivery time, and others content on the project website. In Kickstarter, "Comment" area is the primary way for backers to interact with creators, most research agree that comment number is positively associated with project performance. "Update" area is an announcement board where creators inform news to all the visitors. "Delivery time" can decrease the intention of funding since investors may get their reward for a long time (E. Mollick, 2014). For backers, waiting for long time means more changes could be happened. Creators' characteristics are often applied to the field of "Social capital". Creators' information that we can observe on Kickstarter includes their biography, created projects, projects they have backed, and Facebook link.

McKenny et al. (2017) conducted a survey on Entrepreneurship Theory and Practice (ETP) editorial review board, asking what the needed inquiry for crowdfunding research is. The survey results showed that most of the expert thought theories regarding to social aspect are useful, for example, Network and Social capital theory. Agency theory probe into the relationship between founders and backers, Resource-based theory investigated the internal resources of the founders. Goal-setting theory search for the most suitable funding goal.

Table 2. 1 Influencing factor of funding performance

Author (year)	Theory	Independent variable	Dependent variable
Kunz et al. (2017)	Signaling theory	<ol style="list-style-type: none"> 1. Campaign duration (in days) (-) 2. Number of available reward levels (+) 3. Quantitative limitations of rewards (yes/no) (+) 4. Project initiator characteristics (+) 5. Weighted average delivery time (in days) (-) 6. Preparedness of presentation (+) 7. Social media buzz of the project on Facebook (+) 8. Presentation of the project in the staff pick (yes/ no) (+) 	Project success
Cordova et al. (2015)	NA	<ol style="list-style-type: none"> 1. Goal (-) 2. The number of funders (+) 3. Average amount per backers donates (+) 4. Raising duration (+) 5. Average amount contributed to the project on each day (+) 6. Whether the project launched within the US (NS) 7. Whether the project launched in one of the 27 countries of the European Union (NS) 8. The number of updates on the project (NS) 9. The number of comments written by investors (NS) 	<ol style="list-style-type: none"> 1. The probability of success 2. Overfunding

		10. Type of Financing (NS)	
Lagazio and Querci (2018)	1. Social identity theory 2. Signaling theory 3. Resourced-based theory 4. Warm-glow giving 5. Industrial-organizational psychology 6. Resourced-based theory	1. Field of the project (-) 2. Type of funding (+) 3. Project target (-) 4. Fundraising time window (+) 5. Number of individuals helping make the project a reality (+) 6. The existence of a pitch video to quickly describe the project (-) 7. Length of the project description (+) 8. Language in which the project is presented (Italian; English) (-) 9. Number of shares on Facebook (+) 10. Updates (dummy variable) (+) 11. Comments (dummy variable) (+) 12. Websites (dummy variable) (+)	Success
Janků and Kučerová (2018)	NA	1. Goal (-) 2. Duration (-) 3. Preparation (-) 4. Number of projects created this month (-) 5. Number of projects created in this state (+) 6. Created on weekend (dummy variable) (-)	Success

		7. Experience (dummy variable) (+) 8. Experience(number) (+)	
Anglin et al. (2018)	Social capital	1. Video (dummy variable) (+) 2. Duration (-) 3. Funding goal (-) 4. Website (dummy variable) (+) 5. Numerical terms (+) 6. Staff pick (dummy variable) (+) 7. created (NS) 8. Ent. Experience 9. Ethnicity (+) 10. Sex (-) 11. Education (NS) 12. Facebook friends (+) 13. Word length (+) 14. Categories (+) 15. Backed (+)	1. Success 2. Funding amount
Li and Jarvenpaa (2015)	Goal-setting theory	1. Has stretch goal (dummy variable) (+) 2. Comments count (+) 3. Percent of stretch projects in same category (-)	1. Funding ratio 2. Days delayed
Dikaputra et al. (2019)	1. Goal-setting theory 2. Resourced-based theory	4. Project category (NS) 5. Goal (-)	Success

	3. Self-determination theory	6. Duration (NS) 7. Number of team member (+) 8. Number of reward level (+) 9. Video (dummy variable) (NS) 10. Number of words in project description (NS) 11. Number of update (dummy variable) (+) 12. External website link (dummy variable) (+) 13. comments (dummy variable) (+)	
--	------------------------------	--	--

Stretch goal

Academically, "stretch goal" refers to the goals that are nearly impossible for teams to attain under current capability (Sitkin et al., 2011). According to the study of Zhang and Jia (2013), stretch goals refer to goals that are extremely difficult and extremely novel. The setting of stretch goal is paradox, it is a great promise with huge risks, and managers should be prepared for the pressure and conflict caused by such decision (Pina e Cunha et al., 2017). To pursue seemingly impracticable goals, one needs to leave no stone unturned. Such a situation can stimulate our enterprise and imagination, forced us to outdo ourselves. In this case, the meaning of "stretch" is close to "pull tight".

In online crowdfunding, stretch goal is a funding target beyond the original goal. When the initial funding goal reached, project creators can consider adding new level of goals to raise more money, which also called "extra goal" or "extended goal". Being mentioned on the "Kickstarter Support", stretch goal is a term and practice emerged from Kickstarter community. Kickstarter defined stretch goal as "A way for project creators to "stretch" beyond the initial goal of the project and raise more money (often with making cooler stuff) ". Project creators can choose to set stretch goal or not when the project is overfunded. Tyni (2020) had explained the mechanism of stretch goal. Creators can keep all payments received above the minimum goal

and gradually increases the stretch goal, then describes how the additional funds would be properly arranged. In contrast to setting extremely high original goal, stretch goal can felicitously avoid the dilemma of getting nothing caused by the "All or nothing" mechanism. Kickstarter does not suggest every goaled project to stretch. According to the description on the Kickstarter website, creators better consider their project complexity before stretch. Adding new stuffs would lead to increased demand and higher costs, which may let the whole project get out of control. Then, if creators choose to announce stretch goal, they need to find out ways to convey their ideas of stretch goal to their backers. Controversy could be aroused since inexplicit stretch goal were published.

To clearly understand the concept about the stretch goal, we take project "Ink the States" for example (**Table1. 1**). This project was founded by Kyra Hinton, started at March 25, 2017, and fully funded in 24 hours. The main product of the project is painting, and the initial goal is US\$800. Fundraisers claimed that the raised money would be for inks, paints, and paper. Its stretch goals were announced in the beginning on the home page and have seven stages of stretch goals. The stretch goal details are in **Table1. 1**. We can see that at US\$1200, backers who donate over US\$55 would get free gifts. At US\$2000, backers can choose another design pattern. At US\$3000, US\$4000, and US\$5000, more paintings would be created. At US\$8000, the material

of the prints would be upgrade to the styrene. At US\$10000, backers at corresponding pledge level would get specific credit to use in their store.

Table1. 1 Stretch goal detail for " Ink the State " Project

Stretch amount	Stretch description
US\$1,200	Free Mosaic of all 50 states - 5x7 print for all reward levels \$55 and above.
US\$2,000	Get the option to have your states printed on metal or mounted on styrene for sleek, modern displays. This will be an add-on option at the completion of the campaign.
US\$3,000	We will paint the topography of the Great Lakes (this has been a very popular request). We will also paint Canada and Mexico, and you can then choose any of these in place of a state in any of the rewards or bundles. You can also add any of these on at the end if you don't want to tweak your original selection.
US\$4,000	Up to this point, we made a mosaic of all the states, then I will paint Canada, the Great Lakes, and Mexico. Now let's put them all together! I will make a mosaic of the entirety of North America, from Alaska to Mexico, with the Great Lakes included! This will be an add-on option in various sizes.
US\$5,000	We will paint a map of the whole world and all reward levels \$8 and up will receive a Free 5x7" print.
US\$8,000	WOW! We can barely keep up with you all! Thank you so much for getting us this far! To say thank you we want to give you some fantastic upgrades. Since we will be sending all of you a world map, why not make it even better? We will upgrade the 5x7" print to a Styrene print for reward levels \$55-\$149 and a Metal print for reward levels \$150 and up.
US\$10,000	If we make it there before the campaign ends at 2pm EST on Saturday(4/1/17), everyone at reward tiers \$8-\$99 will get a \$5 credit, and any one \$100 and up will get a \$10 credit to use in the BackerKit store that will come with your reward surveys. This means that those upgrades and add-ons you've been eyeing may just be in reach!

The controversy of goal amount setting has been lasted for years. Haug and Haslum (2016) disapproved that funding speed would slow down after goaled. Instead, they suggest founders to divide the goals into external goal and internal goal. Internal goal means the goal that creators think they could get. External goal means the goal that creators declared to the public. By setting a correct external goal, it is more likely for founders to increase their funding amounts. Despite the suggest of setting pledge amount asked for conservative, the negative impact of underestimate is still inevitable and immeasurable. We thought that is the reason why creators need to consider using stretch goals. Stretch goal can avoid the risk of getting nothing (set the goal too high) or insufficient funds (set the goal too low) by publishing a project that initial goal are acceptable and achievable, then choose to announce stretch goal for keeping the motivation of investing.

Li and Jarvenpaa (2015) had tracked daily funding performance of projects that had announced stretch goal for 7 days. Result shows that community engagement has a positive effect on project's funding performance, and can strengthens the effect of a stretch goal, either. On the other way, for categories that use less stretch goal, projects stretched in such categories are less effective.

Research of Li and Jarvenpaa (2015) cite the studies about stretch goal in Goal-setting theory. In our research, we followed their point of Goal-setting theory.

The difference is, we do not consider “stretch goal” of Goal-setting theory can apply to “stretch goal” in crowdfunding. For the former, it takes a price for organizations to strive for the goal, stretch their capabilities to the limit. As for the latter, founders have no risk pursuing their stretch goal, the term “stretch” means additional goals more in online crowdfunding.

2.2 Goal Setting Theory

Definition

Locke and Latham (1990) formulated the goal-setting theory in 1990s. The literature state that there is a positive correlation between a specific high goal and task performance. With a specific high goal, people’s performance would get higher to do their best. A goal can be considered to one’s performance evaluation standard and will influence their satisfaction. There are two factors to affect people choosing their own goal: First is the importance of the goal to the individual, second is one’s self-efficacy toward the probability of achieving the goal. Muchinsky (2006) refers Goal setting to "Conscious behavioral intention that channel our energies or motivation to help us attain future objectives". Muizzuddin et al. (2017) defined Goal setting theory as "A form of motivation theory that highlight the connection between the goals set and the resulting performance". Lunenburg (2011) expressed that goal setting have two cognitive determinants of behavior: values and intentions. Values create desire and

emotions, then lead to the appeared of goal, the simplified view of goal-setting theory is shown in **Figure 2. 2**

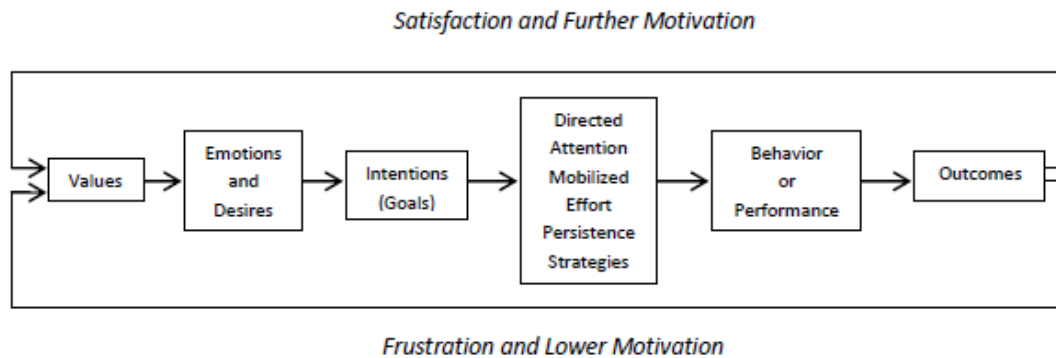


Figure 2. 2 General model of goal-setting theory(Lunenburg, 2011)

Goal setting and Task motivation

The high-performance cycle is born out of goal setting and task motivation, it is a model that shows how high goals lead to high performance, and finally come to rewards (G. P. Latham et al., 2002). Just like Social-cognitive theory, Goal-setting theory attaches great importance to conscious goals and self-efficacy. The effects of goal setting are significant, there must be an error if it comes to failure, for example, measuring performance, providing feedback, and so on. Locke and Latham (2002) built a summarized model mixing Goal-setting and high-performance cycle (**Figure 2. 3**). Specificity and Difficulty are the core dimensions of goal to performance. Difficulty is the level of proficiency or performance required, specificity is the quantitative accuracy of the goal (Locke et al., 1981). A successful goal setting should be challenging while achievable and rational (Lunenburg, 2011), and the definition of

goal have to be clear and detailed (Erhel & Jamet, 2019). Moderators including goal commitment, goal importance, self-efficacy, feedback, and task complexity. In this cycle, we can see moderators and mechanisms can control the consequence of goal core, performance usually related to the satisfaction with performance and rewards, then makes emotions to affect the moderators, forming a circle. The organized research about HPC model was shown in **Table 2.2**.

Core dimensions HPC model

In Goal-setting theory, difficulty is thought as a basic component related to performance. There is a linear relationship between the difficulty of goal and the performance (G. Latham et al., 2016). Aljamal et al. (2019) performed a training experiment. Results showed that the group with a low expected success rate had better performance. They thought it was caused by higher concentration. Relatively, experiments with a high success rate were expected to perform worse than expected. However, there is an upper limit of the degree of difficulty. Epton et al. (2017) implicated that simple goals and moderately difficult goals are both effective, but the effect drops when the goal is considerably difficult. The goal needs to be challenging but still achievable. Hirsch et al. (2018) found that both difficulty and specificity are mediated by self-efficacy. Employees with different abilities may have different perceptions under the same circumstances. The influence of goal difficulty on the

effect size of performance is still needs to be explored (Rechenberg & Gutt, 2016).

The measurement of difficulty can be in different aspects such as threat or challenge.

Each aspect can mediate the relationship between goal difficulty and creativity (Espedido & Searle, 2018).

A specific goal can be defined in multiple ways. It can be restricted in frequency and with time frame (Cohrs et al., 2016). For example, “I want to grow up” is a non-specific goal. “I want to grow up to 180 cm” considered half-specific. “I want to grow up to 180 cm in 2 years” is a completely specific goal. Besides, the scale of goal description(e.g. cm, feet, inches, months, years, decades) can also affect the perception of goal achievement (Gunasti & Ozcan, 2019). Mikami (2017) pointed that specific goal provide precise details for what is to be attained than vague ones. Zwikael et al. (2018) defined specificity as the degree that target benefits are clearly defined and measurable. The goal is specific or not can alter the consumers’ reference point on decision making (de Place & Brunot, 2020; Wallace & Etkin, 2018). The degree of influence of goal specificity can be depends on the characteristics of organization, for example , racial diversity (Jong, 2019).

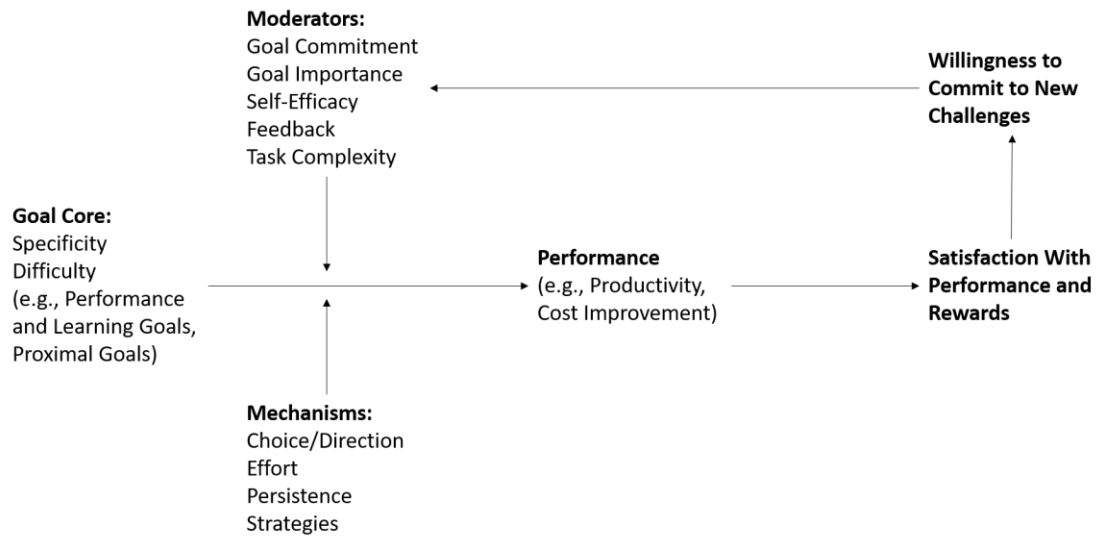


Figure 2.3 Essential Elements of Goal-Setting Theory and the High-performance Cycle (Locke & Latham, 2002)

Table 2. 2 Research of HPC model

Author	Research Topic	Discussion about High-Performance Cycle	Significant Variables
Deschamps and Mattijs (2017)	Performance indicators in managing social-security organization	Under a given and specific situation of management, the principle and hypotheses of Goal-setting theory is proved to influence performance management substantially, which would lead to a positive cycle.	Indicator scores (-) Success (+) Difficulty (+)
Reemts et al. (2016)	Impact of goal setting on individual work performance	Goal specificity is positive to employee's performance. However, Goal difficulty is controversial since executives think easier goal is more possible to reach a consensus with employees. Besides, it seems that goal difficulty is negatively correlated with self-efficacy.	Specificity (+) Difficulty (-)
Evans (2020)	Evaluate the effect of High-performance cycle on work motivation	The HPC model is useful, all the facets are proved to significant. HPC questionnaire is recommended to measuring the variables of the model.	All the factors in HPC
Demirkol and Nalla (2018)	High-performance cycle on police officers	Specificity, self-efficacy, and feedback could increase police officers' job motivation, and leads to higher satisfaction.	Specificity (+) Efficacy (+) Feedback (+)
Yurtkoru et al. (2017)	Influence on job satisfaction and affective commitment.	Job satisfaction can mediate affective commitment. Specificity and self-efficacy are not significant. Moderators and mediators are either partial related or no related at all.	Goal clarity (+) Organizational facilitation (+)

Goal Setting in Crowdfunding

Past research on crowdfunding seldom used goal setting theory as the main architecture, but the theory is often disassembled for discussion. Dikaputra et al. (2019) apply multi theory including Goal-setting theory to analyze success factors of crowdfunding campaigns. Yang et al. (2019) assume that there is a non-linear relationship between funding goal and success rate. Both of them cited the difficulty and time concept from Goal-setting theory.

Specificity is one of the most frequently discussed facet. Lagazio and Querci (2018) pointed that project goals need to be specific, fixed campaigns with clear goals are more likely to succeed than those with unspecific goals. The measurement of specificity is varied, Madsen and McMullin (2020) referred to behavioral economics' research and used particular words as operands. Besides, number of words in project's description is considered as a more reasonable measurement.

Difficulty is another commonly discussed facet in crowdfunding field. The reachability of funding goal is often associated with goal difficulty, and then has impact on funding performance. The double-edged sword of setting difficult goal is still a trouble in online crowdfunding. The adoption of difficult goal can motivate investors, however, the negative valence of putting goal beyond the expectation is also a considerable risk (Li & Jarvenpaa, 2015). There are different arguments in this

research field. Contradict to the claims of Goal-setting theory, some of them believes difficulty is just a negative factor for crowdfunding performance. The higher the success rate the project is, the more the funds would be raised in crowdfunding (Oh & Baek, 2016). Unlike the situation of the general goal setting, “All-or-nothing” mechanism says that project creators could only receive the money once the project met the initial funding goal. All of the effort would be go down the drain if the goal have not attained, which means the risk of setting difficult goal is totally different from general cases. Even if difficult goal can get a larger response, proper boundary should be located. To avoid getting nothing in the end, project creators should consider it carefully before setting their initial funding goal (Li & Jarvenpaa, 2015) .

The research of Li and Jarvenpaa (2015) aimed on the projects that have announced stretch goal. Stretch performance and the negative effect caused by delivery delay are put as dependent variables. Goal novelty and difficulty has been tested significant to enhance the effect of stretch goal. They argued that stretch goal is better for funding performance while could cause the delay of delivery. Their research let us see the importance of stretch goal. However, there is a lack of more in-depth discussion on stretch details. From stretch reward to other stretch forms, set stretch goals needs more goal setting knowledge. We have followed their idea of adopting Goal setting theory, and extends to the overall stretch mechanism.

Chapter 3 Research Method

3.1 Research Model and Hypothesis

3.1.1 Model description

This study aims to understand the overall structure of the stretch goals. From finding the determination of succeeding the stretch to discovering the real situation between the original characteristic and stretch method. Our research divided into two segments to thoroughly analyze the benefit of stretch goal. Featured model is in **Figure 3. 1**. The right part of this model is research question 1, finding out the determinants of setting a successful stretch goal. The left part is research question2, exploring the relationship between project characteristics and their chosen stretch method, understanding the general usage of stretch goal.

Based on the Goal-setting theory (Locke & Latham, 2002), we developed a research model related to stretch goal detail and funding performance. Stretch level (the number of stretches), stretch amount, reward target, and reward option are independent variables in this part. Funding efficiency is dependent variable. For stretch amount and stretch level, these two variables are all about the stretch goal setting by founders, so we examined them respectively under goal-setting theory. Reward target and reward option are two separate concepts, yet they are all about reward type of reaching the stretch goal. Thus, we consider it as "Reward" section.

RQ2 is an exploration research of finding out which kinds of creators and projects are more inclined to choose the more effective stretch method. Since we have studied the stretch performance and the detail of stretch method, we moved up to seek for the source. First of all, creators' experience was considered having an positive impact on the decision they make (Taylor, 1975), so we assume that the number of projects created and the number of projects backed may have influence on stretch goal setting. Second, different projects' condition can also affect the selection decisions (Fox & Baker, 1985). Thus, we take project characteristic into consideration to see if it will influence the stretch goal setting decision or not.

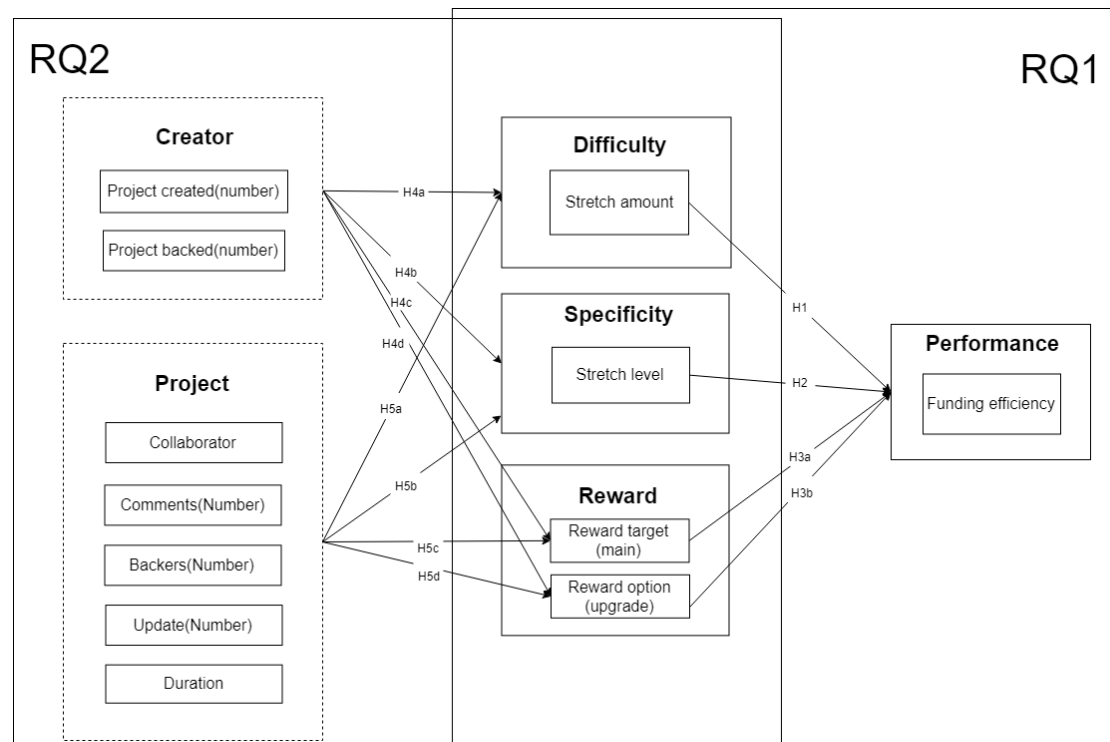


Figure 3. 1 Propose research model

Funding performance

Gierczak et al. (2016) had discussed about project creators' motives, the combination of wisdom of crowd and efficient resource allocate has overcome the information asymmetries and transaction costs, which make them worth to raise funds through online crowdfunding. For project creators, the ultimate goal is to reach the necessary funds, and get as much funds as possible. Therefore, we put funding performance in to grade the stretch project.

Funding performance is a key factor to measure the success of project. In RQ1, we take funding efficiency during stretch period as the dependent variable. In the previous research, most of them that study crowdfunding performance takes success as dummy to measure the score of the product. Anglin et al. (2018); Kunz et al. (2017); Lagazio and Querci (2018) had took whether the project met its funding goal or not as dependent variable. Hitting the goal is considered as a key factor since creators cannot receive any money if the campaign failed to meet the initial goal(Allison et al., 2017). Since our research aims to find an efficiency way to stretch, our research target was restricted to projects that have adopt stretch goal already. Projects that have failed or never announced stretch goal are excluded, which means the projects we analyzed were definite goaled project. Success or not could not be our standards of evaluating the funding performance. That is the reason why we focused on the pledge amount

only after it goaled, aimed to the funding performance after the project stretched. In general, projects would step into the stretch stage once after the initial funding goal reached. Therefore, in this model, we took funding efficiency as the fundraising speed after the project goaled, which is the daily amount raised from reaching the initial goal to the fundraising deadline, seen as the dependent variable to evaluate the funding performance.

3.1.2 Research Question 1

Difficulty

Goal-setting theory states that difficulty is an important indicator affecting task performance (Locke, 1968; Locke et al., 1981). G. P. Latham et al. (1978) proved the positive linear relationship between goal difficulty and performance. Hall et al. (1987) had also support the hypothesis that more goal performance better than easier ones. Difficulty is usually composed by the goal complexity and goal attainability. . Gutt et al. (2020) proved that the difficulty mechanisms in goal setting can be applied to gamified environment, multiple goals with gradually increased difficulty are recommended to design game levels. In this paper, difficulty is associated with stretch amount. In a project, for each stretch goal to achieve, the higher the stretch amount set, the more difficult for backers to reach. In this case, stretch amount is calculated by the average of money the project needed to reach the next stretch goal. We assume that

the further away from the next stretch goal, the harder it is to reach, such difficulty would drive to better performance, which also promote more funds to be raised. In such condition, we didn't consider the negative effects caused by excessively high goals. One of the reasons is that stretch goal doesn't subject to "All or nothing" mechanism, creators can get their funds no matter the stretch goal reached or not, minimizing the risk of set too difficult goal. The other reason is that stretch goal is the extend of initial goal, which means the initial goal is already attained and is not thought too difficult for investors. Therefore, we proposed following:

H1. Stretch amount is positively associated with funding efficiency

Specificity

Goal specificity is one of the feature of setting goals. Locke et al. (1981) defined goal specificity as the degree of clarity that the goal was specified. A nonspecific goal is easier to achieve, leading to the reduce of tightness for one to strive (Wallace & Etkin, 2018), causes more uncertainty for performance (Klein et al., 1990). In contrast to specific goal, unspecific goal would lower ones performance due to the lack of motivation (Locke & Latham, 1990). The research of Erhel and Jamet (2019) take goal setting into educational computer games, found it nonspecific goal instruction can brings a better learning comprehension than specific ones, while it's not better for memorization. For web usage, users with specific goal can find more detail

information than those with unspecific goal in the same context. A purposeful user would spent more time on the platform and less likely to return in the future (Cheng et al., 2017). In stretch goal mechanism, stretch level refers to the number of times the project had announced stretch goals. Each time the stretch goal announced, the project creators had to describe more detail about their stretch goals. This means the project's goal would be explained more clearly as the number of stretch increases. The more stretch level the project announced, the more specific the goal is, and the performance to goal pursuit would be rise. Therefore, we extracted part of the concepts of Goal-setting theory, and propose that:

H2. Stretch level is positively associated with funding efficiency

Reward

Reward is the most important part of reward-based crowdfunding. Klein et al. (1999) pointed out the relationship between goal commitment and performance. Presslee et al. (2013) further indicated that reward type can influence employee's performance. In this aspect, there are two variables: reward target and reward option. Reward target is the target of stretch goal's reward (e.g. project's product itself, project's addons), reward option is the behavior (e.g. gift, upgrade, or new design).

In our dataset, the most common reward target and reward option are main (212 records) and upgrade (102 records) separately. To facilitate analytics, we considered

mainstream stretch reward style is the most popular reward for backers. In reward target, we assumed that stretch goal that choose main product as the reward target is the most effective. In reward option, we defined those choose to upgrade the target is most attractive. We propose hypotheses below:

H3a. Reward target is positively associated with funding efficiency

H3b. Reward option is positively associated with funding efficiency

3.1.3 Research question 2

Creator

For the exploratory part RQ2, to know what kind of funders or projects would prefer to choose what kind of stretch method. We can put our attention on their decision making. According to Ericsson et al. (2007), the making of expert in specific field not only needs deliberately practice, but also takes time to accumulate experience. Furthermore, experienced entrepreneur would have more possibility to make an appropriate decision (Taylor, 1975). In financial decision making, experience-based knowledge is correlated to better scores (Eberhardt et al., 2019). Besides, every different type of creators can have different prefer to set stretch goal and the rewards. Created projects and backed projects of the creator is used to represent the experience of creators. To find the relationship between creators and their decision, we proposed that:

H4a. Creator's experience is positively associated with stretch amount

H4b. Creator's experience is positively associated with stretch level

H4c. Creator's experience is positively associated with reward target(main)

H4d. Creator's experience is positively associated with reward option(upgrade)

Project

In different market conditions, it can have different effects on project selection decisions made (Fox & Baker, 1985). The characteristic of the project is thought as one of the decision-making category in crowdfunding (Hoegen et al., 2018). Project related attributes are often deemed as factors that affect the funding performance. Update number and comment number are positively related to success rate (Wessel et al., 2017). Other attributes such as team scale (number of collaborators), backers number and duration are quite common indicators in study of crowdfunding performance (Hauge & Chimahusky, 2016; Li & Jarvenpaa, 2015). We considered the relationship between projects and backers are just like market-consumer relationship. In this part, we aim to find the relationship between project characteristic and the stretch goal it adopts. For example, a project has 100 backers and reached the goal, then its creator decides to stretch, what stretch method would him choose? What extra reward would him delivered? General research objectives of crowdfunding success determinants would be adopted to form the project characteristic.

H5a. Project characteristic is positively associated with stretch amount

H5b. Project characteristic is positively associated with stretch level

H5c. Project characteristic is positively associated with reward target(main)

H5d. Project characteristic is positively associated with reward option(upgrade)

Chapter 4 Data Analysis and Results

This study performed partial least squares structural equation modeling (PLS-SEM) analysis to examine hypotheses. The reason why we choose PLS is that our proposed model is on exploratory based, by using PLS, the analysis process can be more clarity. Our analytic was implemented by SmartPLS 3.0. Data cleansing was executed by R. In this chapter, we will show the data process, measures, descriptive statistics of variables, analysis results, and discussions.

4.1 Data Collection

Our data of projects was collected from Kickstarter. Only the stretched projects were used since our research purpose is to compare the performance between stretched projects. To find the project that has used stretch goal, we searched for the string “stretch goal” on Kickstarter page, adding searching filter that shows only successful projects (**Figure 4. 1**). In March 2020, 430 records were found under such constraints. Besides, the dataset was separately collected through two difference ways. Data about projects and funders was extracted through Python web crawler, including basic information such as project ID, project name, funding goal, pledged money, backer count, days to go, deadline, final state, and so on (**Figure 4. 2, Figure 4. 3**). Data about stretch detail was collected manually, including stretch amount, stretch time, goal time, stretch picture, and other stretch details.

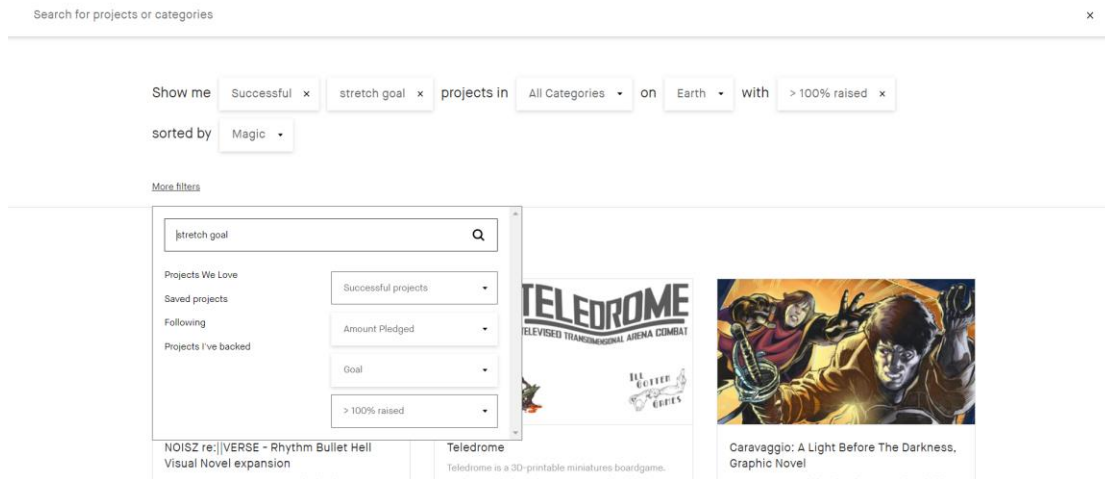


Figure 4. 1 Keywords searching for stretched project on Kickstarter

NOISZMAKERS

Manhattan, NY

NOISZMAKERS is the development team of the NOISZ game series. Our members have a long history in the music / arcade game community, with involvement in multiple other rhythm game projects.

Websites

noiszgame.com
twitter.com
facebook.com

Collaborators on this project



Justin
Collaborator



J T
Collaborator

✓ Ken Tang

🔒 Last login Jul 16 2020

👤 508 friends

📊 2 created · 31 backed

Contact me

Figure 4. 2 Page of project creator



Figure 4.3 Information of a project

4.2 Data Process

Parts of projects have no detail about their stretch goal, such projects were removing from the data first, 430 records were reduced to 406 records. Besides, 62 NA values appeared in stretch amount and goal date were processed by removing the row of data. In the end there were 368 projects put into analysis. All the currencies were converted into NTD dollars, currency value is based on July 14, 2020. Moreover. Independent variables including reward type and reward option were converted into dummy variable. Stretch level is counted by the number of announced stretch goals. Stretch amount is the average amount increased per stretch. The classification of reward style is the most complicated problem. Our “Reward target” variable was defined as “targets are main products or not”. If the project did set the reward as the

behavior on the main product, then this reward target would be “main”, and the “Reward Target” variable would be set to dummy 1; If the project didn’t, the “Reward Target” variable would be dummy 0. For “Reward Option” variable. If the project implement “upgrade” to the reward subject, the reward option would be dummy 1, else would be dummy 0. Such classification method can apply to all the other reward target or reward option. Comment number, Backers number, Update frequency, and duration can be directly used from raw data. Stretch days is the number of days from reaching the standard goal to the end of project, calculated by ending date minus goal achieved date. Funding efficiency is the daily raised funds in those stretch days, which can be inferred from the final fundraising amount minus the standard amount and then divide by stretch days.

The description and process detail show below in **Table 4.1**. The detailed processing and the classify example are in **Table 4.2**. Demographic data of stretch detail are shown in **Table 4.3**.

Table 4. 1 Data Description and Data Process

Variable	Description	Data Process
Funding efficiency	Daily raised funds ratio during the period from reaching initial goal to the end of fundraising	$(\text{Final raised amount} - \text{Target amount}) / \text{Number of days between the goaled date and end date}$
Stretch level	Number of stretch stage(times)	Original data
Stretch amount	Average increase of stretch amount	Difference amount between the front and rear stretch level / Number of stretch level
Stretch days	Number of days between the goaled date and end date	End date - Goaled date
Reward target	Target of stretch goal rewards (main or not)	Dummy variable, 1 if reward target is main product.
Reward option	Option of stretch goal rewards (upgrade or not)	Dummy variable, 1 if reward option is to upgrade items
Projects created	Number of projects created by the fundraiser	Original data
Projects backed	Number of projects backed by the fundraiser	Original data
Backers number	Number of backers	Original data
Collaborator number	Number of collaborators of the project	Original data
Comment numbers	Number of comments of the project	Original data
Update frequency	Number of updates of the project	Original data
Duration	Days of funding period	Original data

Table 4. 2 Detailed processing and classify example

Variable	Definition	Coding Principle	Example (Description)	Coding Example
Funding efficiency	Daily raised funds ratio during the period from reaching initial goal to the end of fundraising	(Final funds – Initial goal) / Stretch days	A project had reached the initial goal \$400 at 2019/1/16, and finally pledged \$1000 at 2019/1/30.	$(1000-400) / 15 = 40$ Which means that in the stretching 15 days, the project would get \$40 funds every day
Stretch amount	Average increase of stretch amount in each stretch.	$\left[\sum_{k=1}^n F(k) - F(k-1) \right] / n$ $F(k) = \text{stretch amount}(k)$ $n = \text{Total stretch level}$	A project had initial goal \$400, announced stretch goal \$500, \$600, \$1000.	$[(500-400) + (600-500) + (1000-600)] / 3 = 200$ In average, each stretch would increase \$200 goal amount.
Reward target (main)	The target of the stretch reward is about the primary product or the fundraising item itself.	Stretch description that treat “product’s name, product’s pronoun, the word “product”, or any words that can inference the product itself” as the sentence’s subject or object. are included.	Stretch goal, if we reach 300%, I will cut a bottle opener into each handle!!!	This stretch added new design on their product, enhance the product’s function, classified to main and upgrade. If it’s main, Reward target is set to 1, if not, Reward target is 0.
Reward option (upgrade)	The option of the stretch reward is aims to make the target item better, including	Stretch description that mentioned upgrade, enhance, improve are included. Besides,	Production upgrades, including aerial drone photography, advanced	This stretch has directly announced the upgrade of production, classified to

	improving the material, or strengthen its function, etc.	for those cases that are difficult to judge, if the reward behavior has a substantial increase in product value, it is also classified as upgrade.	sound engineering, and new production equipment that will provide an even richer final product.	main and upgrade. If it's upgrade, Reward option is set to 1, if not, Reward option is 0.
Target_Addons	The target of the stretch reward is related to the attached element, such as accessory, coproduct and others plug-in. The reward is usually indirectly related to the product itself.	The judgement of addons is more difficult. First, we take words “addon, accessory” as keyword, and classified in. Second, if the description of the reward is related to the main product but not put it as the main target, it would be deemed as addons, too.	Besides getting SuperFogeys Origins into the book, we've also got Mini-prints and so many more goodies to give away as we meet our Stretch Goals.	This project's main product is a book, and stretch with related new items, classified to addons and new. If it's addons, then Target_Addons is set to 1, if not, Target_Addons is 0.
Target_Device	The stretch earnings are claimed to allow the project creator to afford to upgrade or replace the original device.	In different industry, the used device is also different. Besides the word “device, equipment”, every industry will have corresponding device name, we have decided the classification accordingly.	Our documentary team would like to raise these funds to bring on an extra member to share the responsibility of operating sound and mixing audio. We'd also like to acquire some great sound	This stretch didn't promise any rewards to investors, the only thing they would do when stretch goal achieved is to upgrade their team and device. So, we classified it to device and upgrade. Target_Device is

			equipment to add to our gear list.	set to 1 if it is device, set to 0 if it is not.
Target_Non	Project creators don't have promise anything as reward to their investors.	The description has not promised a substantial item is included. In general, if the description has not been classified in any other target, it will put in this classification.	After the initial goal, we hope to reach our stretch goal of \$2,500, which will go to supporting the Men in Green in our future endeavors.	This stretch has nothing to do with investors, only promise to support others in the future, so we classified it to non and promise. Target_non is set to 1 if it classified to non, set to 0 if is not.
Target_Gift	After success the stretch, investors can get a small gift of gratitude.	Keyword "gift" is included. In other cases, if the reward is totally unrelated to main product, it is also called "gift".	All backers get raffle ticket for a \$350 value gift! A very limited edition framed 'Schoelace Seaweed' from the book	This stretch sent a gift to all backers, classified to gift. Target_Gift is set to 1 if it is classified to gift, set to 0 if it is not.
Option_New	The option of the stretch reward is new designed, which is a product that investors have never seen before.	Besides keyword "new", if the reward target is an item other than all the products mentioned before in the project, it means it is new in the project.	If we reach this goal every backer will receive a Fudge Everything! limited edition ice cream scoop!	This stretch design a new addon on main product, classified to addon and new. Option_New is set to 1 if it is classified to new, set to 0 if it is not.
Option_Promise	Project creators have only	Promise is usually followed	We will add two additional	This stretch didn't promise

	made a promise that is irrelevant to investors' interests.	with Target_Non. If the stretch reward's option can't classify into any other classification, it means that the project creators have only promise orally.	Summer Series screenings at our most spectacular venue—Industry City in Sunset Park.	any substantial reward to backers. So, we classified it to non and promise. Option_Promise is set to 1 if it is classified to promise, set to 0 if it is not.
Option_Conditional	Only those who invest a certain amount of money can get rewards.	“Pledge, invest” with the following “more than, or more” have almost covers all the condition.	If we reach the stretch goal (€2650), every pledge of 25 euros or more will receive an extra reward: A video lesson by me teaching how to play the first	This stretch constraint that only those backs more than 25 euros can get the stretch reward, such situation is in classification: conditional. Option_Conditional is set to 1 if it is classified to conditional, set to 0 if it is not.

Table 4. 3 Sample Demographics of Stretch Target & Stretch Option

Measure	Categories	Number	Proportion (%)
Stretch target	Main	212	57.6
	Addons	20	5.4
	Device	20	5.4
	Non	39	10.6
	Gift	34	9.2
	Others	43	11.7
Stretch option	Upgrade	112	30.4
	New	98	26.7
	Promise	83	22.6
	Conditional	5	1.4
	Others	70	19.0

4.3 Measurement of Variables

In RQ1, funding efficiency was measured as dependent variable, independent variables are divided into three constructs. All the stretch goals would be pursued in stages. In each stage, the amount of increase may be different. The stretch amount should be inspected separately and find out the rules. To do so, the average amount of increase in each stretch level are included to measure the difficulty aspect. The higher the stretch amount is, the harder for backers to reach it. Projects that set goals with more difficulty may perform better (G. P. Latham et al., 1978; Locke & Latham, 1990) . Goals with high specificity can stimulate one's fighting spirit more than unspecific goals(Locke et al., 1981) . In contrast to those projects with only one stretch goal, projects with multiple stretch goal should defined their stretch goals more clearly, which can influence the goal specificity. Stretch level is considered to

affect project performance due to the degree of specificity. Rewards type can influence the performance of the goal(Presslee et al., 2013). We take reward target and reward option into account, main product upgrade is one of backers' favorite, which is the most adopted stretch method in our dataset (stretch target - main have 212 records, stretch option – upgrade have 112 records in our dataset).

In RQ2, the first aim is to understand which type of projects or creators would choose to stretch in a particular way. Thus, we put our sight on the independent variable in RQ1, treating them as dependent variable in RQ2. Besides, we also look at more reward target/option other than main and upgrade. The optional analysis would not be put into our model, but the result would be stay in mentioned.

4.4 Descriptive statistics

The descriptive statistics of data were shown in **Table 4.4**, **Table 4.5**. The correlation matrix for variables is shown in **Table 4.6**. The average stretch level is 3.49. These means that on average, each stretched project would announce new stretch goal for three times. The minimum stretch level is 1 (135 records), one of the hugest projects has 29 stretch levels. Stretch amount represents the average amount added to the stretch goal each stage. On average each stretch would add NTD\$6,044 to the next level. Considering that the column represents amount of money, the standard deviation is much higher. Reward option is the reward option chosen by the

creator to feedback their backers. Reward target is the reward target adopted by the creator to publish their stretch goal. Both Reward target and Reward option are Booleans, so mean value and standard deviation seems meaningless in this table. Stretch days means the number of days the project running its stretch goal, mean value 19.45 indicates that on average, a stretched project would have approximately 20 days to stretch. Dependent variable for RQ1 is Funding efficiency, which has mean value of 2.46, meaning that on average, each project that adopt stretch goal would have 2.46 times the amount of their original goal. Funding efficiency is the amount stretched project get per day after they start to stretch, which has a larger standard deviation, either. Min value 0 indicate that there is a project announced stretch goal but get no more funds.

As for RQ2, added columns such as Option_new, Option_gift, Target_addons, Target_non and Target_device are additional term of reward option and reward target, which are terms of reward type other than reward target – main and reward option - upgrade. Duration is the number of days the fundraising last for. In general, Kickstarter suggest project creators to raised funds for 30 days. Dependent variables in RQ2 are more intuitive, columns such as Comment Num, Backers Num, Update Num, and collaborators are all relevant to the project. Projects created and Projects backed are about project creators.

Table 4. 4 Descriptive Statistics for RQ1

	Column	Mean	Min	Max	Median	Std. Dev.	Skewness
Independent variables	Stretch level	3.494	1	29	2	3.796	2.877
	Stretch amount	6044.787	31.667	275000	1500	18901.18	9.450
	Reward target	0.576	0	1	0	0.494	0.854
	Reward option	0.304	0	1	1	0.46	-0.309
	Stretch days	19.606	1	54	21	11.556	0.390
Dependent variables	Funding efficiency	19974.07	0	593318.2	4148.22	61195.55	93841

Table 4. 5 Descriptive Statistics for RQ2

	Column	Mean	Min	Max	Median	Std. Dev.	Skewness
Independent variables	Comment number	93.239	0	2967	6	325.165	5.727
	Backers number	282.291	3	7587	119	611.907	6.794
	Update number	17.522	0	106	12	16.328	2.231
	Collaborators	0.312	0	8	0	1.007	4.603
	Projects created	4.696	1	44	2	6.473	2.917
	Projects backed	24.622	0	329	7	45.664	3.619
Dependent variables	Stretch amount	6044.787	31.667	275000	1500	18901.18	9.450
	Stretch level	3.494	1	29	2	3.796	2.877
	Reward target	0.576	0	1	0	0.494	0.854
	Reward option	0.304	0	1	1	0.46	-0.309
	Target_addons	0.054	0	1	0	0.227	3.948
	Target_device	0.054	0	1	0	0.227	3.948
	Option_new	0.266	0	1	0	0.442	1.062
	Option_gift	0.092	0	1	0	0.29	2.827
	Target_non	0.106	0	1	0	0.308	2.571
	Duration	30.209	6	1	30	9.832	0.695

Table 4. 6 Correlation Matrix for Variables in stretched projects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Stretch level	1								
(2) Stretch amount	-0.005	1							
(3) Stretch option(upgrade)	0.192	0.04	1						
(4) Stretch target(main)	0.31	-0.035	0.316	1					
(5) Comments number	0.546	0.241	0.257	0.187	1				
(6) Backers number	0.372	0.34	0.195	0.071	0.787	1			
(7) Update number	0.487	0.065	0.177	0.156	0.509	0.405	1		
(8) Duration	-0.069	0.051	0.075	-0.124	0.005	0.039	0.149	1	
(9) Stretch days	0.261	0.124	0.048	0.184	0.196	0.162	0.257	0.462	1
(10) Collaborators	0.319	0.211	0.182	0.053	0.442	0.385	0.356	0.065	0.093
(11) Created project	0.248	-0.043	0.006	0.223	0.252	0.171	0.206	-0.167	0.105
(12) Backed project	0.241	-0.036	0.058	0.142	0.26	0.205	0.262	-0.107	0.051
(13) Funding efficiency	0.36	0.431	0.189	0.054	0.684	0.705	0.298	-0.079	0.007

	(10)	(11)	(12)	(13)
(10) Collaborators	1			
(11) Created project	0.071	1		
(12) Backed project	0.225	0.442	1	
(13) Funding efficiency	0.399	0.137	0.186	1

4.5 Empirical Result

Using PLS-SEM as analysis method, we build a measurement of Goal-setting theory and explore the project-goal selection to our research model. RQ1 and RQ2 were analyzed separately. For RQ1, our indicators were constructed to estimate the benefit of stretch goal under Goal-setting theory. For RQ2, we find the project and creator's tendency to set various kind of stretch goal. **Table 4.7** shows the summarized result of hypothesis. The analysis results were built and presented in **Table 4.8 Table 4.9 and Table 4.10**

Effects in RQ1

Shown in **Table 4.8**. In the testing result of RQ1, the effects of the Stretch amount, Stretch level, Reward target(main), and Reward option(upgrade) are significant to funding efficiency, β are 0.418, 0.355, -0.081, and 0.129 respectively. In summary, H1 and H2 are positively supported. But for H3a, reward target(main) to funding efficiency has p-value 0.036, means that reward target(main) is significant to funding efficiency. However, β value -0.081, which means H3a has been overturned. Reward target for the main product has negative effect on funding efficiency. H3b is positively supported, β value 0.129 and P value smaller than 0.001. Reward option(upgrade) is positively affecting the funding efficiency. The R Square is 0.322 for funding efficiency.

Effects in RQ2

In RQ2, acting as exploratory analysis in our research. We divide it into two sides for processing. In **Table 4.9**, we classify the dependent variable according to RQ1. To build a connection between RQ1 and RQ2, the 4 independent variables in RQ1 such as stretch amount, stretch level, reward target(main) and reward option(upgrade) had been put in. For creators, their created projects number seems to positively affect their choice of reward target, β value 0.148. Their backed projects number is negatively associated with stretch amount with β value -0.087. Comments number is the most influence variable in a project, positively associated with stretch level ($\beta = 0.431$), reward target ($\beta = 0.252$) and reward option ($\beta = 0.243$). Backers number is positively associated with stretch amount ($\beta = 0.373$). Update number is related to stretch level ($\beta = 0.276$). Duration has negatively effect on stretch level with $\beta = -0.097$. In H4a, only creators' backed number is significant. In H4b, there are no sign that creators' characteristic would relate to stretch level. H4c, created projects number is positively associated with their stretch reward target. H4d was not significant. In H5a, we can see that backers' number is related to stretch amount. As for H5b, there are three variable Comments, Updates, and Duration significant to stretch level. And comments number is also play an important role in H5c and H5d.

In **Table 4.10**, We kept those path that are significant and see if it is fit to our model.

Creator experience is negatively significant to Target_device, β are -0.055 and -0.061.

Project comment number is positively significant to those three abstracts of stretch

goal, β are 0.461, 0.243 and 0.252, respectively. Project duration is negative

significant to stretch level and Option_new, and is positive significant to stretch days,

β are -0.105, -0.097 and 0.469 separately. Collaborator is negatively significant to

Option_gift. Backers Num is separately negatively significant to reward target(main)

and positively significant to Stretch amount. Project update number is positively

significant to Stretch days and Stretch level, β are 0.114 and 0.276, while negatively

significant to Target_device, Option_promise, β are -0.105 and -0.055.

Table 4. 7 Result summary

Hypothesis	Support/Not support
H1	Support
H2	Support
H3a	Negative
H3b	Support
H4a	Partially Support (Backed Projects)
H4b	Not support
H4c	Partially Support (Created Projects)
H4d	Not support
H5a	Partially Support (Backers)
H5b	Partially Support (Comments/Updates/Duration)
H5c	Partially Support (Comments)
H5d	Partially Support (Comments)

Table 4. 8 Hypothesis testing result for RQ1

	β	VIF	T Values	P Values	R square
Stretch amount -> Funding efficiency	0.418	1.004	5.996	0.000***	0.332
Stretch level -> Funding efficiency	0.355	1.115	5.064	0.000***	
Reward target(main) -> Funding efficiency	-0.081	1.197	2.096	0.036*	
Reward option(upgrade) -> Funding efficiency	0.129	1.126	3.660	0.000***	

Table 4. 9 Hypothesis testing result for RQ2 (β /T value/P value)

	Stretch amount	Stretch level	Reward target	Reward option
Projects created	-0.048/1.554/0.115	0.067/1.214/0.230	0.148/2.487/0.009**	-0.057/1.030/0.307
Projects backed	-0.087/2.866/0.003**	0.020/0.327/0.747	0.020/0.330/0.729	0.005/0.076/0.940
Collaborator	0.133/1.637/0.096	0.065/0.776/0.439	-0.030/0.525/0.597	0.072/1.158/0.235
Comments	-0.033/0.220/0.824	0.461/3.894/0.000***	0.252/3.003/0.004**	0.243/2.967/0.002**
Backers	0.373 /2.250/0.022*	-0.144/1.175/0.226	-0.177/2.169/0.034*	-0.035/0.431/0.662
Update	-0.088/1.299/0.180	0.276/3.276/0.001**	0.090/1.534/0.114	0.044/0.574/0.496
Duration	0.023/0.422/0.672	-0.097/2.862/0.004**	-0.103/1.985/0.047*	0.055/0.997/0.315

Table 4. 10 All significant relation for RQ2

	β	T Values	P Values
Projects created -> Reward target(main)	0.148	2.483	0.013*
Projects created -> Target_device	-0.055	1.974	0.049*
Projects created ->Option_new	0.180	2.785	0.005**
Projects created -> Option_promise	-0.123	2.072	0.038*
Projects created -> Stretch days	0.138	3.641	0.000***
Projects backed -> Target_device	-0.061	2.960	0.003**
Projects backed -> Option_gift	0.172	2.141	0.032*
Projects backed -> Stretch amount	-0.087	2.851	0.004**
Collaborator -> Option_gift	-0.085	2.416	0.016*
Comment Num-> Reward target(main)	0.252	2.985	0.003**
Comment Num-> Reward option(upgrade)	0.243	3.131	0.002**
Comment Num-> Stretch level	0.461	3.818	0.000***
Backers Num -> Reward target(main)	-0.177	2.198	0.028*
Backers Num -> Stretch amount	0.373	2.290	0.022*
Update Num-> Target_device	-0.105	2.738	0.006**
Update Num-> Option_promise	-0.055	2.063	0.049*
Update Num-> Stretch days	0.114	2.369	0.018*
Update Num-> Stretch level	0.276	3.276	0.001**
Duration ->Option_new	-0.105	2.127	0.034*
Duration -> Stretch days	0.469	8.268	0.000***
Duration -> Stretch level	-0.097	2.909	0.004**

4.6 Discussion

Our study focused on the crowdfunding performance after it reached goal. We suggest that project creators should considered adopt the stretch goal, then we groped for an effective variable that act as a key factor to improve the stretch performance.

The three key dimensions are difficulty, specificity, and reward. These three dimensions are independent variables in RQ1, dependent variables in RQ2. In RQ2, to explore every possible factor, we have added some variables to dig deeper into the discussion.

Discussion about Goal-setting theory

Our RQ1 refers to the Goal-setting theory. The point is that difficult goal can increase the level of performance required on a task (Erez et al., 1990). For stretch amount setting, we assume that difficulty plays an important role to decide how much money should they stretched for. The stretch goal amount is positively related to the funding efficiency, proved the theory that performance is better when difficulty is higher (Locke et al., 1984). In this case, projects with higher expectation would stretch for higher goal, making the stretch difficult to achieve. By doing so, backers' desire to success would be motivate and coherently the performance of stretch would be better.

In Goal-setting theory, there are lots of studies have proved the relationship between specificity and performance(Feng & Chen, 2014; Scott & Nowlis, 2013). The positive effect for stretch level on funding efficiency can inferred from this theory since the more the stretch level announced, the better the performance of stretch goal is. We believed that this result is consistent with those studies of the relationship between funding performance and goal specificity. A specific goal would make it easier for one to pursue. Multiple stretch level represents that there is a fine division between each level. Result shows that the more the stretch level is, the better the stretch performance could be.

Last part is about rewards. As a basic component in Goal-setting theory(Locke & Latham, 2002), rewards type is an indispensable research target in our study. Statistics shows that setting a stretch goal to upgrade your product is benefit for your fundraising performance. Our research shows that the adoption of upgrade the product could have positive influence on funding efficiency. On the other side, the reward target aims to main product could have negative influence on funding efficiency. For H3A, reward target aims to the main product did not have benefit for funding performance is unexpected. We speculate that is because of herd behavior. Managers could make their decision hastily, ignoring their own situation under herd behavior (Scharfstein & Stein, 1990). Since setting stretch rewards for main product is the most

common stretch method in stretch goal, project creators could be lack of consideration, failed to find the suitable way for themselves, and followed the mainstream form to implement stretch goal mistakenly. The result indicated that different kinds of stretch rewards can definitely affect the performance of stretch, and the most popular stretch method may not be the best choice. It is better for project creators to consider the situation of the project and the wishes of backers to set appropriate stretch goal.

Discussion about RQ2

Being an exploratory research, statistics for RQ2 is harder to find the association, we would explain the results one by one. Project created and project backed are classified into the experience of creator. Previously created and backed campaigns or not are associated with the success of project (Davies & Giovannetti, 2018). The decision-making would be influenced by creators' experience (Eberhardt et al., 2019). Creators that have created projects before preferring to set target rewards as the main product. The mainstream reward target still looks appeal to experienced creators. However, mainstream reward option - upgrade seems no attractiveness for creators to choose. Besides, although the stretch amount and stretch level are significant to funding performance, they are not related to the number of projects fundraisers created. As for backed projects' number, the more projects the creators have backed, the higher the stretch amount they set. Social capital may be one of the factors. For

creators, funding other projects is positively associated with crowdfunding performance (Zheng et al., 2014), which means they would have more capital to carry out higher stretch amount. Stretch level, Reward target and reward option are unrelated to backed projects number. To sum up, the impact of project creators' experience to stretch method is quite limited.

Comment quantity is directly associated with crowdfunding performance (Wang et al., 2018). This phenomenon can also be applied to stretch goals. Projects with more engagement in crowd (comments more) tend to stretch more and choose the mainstream stretch style, and the stretch level would be higher, too. To our surprise, project with longer duration would adopt less stretch level. We thought that might because of projects that with longer duration are with larger funding goal and may have less self-efficacy. Creators with lower self-efficacy can lower the goal they believe they can achieve (Seo & Ilies, 2009). Collaborators number have no relationship to all these four dependent variables, the team scale of project does not influence their stretch strategy. The number of backers is positively correlated with stretch amount, and negatively correlated with the use of taking main product as stretch rewards. Others like stretch level and upgrade option are not related to backer number. As for update quantity, stretch level is affected by both. More update with more stretch level is seemingly ordinary since many projects choose to announce their stretch goal detail

on update board. The rest insignificant relationships are update numbers to stretch amount, update to main - reward target, update numbers to upgrade - reward option, duration to stretch amount and duration to reward option (upgrade). We can find that projects for stretch amount and reward option, project characteristics just have less influence. Only one of the five factors are significant for these two variables.

The concluded model is shown below in **Figure 4. 4**. To simplify RQ2 and integrate with RQ1, the following variables stretch amount, stretch level, reward target(main) and reward option(upgrade) are reserved in RQ2 model. Besides, only the significant variables are able to see in lines.

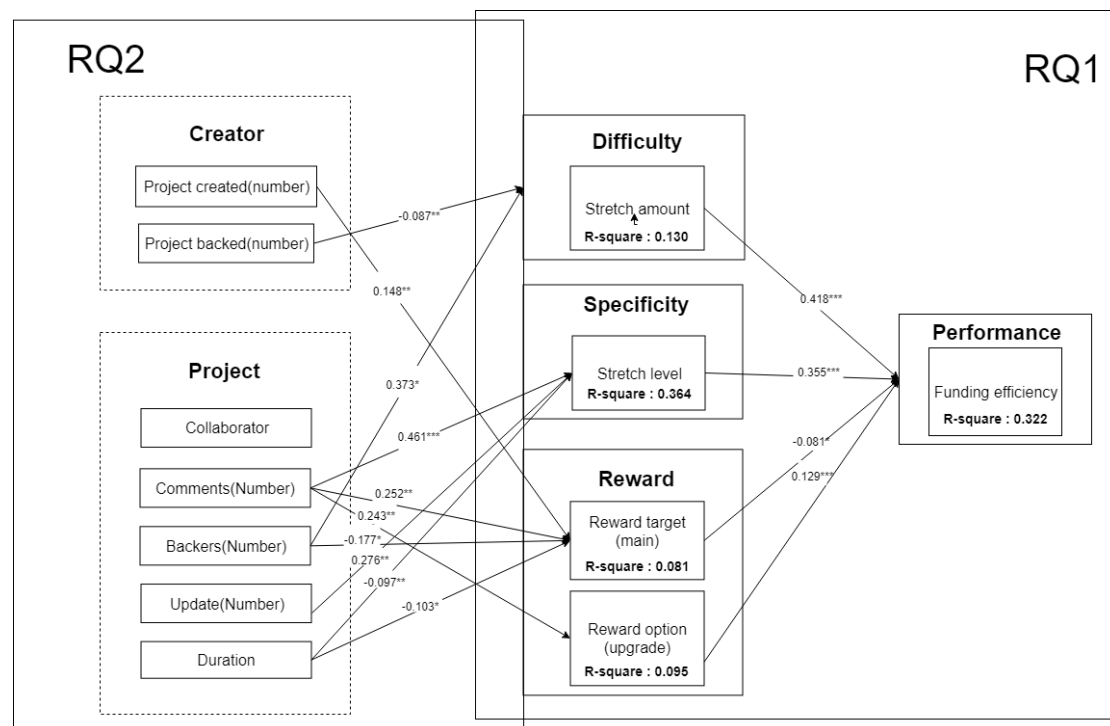


Figure 4. 4 Result of model hypothesis

Chapter 5 Conclusions

5.1 Implications for research

According to the studies before, projects goal can't be too easy to achieve (Kuppuswamy & Bayus, 2018), the funding velocity would be slow down after goaled (Dai & Zhang, 2019). While in the meantime, there are studies pointed out that projects with higher goal would deduct willingness for potential backers to support the project (Haug & Haslum, 2016), external goal was suggested to achieve the goal earlier. We can see stretch goal as an alternative way to maintain potential backers' funding invention and even keep improving it.

Goal-Setting theory is still suitable for stretch goal in crowdfunding. Difficulty, specificity, and rewards are included in our model. Result showing that funding efficiency after goal is influence by the goal creators built. In our case, stretch with more stage or with more amount is both effective for the performance. The result is echo to the research that both difficulty and specificity are positively associated with performance (Klein et al., 1990; Locke & Latham, 1990). Stretch reward related to main product is not recommend since it may reduce backers' investment motivation. The reward option "Upgrade" is adoptable since it is better for stretch performance.

Our study opened up a new research direction for crowdfunding. Instead of limiting the success of crowdfunding to "reaching the goal or not", we extend the

fundraising performance to stretch performance. The determinants of crowdfunding success had also turned into the method of stretch. Stretch goal is probably an important issue for crowdfunding in the future, not only stretch goal setting but also suitable project characteristic should be considered to making a better stretch goal.

In previous crowdfunding research, goal setting theory is less adopted and would not associate with crowdfunding's goal amount. Our study continue with the research of Li and Jarvenpaa (2015), extend the goal setting theory to the crowdfunding's stretch goal domain. Besides specificity and difficulty, the influence of reward form is also been discussed. The future study of stretch goal can start from our research, specificity, difficulty, and reward are the key factor when exploring the stretch goal.

5.2 Implications for practice

This study aims to build a prototype of stretch goal system for those projects that are not content with only 100% funding. First, we suggest creators not too afraid of announcing stretch goal. Although Kickstarter did not suggest every project to stretch because of the increase of project complexity, the benefit of using stretch goal is still visible. Second, we find an appropriate way for creators to stretch. In contrast to others reward method, the better rewards method of stretch could be upgrade the main product. Long term stretch may decrease the efficiency of stretch goal performance. Stretch level should announce more and stretch amount can be higher.

For every project creator in crowdfunding, they should first consider whether they are able to survive the risk of setting stretch goal. The excess funds should be allocated properly. Blair and Marcum (2017) suggested project creators notice four key factors. First, keep the rewards scale in control; Second, communicate with backers more often; Third, all the funds should spend for related purpose; Last, budgeting for third- party. After a series of considerations, if they choose to stretch, then they need to choose which way to stretch. The goal setting, reward type, and project's remaining time should be considered to higher the performance of stretch. Creators are recommended to set their stretch goal more boldly. They can choose to divide stretch goal into multiple level or set higher goal amount directly. Besides, the mainstream reward style may not be suitable for every project. Our research has not found out which project better adopting which stretch reward, but the general direction of reward setting is certain. Some of reward ways cannot attract investors apparently.

Besides the direct effect on funding performance, project characteristic and creator experience are needed to consider when deciding the stretch goal detail. The relationship between project characteristic and stretch goal can not be neglect since stretch goal is closely related to comment, update and others' factor. Under different condition should creators announce different stretch goal.

5.3 Limitation and future research

There are several limitations in our research. First, this study only scrapes data with the project having keywords ‘stretch goal’ in their home page, while most of projects do not put the news of stretch goal on home page. For those projects choose to adopt stretch goal after it goaled, they prefer to announce it on the ‘update’ area instead of directly edit the home page. That means there maybe exist a fundamental difference between those projects announce stretch goals on their homepage and those on update page. Second, our research didn’t consider the negative impact on misuse of stretch goal. Li and Jarvenpaa (2015) found delivery delay a critical factor of setting a stretch goal. Project creators still need to consider their limits of ability and choose appropriate way to stretch. Besides, the difficulty of producing rewards should be taken into consideration, too. Just like the initial pledge and reward, creators cannot set rewards that are difficult for them to offer, or this project may fail to deliver even if they have success the initial goal. Third, lack of others possible variables. As a tentative prototype, our research only put few basic variables into our model. However, there must be as much play space as the initial goal setting studies, which mean there are still lots of ways to explore. For example, our research did not consider project scale into consideration. In contrast to those normal homemade projects, well-prepared projects with bigger scale should adopt different type of

stretch decision.

For future work, we suggest that scraping data day by day can get a more precisely estimate. The classification of reward type and goal setting can also be analyzed in more detail. There are still various kinds of stretch goal type in online crowdfunding, lots of aspects needed to be carefully considered.

Reference

- Ahlers, G. K., Cumming, D., Günther, C., & Schweizer, D. (2015). Signaling in equity crowdfunding. *Entrepreneurship Theory and Practice*, 39(4), 955-980.
- Aljamal, Y., Prabhakar, N., Saleem, H., & Farley, D. R. (2019). Can the Perceived Difficulty of a Task Enhance Trainee Performance? *Journal of Surgical Education*, 76(6), e193-e198.
- Allison, T. H., Davis, B. C., Webb, J. W., & Short, J. C. (2017). Persuasion in crowdfunding: An elaboration likelihood model of crowdfunding performance. *Journal of business venturing*, 32(6), 707-725.
- Anglin, A. H., Short, J. C., Drover, W., Stevenson, R. M., McKenny, A. F., & Allison, T. H. (2018). The power of positivity? The influence of positive psychological capital language on crowdfunding performance. *Journal of business venturing*, 33(4), 470-492.
- Beier, M., & Wagner, K. (2015). *Crowdfunding success: a perspective from social media and e-commerce*. Paper presented at the Thirty Sixth International Conference on Information Systems, Fort Worth.
- Belleflamme, P., Lambert, T., & Schwienbacher, A. (2014). Crowdfunding: Tapping the right crowd. *Journal of business venturing*, 29(5), 585-609.
- Blair, E., & Marcum, T. (2017). Overfunded crowdfunded projects: an even bigger headache?. Entrepreneurship & Innovation Exchange. *Entrepreneur and Innovation Exchange*.
- Burtch, G., Ghose, A., & Wattal, S. (2013). An empirical examination of the antecedents and consequences of contribution patterns in crowd-funded markets. *Information Systems Research*, 24(3), 499-519.
- Chemla, G., & Tinn, K. (2020). Learning through crowdfunding. *Management Science*, 66(5), 1783-1801.
- Cheng, J., Lo, C., & Leskovec, J. (2017). *Predicting intent using activity logs: How goal specificity and temporal range affect user behavior*. Paper presented at the Proceedings of the 26th International Conference on World Wide Web Companion.
- Clauss, T., Breitenecker, R. J., Kraus, S., Brem, A., & Richter, C. (2018). Directing the wisdom of the crowd: the importance of social interaction among founders and the crowd during crowdfunding campaigns. *Economics of Innovation and New Technology*, 27(8), 709-729.
- Cohrs, C. M., Shriver, M. D., Burke, R. V., & Allen, K. D. (2016). Evaluation of increasing antecedent specificity in goal statements on adherence to positive behavior-management strategies. *Journal of applied behavior analysis*, 49(4),

768-779.

- Cordova, A., Dolci, J., & Gianfrate, G. (2015). The determinants of crowdfunding success: evidence from technology projects. *Procedia-Social and Behavioral Sciences*, 181, 115-124.
- CrowdWatch. (2020). 2019 台灣群眾集資年度報告. Retrieved from <https://www.2019.report.crowdwatch.tw/>
- Dai, H., & Zhang, D. J. (2019). Prosocial goal pursuit in crowdfunding: Evidence from kickstarter. *Journal of Marketing Research*, 56(3), 498-517.
- Davies, W. E., & Giovannetti, E. (2018). Signalling experience & reciprocity to temper asymmetric information in crowdfunding evidence from 10,000 projects. *Technological Forecasting and Social Change*, 133, 118-131.
- de Place, A.-L., & Brunot, S. (2020). Motivational and behavioral impact of possible selves: When specificity matters. *Imagination, Cognition and Personality*, 39(4), 329-347.
- Demirkol, I. C., & Nalla, M. K. (2018). Enhancing motivation and job satisfaction of police officers: A test of high performance cycle theory. *Criminal Justice and Behavior*, 45(12), 1903-1917.
- Deschamps, C., & Mattijs, J. (2017). Sustainable goal setting: a large-scale case in management practice. *International Journal of Productivity and Performance Management*.
- Dikaputra, R., Sulung, L. A. K., & Kot, S. (2019). Analysis of Success Factors of Reward-Based Crowdfunding Campaigns Using Multi-Theory Approach in ASEAN-5 Countries. *Social Sciences*, 8(10), 293.
- Eberhardt, W., de Bruin, W. B., & Strough, J. (2019). Age differences in financial decision making: The benefits of more experience and less negative emotions. *Journal of Behavioral Decision Making*, 32(1), 79-93.
- Epton, T., Currie, S., & Armitage, C. J. (2017). Unique effects of setting goals on behavior change: Systematic review and meta-analysis. *Journal of consulting and clinical psychology*, 85(12), 1182.
- Erez, M., Gopher, D., & Arzi, N. (1990). Effects of goal difficulty, self-set goals, and monetary rewards on dual task performance. *Organizational behavior and human decision processes*, 47(2), 247-269.
- Erhel, S., & Jamet, E. (2019). Improving instructions in educational computer games: Exploring the relations between goal specificity, flow experience and learning outcomes. *Computers in Human Behavior*, 91, 106-114.
- Ericsson, K. A., Prietula, M. J., & Cokely, E. T. (2007). The making of an expert. *Harvard business review*, 85(7/8), 114.
- Espedido, A., & Searle, B. J. (2018). Goal difficulty and creative performance: The

- mediating role of stress appraisal. *Human Performance*, 31(3), 179-196.
- Etter, V., Grossglauser, M., & Thiran, P. (2013). *Launch hard or go home! Predicting the success of Kickstarter campaigns*. Paper presented at the Proceedings of the first ACM conference on Online Social Networks (COSN'13).
- Evans, E. J. (2020). Assessment of the High Performance Cycle to Understand Work Motivation Among US Workers. *Walden University ScholarWorks*.
- Feng, C. Y., & Chen, M. P. (2014). The effects of goal specificity and scaffolding on programming performance and self-regulation in game design. *British Journal of Educational Technology*, 45(2), 285-302.
- FINDIT. (2020). Retrieved from <https://findit.org.tw/researchPageV2.aspx?pageId=1326>
- Fleming, L., & Sorenson, O. (2016). Financing by and for the masses: An introduction to the special issue on crowdfunding. *California Management Review*, 58(2), 5-19.
- Forbes, H., & Schaefer, D. (2017). Guidelines for successful crowdfunding. *Procedia CIRP*, 60(1), 398-403.
- Fox, G. E., & Baker, N. R. (1985). Project selection decision making linked to a dynamic environment. *Management Science*, 31(10), 1272-1285.
- Gierczak, M. M., Bretschneider, U., Haas, P., Blohm, I., & Leimeister, J. M. (2016). Crowdfunding: outlining the new era of fundraising. In *Crowdfunding in Europe* (pp. 7-23): Springer.
- Gunasti, K., & Ozcan, T. (2019). The role of scale-induced round numbers and goal specificity on goal accomplishment perceptions. *Marketing Letters*, 30(2), 207-217.
- Gutt, D., von Rechenberg, T., & Kundisch, D. (2020). Goal achievement, subsequent user effort and the moderating role of goal difficulty. *Journal of Business Research*, 106, 277-287.
- Hagedorn, A., & Pinkwart, A. (2016). The financing process of equity-based crowdfunding: An empirical analysis. In *Crowdfunding in Europe* (pp. 71-85): Springer.
- Hall, H. K., Weinberg, M. S., & Jackson, A. (1987). Effects of goal specificity, goal difficulty, and information feedback on endurance performance. *Journal of Sport and Exercise Psychology*, 9(1), 43-54.
- Haug, J., & Haslum, M. H. (2016). *External Goal Setting in Reward-Based Crowdfunding-Inventor, Marathoner, Sprinter and Extreme Sprinter*. NTNU,
- Hauge, J. A., & Chimahusky, S. (2016). Are promises meaningless in an uncertain crowdfunding environment? *Economic Inquiry*, 54(3), 1621-1630.
- Hirsch, B., Nitzl, C., & Reemts, S. (2018). The neglected mediating role of

- self-efficacy in the goal setting process in local public administrations. *Journal of Business Economics*, 88(1), 41-63.
- Hoegen, A., Steininger, D. M., & Veit, D. (2018). How do investors decide? An interdisciplinary review of decision-making in crowdfunding. *Electronic Markets*, 28(3), 339-365.
- Jack, S., Dodd, S. D., & Anderson, A. R. (2008). Change and the development of entrepreneurial networks over time: a processual perspective. *Entrepreneurship and Regional Development*, 20(2), 125-159.
- Janků, J., & Kučerová, Z. (2018). Successful crowdfunding campaigns: The role of project specifics, competition and founders' experience. *Finance a úvěr-Czech Journal of Economics and Finance*, 68(4), 351-373.
- Joenssen, D., Michaelis, A., & Müllerleile, T. (2014). A link to new product preannouncement: Success factors in crowdfunding. *Available at SSRN 2476841*.
- Jong, J. (2019). Racial diversity and task performance: The roles of formalization and goal setting in government organizations. *Public Personnel Management*, 48(4), 493-512.
- Klein, H. J., Wesson, M. J., Hollenbeck, J. R., & Alge, B. J. (1999). Goal commitment and the goal-setting process: conceptual clarification and empirical synthesis. *Journal of applied psychology*, 84(6), 885.
- Klein, H. J., Whitener, E. M., & Ilgen, D. R. (1990). The role of goal specificity in the goal-setting process. *Motivation and Emotion*, 14(3), 179-193.
- Koch, J.-A. (2016). *The phenomenon of project overfunding on online crowdfunding platforms—Analyzing the drivers of overfunding*. Paper presented at the Twenty-Fourth European Conference on Information Systems (ECIS), İstanbul, Turkey.
- Koch, J.-A., & Siering, M. (2015). *Crowdfunding success factors: The characteristics of successfully funded projects on crowdfunding platforms*. Paper presented at the Twenty-Third European Conference on Information Systems (ECIS), Münster, Germany.
- Kromidha, E., & Robson, P. (2016). Social identity and signalling success factors in online crowdfunding. *Entrepreneurship & Regional Development*, 28(9-10), 605-629.
- Kunz, M. M., Bretschneider, U., Erler, M., & Leimeister, J. M. (2017). An Empirical Investigation of Signaling in Reward-Based Crowdfunding. *Electronic Commerce Research*, 17(3), 425-461.
- Kuppuswamy, V., & Bayus, B. L. (2018). Crowdfunding creative ideas: The dynamics of project backers. In *The Economics of Crowdfunding* (pp. 151-182):

Springer.

- Lagazio, C., & Querci, F. (2018). Exploring the multi-sided nature of crowdfunding campaign success. *Journal of Business Research*, 90, 318-324.
- Latham, G., Seijts, G., & Slocum, J. (2016). The goal setting and goal orientation labyrinth. *Organizational Dynamics*, 4(45), 271-277.
- Latham, G. P., Locke, E. A., & Fassina, N. E. (2002). The high performance cycle: Standing the test of time. In S. Sonnetag (Ed.), *Psychological management of individual performance* (pp. 201-228): John Wiley & Sons, Inc.
- Latham, G. P., Mitchell, T. R., & Dossett, D. L. (1978). Importance of participative goal setting and anticipated rewards on goal difficulty and job performance. *Journal of applied psychology*, 63(2), 163.
- Li, Z., & Jarvenpaa, S. (2015). Motivating IT-mediated crowds: the effect of goal setting on project performance in online crowdfunding. *Available at SSRN 2672056*.
- Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational behavior and human performance*, 3(2), 157-189.
- Locke, E. A., Frederick, E., Lee, C., & Bobko, P. (1984). Effect of self-efficacy, goals, and task strategies on task performance. *Journal of applied psychology*, 69(2), 241.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting & task performance*: Prentice-Hall, Inc.
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American psychologist*, 57(9), 705.
- Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969–1980. *Psychological bulletin*, 90(1), 125.
- Lunenburg, F. C. (2011). Goal-setting theory of motivation. *International Journal of Management, Business, and Administration*, 15(1), 1-6.
- Madsen, J. M., & McMullin, J. L. (2020). Economic Consequences of Risk Disclosures: Evidence From Crowdfunding. *The Accounting Review*, 95(4), 331-363.
- Makýšová, L., & Vaceková, G. (2017). Profitable Nonprofits? Reward-Based Crowdfunding in the Czech Republic. *NISPAcee Journal of Public Administration and Policy*, 10(2), 203-227.
- McKenny, A. F., Allison, T. H., Ketchen Jr, D. J., Short, J. C., & Ireland, R. D. (2017). How should crowdfunding research evolve? A survey of the entrepreneurship theory and practice editorial board. *Entrepreneurship Theory and Practice*, 41(2), 291-304.

- Mikami, Y. (2017). Relationships between goal setting, intrinsic motivation, and self-efficacy in extensive reading. *Jacet journal*, 61, 41-56.
- Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of business venturing*, 29(1), 1-16.
- Mollick, E. R., & Kuppuswamy, V. (2014). After the campaign: Outcomes of crowdfunding. *UNC Kenan-Flagler Research Paper*(2376997).
- Muchinsky, P. M. (2006). *Psychology applied to work: An introduction to industrial and organizational psychology*: Cengage Learning.
- Muizzuddin, T., Ghasarma, R., Putri, L., & Adam, M. (2017). Financial Literacy; Strategies and Concepts in Understanding the Financial Planning With Self-Efficacy Theory and Goal Setting Theory of Motivation Approach. *International Journal of Economics and Financial*, 7(4), 182-188.
- Oh, S., & Baek, H. (2016). Successful crowdfunding: Focusing on social interaction and goal achievement motivations. *The Journal of Information Systems*, 25(4), 141-161.
- Pina e Cunha, M., Giustiniano, L., Rego, A., & Clegg, S. (2017). Mission impossible? The paradoxes of stretch goal setting. *Management Learning*, 48(2), 140-157.
- Presslee, A., Vance, T. W., & Webb, R. A. (2013). The effects of reward type on employee goal setting, goal commitment, and performance. *The Accounting Review*, 88(5), 1805-1831.
- Rechenberg, T., & Gutt, D. (2016). *Challenge accepted!-the impact of goal achievement on subsequent user effort and the implications of a goal's difficulty*. Paper presented at the Twenty-Fourth European Conference on Information Systems (ECIS), İstanbul, Turkey.
- Reemts, S., Hirsch, B., & Nitzl, C. (2016). The impact of goal setting on the individual work performance of German civil servants—Empirical evidence from local administrations. *ZögU Zeitschrift für öffentliche und gemeinwirtschaftliche Unternehmen*, 39(1-2), 89-101.
- Scharfstein, D. S., & Stein, J. C. (1990). Herd behavior and investment. *The American economic review*, 465-479.
- Scott, M. L., & Nowlis, S. M. (2013). The effect of goal specificity on consumer goal reengagement. *Journal of Consumer Research*, 40(3), 444-459.
- Seo, M.-g., & Ilies, R. (2009). The role of self-efficacy, goal, and affect in dynamic motivational self-regulation. *Organizational behavior and human decision processes*, 109(2), 120-133.
- Sitkin, S. B., See, K. E., Miller, C. C., Lawless, M. W., & Carton, A. M. (2011). The paradox of stretch goals: Organizations in pursuit of the seemingly impossible. *Academy of Management Review*, 36(3), 544-566.

- Song, Y., & van Boeschoten, R. (2015). Success factors for Crowdfunding founders and funders. *arXiv preprint arXiv:1503.00288*.
- Statista, C. (2019). Retrieved from <https://www.statista.com/outlook/335/100/crowdfunding/worldwide>
- Taylor, R. N. (1975). Age and experience as determinants of managerial information processing and decision making performance. *Academy of Management Journal*, 18(1), 74-81.
- Tyni, H. (2020). Double duty: Crowdfunding and the evolving game production network. *Games and Culture*, 15(2), 114-137.
- Wallace, S. G., & Etkin, J. (2018). How goal specificity shapes motivation: a reference points perspective. *Journal of Consumer Research*, 44(5), 1033-1051.
- Wang, N., Li, Q., Liang, H., Ye, T., & Ge, S. (2018). Understanding the importance of interaction between creators and backers in crowdfunding success. *Electronic Commerce Research and Applications*, 27, 106-117.
- Wessel, M., Thies, F., & Benlian, A. (2017). Opening the floodgates: The implications of increasing platform openness in crowdfunding. *Journal of Information Technology*, 32(4), 344-360.
- Yang, J., Liu, L., & Yin, C. (2019). A Non-Liner Decision Model for Green Crowdfunding Project Success: Evidence from China. *International journal of environmental research and public health*, 16(2), 187.
- Yurtkoru, E. S., Bozkurt, T., Bekta, F., Ahmed, M. J., & Vehap, K. (2017). Application of goal setting theory. *PressAcademia Procedia*, 3(1), 796-801.
- Zhang, Z., & Jia, M. (2013). How can companies decrease the disruptive effects of stretch goals? The moderating role of interpersonal-and informational-justice climates. *Human Relations*, 66(7), 993-1020.
- Zheng, H., Li, D., Wu, J., & Xu, Y. (2014). The role of multidimensional social capital in crowdfunding: A comparative study in China and US. *Information & Management*, 51(4), 488-496.
- Zwikael, O., Chih, Y.-Y., & Meredith, J. R. (2018). Project benefit management: Setting effective target benefits. *International Journal of Project Management*, 36(4), 650-658.