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Marketers make every effort effectively supervising innovative product projects

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This theoretical and empirical study presented a deeply analytical framework. Marketers effectively supervised innovative product quality involving innovative projects, especially aspect such as the design quality, and validated quality specification to meet customer needs. Thus, supervising the product quality and shipping schedule of innovative projects was the marketers' work. The product design of innovative projects was the designers' work. Competitive conflicts result when marketers and designers worked in antagonistic positions from an antagonistically competitive platform. Therefore, the major findings of this study were that competitive conflicts were due to a combination of two magnetic factors: a firm's incentive strategies and high compensations, and employees' human needs and desires. These two factors were strongly magnetic complementary forces. As a result, a firm's incentive strategies motivated employees to have strong performance for high compensations, for example, high bonuses and promotion to high position etc. The purpose of this study was to solve the over thirty years' worth of designer-marketer competitive conflicts found in high-tech companies worldwide.

Keywords: Marketer, designer, incentive strategies, competitive conflict, high compensative benefits.

INTRODUCTION

Lately, many high-tech companies have been greatly interested in new product development (NPD) projects because they make huge profits from innovative product's projects. When the research and development (R&D) department's designers execute the innovative product projects, they usually encounter further issues and competitive conflicts, such as (1) shortage issues of resources available to the designers; (2) the competitive conflicts of marketers' supervising the project quality and schedule of innovative products; (3) the competitive conflicts of marketers' supervision of validating product quality features and quality specification of innovative products to satisfy customer needs; and (4) marketers' competitive conflicts with designers are because of firm offering high compensations for strong performance staff

and making large profits from innovative products. The above-mentioned issues and competitive conflicts strongly impact NPD projects in high-tech companies. This study involves theoretical and empirical research and presents a deeply analytical framework for these issues and competitive conflicts.

The NPD projects regularly experience shortages of innovative resources, namely, new technologies, new equipment, new materials and new concepts. Meanwhile, the R&D designers dislike any interruptions that interfere with the work-in-process NPD projects. When someone interrupts a work-in-process project with an approved product plan and shipping plan, R&D designers must redesign and reschedule shipping plan. Someone servicing for potential customers can interfere with work-in-process NDP projects, such as real-time cases, urgent cases and redesign cases for personal reasons (Keaveney, 2008; Lam and Chin, 2005; Tatikonda and Montoya-Weiss, 2001).

Furthermore, the marketers always supervise the design

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quality and validate the product quality features and the quality specification of innovative products for high potential customer needs in NPD innovative projects. Additionally, Chou et al. (2007) illustrated that marketers wanted to redesign product new features for customers in new competitive marketplaces or to upgrade the quality specification of the innovative products. Therefore, these requirements for redesigning and supervising constantly cause conflicts between marketers and designers.

However, the director of R&D and the director of marketing always were in an antagonistically competitive platform (Souder 1988). The competitive conflicts are based on two antagonistic directors enforcing for their desires of high bonuses, high social status and authority (Saghafi et al. 1990). In other words, both antagonistic directors make effort to achieve strong performance. The director of marketing effectively supervises innovative product projects and the validating product quality of innovative products geared toward customer needs. However, the innovative product projects are the work of the R&D director. The two directors work in antagonistic positions from this antagonistically competitive platform and have the same desires for high bonuses, high social status and authority. Chou et al. (2007) presented that the result of a competitive conflict between marketers and designers is strongly in order to have employee's strong performance, positive contributions and firm's reasonable high compensations.

These competitive conflicts continually occur in high-tech companies. Recently, the solidly reasonable solutions to these competitive conflicts could not be found in the literature, but about former multi decade's articles.

Many of authors announce the title about integrating R&D and marketing for effective NPD projects. Since the competitive conflicts strongly hinder the operations of R&D innovation projects and made huge losses of R&D innovation products. For example, Souder (1977) indicated effectiveness of nominal and interacting group decision processes for integrating R&D and marketing. Further, Souder (1981) illustrated disharmony between R&D and marketing. Parry and Song (1993) represented determinants of R&D and marketing integration in high-tech Japanese firms. Thus, in this moment, Japanese firms had serious issues of R&D and marketing interface in 1990s. Further, Song et al. (1996) showed managing R&D-marketing integration in the new product development processes. Shaw et al. (2003) represented conflicts between engineers and marketers: the experience of German engineers. Garrett et al. (2006) expressed R&D and marketing integration mechanisms in NPD: a cross-cultural study between Singapore and New Zealand. Song and Noh (2006) also illustrated the NPD serious issues of marketing and R&D interface in the Korean high-tech industries. Further, Song and Thieme (2006) saw this vital issue of worldwide high-tech firms' problem and indicated the issues of a cross-national investigation of effective the R&D-marketing integration in

U.S., China, and Japan high-tech firms. Leenders and Wierenga (2008) represented the effect of the marketing and R&D interface on new product performance: case studies of U.S., U.K., Germany, Switzerland and The Netherlands. Keaveney (2008) indicated an attribution theory approach to marketer and engineer conflicts in high-tech companies. So the above mentioned; the worldwide vital impacts of R&D-marketing integrating in NPD projects are serious issues, and have existed over thirty years in the world's high-tech companies since 1977. Leenders and Wierenga (2008) equally indicated this is a serious R&D innovation management problem, but until now the field of competitive conflict management does not have effective solutions.

This study analyzes the factors involved in the marketers' effective supervision of innovative product projects in high-tech companies. Marketers' supervision of innovative product projects produces much competitive conflict between marketers and designers due to the marketers' desires (1) to gear the products toward the customers for strong customer satisfaction, (2) to obtain a tight lead-time and a tight schedule to launch products early and without delay, and (3) for perception as a quality brand name for high market share, among other factors. Chou et al. (2007) indicated that an intelligent firm usually uses incentive strategies to attract talented marketers and designers. However, the purposes of the compensation strategies are to meet the firm's urgent needs for firm's strong performance and large profits from innovative R&D products. In this regard, the causes of competitive conflicts are that the firm implements incentive strategies to attract employees to obtain sizable profits from innovative R&D products.

This competitive conflict between marketers and designers is a very serious problem because this competitive conflict can hinder from delaying the shipping schedule and decreasing the performance of innovative R&D projects, resulting in further losses from innovative products.

Therefore, the impacts of competitive conflict between designers and marketers are worthy of research. (Lu and Yang, 2005; Li and Atuahene-Gima, 2001; Atuahene-Gima, 2000; Crittenden et al., 1993; Souder, 1981; Weinrauch and Anderson, 1982) Based on empirical research, this study provides and validates a successful solution to resolve the over thirty years' worth of conflict issues.

This study is a theoretical, empirical and case-based study, and is geared toward the needs of marketing scholars and practitioners who are researching and working in markets. This study aims to present the latest findings for improving the employee performance, effective innovative management and efficient marketing operation for firm's reasonable profits, as well as to offer the timeliest data and most current thinking regarding solid marketing decisions and strategies in global industries.

Competitive conflicts

The traditional solutions of integrating marketers and designers

The traditional literature solutions aimed at reducing conflict. Griffin and Hauser (1992) investigated the integration of marketers and designers and found that designers generally agreed that designers should learn more about marketing business and courses (Leenders and Wierenga, 2008; Li, 1999; Gupta and Wilemon, 1990), to improve their communication skills (Griffin and Hauser, 1992; Van Den and Moenaert, 1998; Gupta et al., 1985), marketers and designers integrate a good personal relationship (Gupta and Wilemon, 1990), marketers learn time-based management of NPD, (Karagozoglu, 1993). Furthermore, Griffin et al. (1996) represented that the designers had to integrate a good personal relationship with marketers. Recently, Song et al. (2006) well knew and indicated that marketers should also learn more about the product features of their product lines [for example, 3C and information technology (IT) products] to improve the professional knowledge of product know-how, and know-why in order to reduce conflicts (Leenders and wierenga, 2008; Garrett et al., 2006; Li, 2001; Jones and Steven, 1999; Henke et al., 1993; Hise et al., 1990; Gupta et al., 1986). Furthermore, Leenders and wierenga (2008) recommended the methods of improving the marketer-designer relationships, such as job rotation, training aimed at understanding each other, marketers' not making unreasonable demands on designers, and designers' coming second to marketers in causes of (1) marketers keeping further potential customers, (2) customers placing large orders and (3) marketers driving firm's huge profits etc. These solutions obviously impacted the marketing-designer conflicts but did not address the main causes behind these conflicts because the conflicts still continued.

The analysis of the above-mentioned solutions reveals that the solutions did not succeed because they targeted external features and minor reasons behind the conflicts. These methods do not address the real causes that have been presented in the literature within the past thirty years. For example, improving communication skills, taking marketing courses, and learning product features are not difficult tasks, but they are not the true causes of the competitive conflicts, and the previously proposed measures can only marginally reduce, but not stop, the competitive conflicts in high-tech companies.

The real causes of the competitive conflicts

The solutions proposed by previous studies were based on the external features and minor reasons behind competitive conflicts and did not pinpoint the real causes. This study finds that the real causes of the competitive

conflicts are the solidly magnetic complementary forces of pushing and pulling forces as follows:

- (1) A firm's strong incentive strategies (a firm's pushing force);
- (2) A firm's high compensations, such as large bonuses and promotions to higher positions etc., offer for strong performance employees, positive contributions and the lowest losses (a firm's pushing force);
- (3) The employees' intrinsic human nature involving (a) greed, (b) selfishness, (c) desires for both recognition and benefits, etc. (employees' pulling force);
- (4) The employees' human needs, namely, desires for authority, high social status, and individual accomplishment, etc. (employees' pulling force);
- (5) The employees' desires for honor (for example, the marketer of the year, the director of the year) and real-time verbal praises (employees' pulling force).

Thus, the employees are strongly interested in high compensations from the firm's incentive strategies. This study vitally finds that both the employees' pulling forces and the firm's pushing force (for example, the above-mentioned) are consisted solidly magnetic complementary forces. Interestingly, the magnetic complementary forces drive the employees' constantly competitive conflicts. Thus, the competitive conflicts cannot easily be stopped in high-tech companies. In the existing literature, there were no analyses of the causes of magnetic complementary forces (for example, the relationships of the pushing and pulling forces) that strongly drive employees' competitive conflicts.

Furthermore, the intelligent firms understand and effectively use intrinsic human nature behaviors and needs to motivate the employees to seek incentive profits that will satisfy their desires for individual accomplishment, high social status and authority. So the successful firm can elicit the efforts of its employees to produce strong company performance and tremendous profits from innovative products. Thus, this study's hypotheses are as follows:

H₁: Positive perceptions of marketer's strong performance correlate with larger innovative product profits.

H₂: Positive perceptions of the conflicts of marketers and designers correlate with communication skill.

The effective solution of competitive conflicts

The effective solutions of this study for competitive conflicts are three main policies (1) a new organization scheme, (2) a high-performance compensation policy to solve competitive conflicts, and (3) the right perspective; they are analyzed in detail as follows:

A new organization scheme

This study uses the steadily peaceful, effective, and quiet method rapidly solve the problems of incentive competitive conflicts via peacefully changing organization, for example, using project manager system and changing traditional marketing department and R&D design department to the new department of innovative products, this department bases on project manager systems. The effective and peaceful method is a no conflict new organization.

An intelligent firm should set up a new department of combining marketers and designers together with a leader only. This leader, the vice managing director, should have the background of long-term excellent project manager experiences in this firm well knowing firm's management culture, as well as MBA and engineering bachelor degrees. The new department name is the Department of Innovative Products. This leader conducts lots of project managers for R&D innovative projects; the marketers and designers happily attend and enjoy an innovative project, all marketers and designers working in an innovative project must report to authorized project manager. This is a successful project manager system. This system is recommended canceling R&D department and director, as well as marketing department and director (Chou et al., 2007; Taikonda and Montoya-Weiss, 2001; Moenaert and Souder, 1990; Song and Parry, 1992; Eppinger, 1991)

A successful validation from Taiwan, a successful example, J. T. Wang of Acer computer Inc., he was a past vice managing director of R&D and marketing, past managing director, and current the president and CEO of Acer computer Inc. His background satisfied the above-mentioned. Acer computer Inc., under J. T. Wang conducting, did not have this problem of integration of marketers and designers.

This study finds the team policy of a project manager system is the best way. The project manager system bases on a full project manager system organization. This study endeavors after firm's harmonious, should eliminate any antagonistic competitive conflicts. This project manager organization can operate in harmonious and noncompetition as has eliminated antagonistic competitive positions (for example, eliminate R&D department and director as well as marketing department and director). This project manager organization is strongly demonstrated vital importance and success for stopping competitive conflict (Chou et al., 2007; Eppinger, 1991).

The new high-performance compensative policy

Most competitive conflicts over incentives originate from a firm's high compensation benefits. However, employees' competitive conflicts stem from the high

compensative benefits of incentive strategies, the compensation benefits are, namely, (1) large bonuses, (2) high stock options, (3) high salary, (4) promotions to higher positions, and (5) awards and honors, such as the director of the year or the marketer of the year etc. These benefits are methods of encouraging and motivating employees to work hard to achieve high performance and positive contributions. The employees are strongly interested in these benefits.

For all employees, an intelligent firm effectively endeavors to streamline the validating incentive and compensation mechanisms as follows: Firm considers and integrates in detail that employees' records of (1) strong performance, (2) positive contributions (for example, offering effective management, efficient operations and reasonable solutions), and (3) negative losses are via individual case operations.

Especially, the intelligent firm carefully evaluates employees' contributions, strong performance, compensation, and negative losses as follows. The firm considers the further case operations that, employee works and receives supports from other team members etc. (1) Whether employee's performance and contributions are completed alone or by a group effort. (2) Whether employee's approaches and methods are original or imitations (copies of other's methods or operations). (3) Whether employee uses more resources (new purchase or original equipment), or waste further resources (long-term occupy equipment or break down equipment). (4) Employee fully supporting resources (independently completes, supported from inside or outside firm). (5) The negative losses can be avoided or occurred in employee's invalid actions and decision making; the loss responsibility belongs to designer, marketer, project manager or manufacturer etc. (6) The firm determining the performance and compensation uses percentage weight methods (plus or minus scores) for each employee evaluation.

However, successful incentive compensations are divided into further levels which have different contexts, for example, level 1 for marketers; level 2 for designers; level 3 for project manager; level 4 for manufacturers; level 5 for quality, materials and general affairs departments etc.; and level 6 for high-level staff (senior manager, director, vice managing director and CEO) on a case-by-case evaluation. This policy will produce the least conflict and the most accurately evaluating positive performance and negative losses. A new high compensation policy for basic staff only has good effectiveness of stopping conflicts between marketers and designers.

The right perspective

The right perspective is highlighted here to change the employee's traditional concept from "my performance, my

benefits (selfish perspective); your performance, your benefits (greedy, jealous and competitive perspective)" to the new perspective of "the firm's performance and the firm's benefits (positive, noncompetition perspective and intensely harmonious cooperation for firm)". However, the purpose of this study is not only stopping employee's competitive conflicts but also intensely harmonious employee's cooperating for firm's strong performance and large benefits. Thus, the firm's performance is real performance, and the firm's benefits are real benefits; in contrast, "my benefits" plus "your benefits" does not equal the firm's benefits due to uncertain factors hindering and limiting "my benefits" and "your benefits" from translating to the firm's success and profits.

The effects provide the key point solutions of resolving incentive competitive conflict problems in order to rescue firm huge losses from competitive conflict impacts of innovative product projects, and inversely to gain lots of profits from R&D harmoniously innovative products.

This study has further hypotheses as follows:

H₃: Positive perceptions of effectively rapid R&D innovations correlate with firm high selling profits.

H₄: Positive perceptions of marketers efficiently developing new marketplaces are associated with high market share

Marketers' strong performance

Marketers make every effort for strong performance and high contributions starting from new concept design to innovative product shipping and profits coming. However, this process consists of team works and further resources from others supporters, such as, R&D innovative product designers, project manager, quality inspectors, purchasers and manufacturer etc. The marketing performance cannot be completed by marketer alone. From empirically analyzing, in this marketing performance regards, when designers, purchasers, and manufacturers have some troubles of technologies, operations and resources, they cannot fully support the innovative products, and negatively and intensely hinder their cooperative projects. Meanwhile, marketing performance should be very low.

Especially, marketer cannot wantonly change innovative product features of work-in-process products and arbitrarily redesign wants. The redesign wants are the mostly strong conflict impacts between designers and marketers. The standard operation processes (SOP) of product redesign processes of working processes indicate that any requirements of changing and/or redesigning for product features, product plan and shipping plan should be reapproved or rejected by the managing director. Redesign projects cannot be directly sent to R&D for execution. Managing director strongly validates staff's performance, losses and positive or

negative contributions. The key points of marketers' high performance are that marketers should keep good cooperation with marketers' all cooperators, such as designers, quality engineers, project manager and manufacturers, and fully support the schedule for all cooperators without any hindrance. Everyone knows that shipping huge volume products are not the high performance of marketers alone, clearly this is the high performance of project manager group consisting of all project team members. Since the innovative products are not automatically completed. As a result, marketers' high performance can be found that marketers developing new customers and new marketplace has high market share. The project manager's effective project management and strong performance can successfully support marketing products and firm reasonable profits.

This study has further hypotheses as follows:

H₅: Positive perceptions of project manager's strong performance are associated with successful project management.

H₆: Positive perceptions of effective project management are associated with successfully marketing products and firm reasonable profits.

METHODS

Sampling and data collection

This study's initial sample consisted of questionnaire responses from 378 marketers and designers of high-tech companies (for example, 3C and IT industries) from Taiwan's electronic and electric association, which is composed of strong R&D and marketing departments as well as excellent factories located in Taiwan and China. These 378 marketers and designers were all close friends of the author. The response rate from close friends' questionnaires was higher than that of firms' questionnaires. The sample includes employees from well-known international computer companies in Taiwan. These high-tech companies were selected because they independently developed innovative products (R&D function) and exported their innovative products (marketing function) worldwide. The questionnaires were sent to these companies' senior marketers and senior R&D leaders and professional designers who were mostly incentive staff. The questionnaires were not sent to firms (When the questionnaires were sent to firms without a corresponding individual, the response rate was very low. The questionnaires were sent to staff, the response rate was high). The fully completed questionnaires resulted in 108 responses (28.6%=108/378). The responses were gathered via data collection sessions using completely standardized questionnaires that utilized a five-point answer scale. This study included further efforts toward a solution for the high-level problems of competitive conflicts among directors by inviting high-level professional leaders for comprehensive interviews to gain a more thorough understanding and confirmation of the data.

Furthermore, this study validated the solution and conducted valuable interviews with 68 senior interviewers for the professional leader positions with marketing and R&D experience, namely, senior project manager, directors, vice managing directors, CEOs, managing directors, vice presidents, and chairmen of well-known Taiwan high-tech companies. They were all close friends of the

author. This study found that the solution to this problem should be held for high-level positions because employees at high-level positions (for example, the above-mentioned gentlemen) can easily and thoroughly understand the operations and strong impacts of incentive strategies. Thus the interview solutions were made even more accurate and valuable. In this regard, the inclusion of these interviews was essential to the value of this study.

These interviews were focused on the actual solutions to the competitive conflict problem due to the extremely busy schedules of these CEOs and managing directors of high-tech companies, which caused them to reject all writing tasks and telephone interviews but still enabled them to agree to oral interviews conducted solely on weekends. This study provided meals and fees at restaurants for the interviewees because such empirical interview data were very valuable and difficult to obtain.

Thus, a major contribution of this study is the integration of information from all 68 interviewees and 108 questionnaire responses; this information was translated into the solutions of the research problem of this study. All 68 professionals interviewed are in charge of an R&D department and/or an international marketing business for 3C and IT high-tech industries. This synthesis of practical information provides a very valuable and efficient study for firm senior managers and academic scholars. The validation features were obtained from interviewed leaders who could successfully execute and satisfactorily carry out the solution in the R&D and marketing departments of their respective companies in Taiwan and China and thus obtained outstanding results without any conflicts. Thus, this study had successfully validated solutions in no-conflict high-tech companies.

Measures

This study used methods from Hair et al. (1995) "Multivariate data analysis"; Bagozzi et al. (1991) "Assessing construct validity in organizational research"; and Ghiselli et al. (1981) "Measurement theory for the behavioral sciences" estimation methods to assess validity, and Kuckartz's computer software, MAXQDA 2007, for statistical analysis. Table 1 reports the measurement means, standard deviations and correlations of NPD projects.

However, each model is significant; the constructs are demonstrated validity. In Table 1, the correlations among the central variables of the study ranged from 0.01 to 0.74, which is below the 0.80 value suggested by Hair et al. (1995). Ghiselli et al. (1981) showed that Kurtosis ranged from -1.25 to 3.15 for the transformation of variables and Skewness ranged from -1.25 to 3.25. These results indicated that the variables were below the level of transformation of variables required. The regression analyzes were performed using project management as the control variable.

RESULTS AND ANALYSIS

In order to test the hypotheses, the regression result of standard coefficient of R&D innovative products is shown in Table 2. The regression results illustrated independent variables that marketing performance $\beta = 0.11$, $P \leq 0.10$; R&D rapid innovations $\beta = 0.25$, $P \leq 0.01$; Marketers developing marketplaces $\beta = 0.18$, $P \leq 0.05$, Project manager strong performance $\beta = 0.16$, $P \leq 0.01$; and Effective project management $\beta = 0.58$, $P \leq 0.01$, were significantly and positively associated with R&D innovative products, above analysis supporting hypotheses H_1 , H_3 , H_4 , H_5 and H_6 . However, statistical support was not found for the conflicts of marketers and

designers ($\beta = -0.18$, NS). Therefore, hypotheses H_2 is not supported.

Hypothesis H_2 , which positive perceptions of the conflicts of marketers and designers correlate with communication skill, is not supported. Previous studies proposed solutions to the marketer-designer conflict that involved improving their communication skills, developing good personal relationships with one another, learning more about the features of their product lines and improving marketers' professional knowledge of the product. The above-mentioned methods treat only the external features, not the real causes, of the competitive conflict between designers and marketers. There are three real causes that are magnetic complementary forces: (1) the firm's incentive strategies and high compensations strongly attract employees, (2) the competitive conflicts due to the employees' human nature, for example, the desire for recognition and benefits, and (3) the employees' desires for accomplishment, authority, etc. Thus, the conflicts between marketers and designers are not directly related to communication skill. Thus hypothesis H_2 is not supported.

The regression results of independent and dependent variables of R&D innovative products were shown in Table 3. Model 1 shows for market effectiveness and Model 3 shows for technical efficiency. This step represents the base model, which indicates the main effects. The second step involved two further models that each entered interaction terms, Model 2 and Model 4. However, in Model 2 market effectiveness, $\Delta R^2 = 0.03$, $P \leq 0.05$, for technical management; $\Delta R^2 = 0.03$, $P \leq 0.05$, for sales; $\Delta R^2 = 0.04$, $P \leq 0.01$, for marketing management; and Model 4 technical efficiency, $\Delta R^2 = 0.03$, $P \leq 0.05$, for technical management; $\Delta R^2 = 0.02$, $P \leq 0.10$, for sales; $\Delta R^2 = 0.05$, $P \leq 0.01$, for marketing management. Thus, Model 2 and Model 4 were significant moderators.

Table 4 indicates regression coefficients under designer and market sectors with both high and low conditions. R&D innovation is significantly and positively associated with new technology $\beta = 0.35$, $P \leq 0.01$, under low-designer sector; $\beta = 0.46$, $P \leq 0.01$, under high-designer sector; $\beta = 0.32$, $P \leq 0.01$, under low-marketer sector; $\beta = 0.52$, $P \leq 0.01$, under high-marketer sector. Additionally, R&D innovation is positively associated with strong performance. $B = 0.39$, $P \leq 0.01$, under low-designer sector; $\beta = 0.48$, $P \leq 0.01$, under high-designer sector; $\beta = 0.35$, $P \leq 0.05$, under low-marketer sector; $\beta = 0.56$, $P \leq 0.01$, under high-marketer sector. Furthermore, R&D innovation is positively associated with new feature design under only extreme conditions in designer sector; $\beta = 0.23$, $P \leq 0.01$, under low-designer sector; $\beta = 0.38$, $P \leq 0.01$, under high-designer sector; and in marketer sector; $\beta = 0.18$, $P \leq 0.01$, under low-marketer sector; $\beta = 0.33$, $P \leq 0.05$, under high-marketer sector. Thus, R&D innovation is significantly associated with new technology,

Table 1. Measurement Means, Standard Deviations, and Correlations of NPD project.

Items	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Marketers Performance	0.962	11.88	NA													
(2) Marketing Profits	-0.023	2.68	0.51**	(0.58)												
(3) Marketers Contributions	30.365	28.63	0.53**	0.67**	NA											
(4) Sell Strategy	3.392	1.08	0.46**	0.39**	0.58**	(0.61)										
(5) Market Share	5.188	1.15	-0.28**	-0.23**	-0.22**	-0.16*	(0.56)									
(6) Product Quality	3.832	1.36	-0.36**	-0.45**	-0.45**	-0.08	0.08	(0.58)								
(7) Product Competitiveness	4.496	1.35	-0.33**	-0.39**	-0.38**	-0.33**	0.06	0.45**	(0.53)							
(8) Product Novel	4.720	1.36	-0.36**	-0.35**	-0.36**	-0.52**	0.52**	0.18*	0.18*	(0.55)						
(9) R&D Strong Performance	4.422	1.63	-0.32**	-0.38**	-0.33**	-0.28**	0.21*	0.22**	0.11	0.08	(0.62)					
(10) Project Manager Contri.	4.953	1.55	-0.52**	-0.53**	-0.58**	-0.32**	0.36**	0.36**	0.38**	0.46**	0.26**	NA				
(11) Project Manager Perfor.	3.515	1.62	0.23**	0.18*	0.23**	0.15	-0.26**	-0.15	-0.11	-0.28**	-0.06	-0.36**	NA			
(12) Quality Brand Name	4.966	1.51	-0.45**	-0.45**	-0.43**	-0.33**	0.39**	0.07	0.32	0.45**	0.28**	0.43**	-0.38**	NA		
(13) Firm Competitiveness	4.302	1.36	-0.39**	-0.39**	-0.39**	-0.20**	0.22**	0.35**	0.35**	0.33**	0.25**	0.45**	-0.26**	0.36**	NA	
(14) Firm Performance	3.035	1.53	-0.32**	-0.33**	-0.36**	-0.15*	0.16	0.18*	0.38*	0.35**	0.17*	0.23**	-0.11	0.30**	0.18**	NA
(15) Firm Profits	5.216	1.68	-0.08	0.01	-0.02	-0.15	0.07	0.06	-0.08	0.26**	0.03	0.02	-0.15	0.11	0.11	0.39**

*Cranach's coefficient alpha for each construct is on the diagonal, and the correlations among the constructs are on the off-diagonal. *p<0.05; **p<0.01.

Table 2. Regression result of standard coefficient of R&D innovative products.

Independent variables	Hypotheses	Dependent variable: R&D innovation standard coefficient
Marketing performance	H1	0.11*
The conflicts of marketers and designers	H2	-0.18
R&D rapid innovations	H3	0.25***
Marketers developing marketplaces	H4	0.18**
Project manager strong performance	H5	0.16***
Effective project management	H6	0.58***
F		22.10***
R ²		0.65

N = 108; all variables are based on aggregated team member evaluations. *P < 0.1; **P < 0.05; ***P < 0.01.

Table 3. Regression results of independent and dependent variables of R&D innovative products.

Models	Independent variables	Dependent variables		
		Technical	Sales	Marketing
Market sector model	R&D innovation	0.39**	0.36***	0.37*
	Market effectiveness	0.38***	0.39***	0.38***
	R ²	0.16	0.17	0.18
	F	4.17***	4.58***	4.08***
R&D innovation model	R&D innovation	0.35**	0.33**	0.32*
	Market effectiveness	0.58***	0.56***	0.52**
	R&D innovation × Market effectiveness	0.37**	0.39**	0.31**
	R ²	0.18	0.2	0.18
	ΔR ²	0.03	0.03	0.04
	ΔF	2.88**	2.76**	3.67***
Technical sector model	R&D innovation	0.35**	0.38***	0.36*
	Technical efficiency	0.38***	0.37***	0.35***
	R ²	0.16	0.18	0.16
	F	5.12***	5.35***	5.02***
R&D innovation model	R&D innovation	0.39**	0.35**	0.32*
	Technical efficiency	0.53***	0.51***	0.39**
	R&D innovation × Technical efficiency	0.38**	0.36**	0.35**
	R ²	0.19	0.2	0.21
	ΔR ²	0.03	0.02	0.05
	ΔF	2.85**	2.15*	3.78***

Coefficient values are standardized. *P<0.1; **P<0.05; ***P<0.01.

Table 4. Regression coefficients under designer and marketer sectors.

Regression line	Designer sector			Marketer sector		
	Low	High	t-value	Low	High	t-value
R&D innovation-new technologies	0.35***	0.46***	2.78*	0.32***	0.52***	2.86*
R&D innovation-strong performance	0.39***	0.48***	2.15*	0.35**	0.56***	4.75***
R&D innovation-new features design	0.23***	0.38***	5.75***	0.18***	0.33**	3.79**
Sample size	58	50		55	53	

Coefficient values are standardized. *P<0.1; **P<0.05; ***P<0.01.

strong performance, and new feature design management.

Hypotheses H₁, H₃, H₄, H₅ and H₆ are positively supported and strongly associated with innovative R&D projects. These hypotheses represent strong, positive factors for innovative R&D projects. They were analyzed as follows.

Hypothesis H₁ states that, positive perceptions of marketer's strong performance correlate with larger innovative product profits. This finding is that innovative product profits should involve marketing strong performance in terms of finding solid customers,

receiving large-quantity orders and possessing high market share. Then, innovative product profits should also involve designers' strong performance to produce reliable innovative product quality and to be competitive in the market.

Hypothesis H₃ states that positive perceptions of effectively rapid R&D innovations correlate with firm high selling profits. Rapid R&D innovation technologies are advanced designs and can effectively hinder imitative products because imitators and followers do not conduct the basic research associated with rapid R&D innovations. This is an effective strategy for keeping the leader far ahead of followers and imitators. Thus the firm

can have high innovative product profits.

Hypothesis H_4 states that positive perceptions of marketers efficiently developing new marketplaces are associated with high market share. This hypothesis supports the findings that high market share is the most important factor determining marketers' success in developing new marketplaces for innovative projects. Marketers work hard and compete for innovative projects. Marketers can constantly have high performance and positive contributions from high market share profits.

Hypothesis H_5 states that positive perceptions of a project manager's strong performance are associated with successful project management. The central purpose of effective innovative R&D project management is to obtain benefits for the business due to the project managers' strong performance. Therefore, the successful project management is strongly dependent on the project manager's high performance.

Hypothesis H_6 states that positive perceptions of effective project management are associated with successful marketing of products and firm reasonable profits. The intelligent firm is strongly interested in profiting from successful innovative products; the best way to achieve these successes depends on effective project management focused on outstanding operations from a high-performance project manager to conduct truly innovative design and development. Thus, the successfully marketing of products and firm reasonable profits are always key contributors to the success of innovative projects. However, this study highlights that project managers and project management are key components of successful innovative products and lead to the rapid manufacture of new products, which is based on the strong performance of both marketing and R&D, as well as the lowest losses from innovative product processes. As a result, an intelligent firm with excellent marketers, designers, project managers, and project management should have tremendous profits from successfully innovative products.

The results of this study indicate that, as hypothesized, a successful project manager oversees innovative projects without conflicts and that successful marketers develop new marketplaces. Successful project managers make every effort and have strong performance and effective project management that is fully supported by marketers, manufacturers and designers; given this, a firm can successfully sell products and have large profits.

Conclusions

The purpose of this study is to help global high-tech companies not only to successfully stop negatively competitive conflicts but also to rapidly recover the

enormous losses of innovative R&D projects. The vital findings of this study are that designers and marketers always have competitive conflicts with each other and that the previous solutions from the literature target mainly the secondary features not the real causes of the competitive conflicts. However, this study aims to find the real causes of the competitive conflicts between designers and marketers. The real causes are that (1) the firm uses incentive strategies and high compensation policies for attracting employees, (2) the competitive conflicts are due to the employees' human nature, for example, the desires for recognition and benefits, for example, high bonuses and promotion to high position, and (3) the employees' strong human needs and desires for accomplishment, authority, etc. These three items are solidly magnetic complementary forces that affect competitive conflicts and a firm's enormous losses.

The contribution of this study is based on empirically offering a radical solution, which is from conflict theory, incentive strategies, and effective innovative R&D project management and incentive conflict management to the validated practice available solutions. This study conducts 378 questionnaires and further validation interviews with 68 leaders of the marketers and the designers of high-tech companies. The interview analytical results indicate that the anticipative targets are trustworthy. This study focused on the competitive conflicts of marketing and R&D, effectively analyzed the conflicts in innovative projects, also showed the effective solutions to improve the contributions of innovative projects from marketing-R&D cooperation, and showed methods to increase marketing strong performance to achieve firm's greater profits.

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