

Coopetition and Business Models

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Studies have shown that firms are increasingly cooperating and competing at the same time in order to create competitive advantage and, hence, deliver superior returns. Shorter product lifecycle, convergence of multiple technologies and increasing costs of conducting R&D require firms to share resources with their competitors in order to improve the delivery of existing customer value proposition or develop new propositions. Resources needed to compete effectively often do not reside within a single firm and, hence, firms in the same competitive set often cooperate in order to share such resources and then compete to divide the jointly created value. Such simultaneous collaborative and competitive activities have been termed coopetition. Business models are a key concept in providing an understanding of how firms can affect the mechanism of value creation and capture within a coopetition setting. This paper explores the relationship between business model design and coopetition-based strategies among competing firms. The reason for coopetition could be defensive or offensive depending on the relative threats and opportunities. Coopetition requires the ability of firms to design, implement and manage new business models. This paper provides an overview of case vignettes in the bond trading market, electronic book retailing and flat-screen LCD television markets to illustrate the rationale for coopetition-based business model design. The paper proposes a framework on how, when and why business model innovation is required for coopetition-based strategies in order to contribute to competitive advantage.

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Abstract

This chapter explores the relationship between business model design and coopetition-based strategies among competing firms. The reason for coopetition could be defensive or offensive depending on the relative threats and opportunities. Coopetition requires the ability of firms to design, implement and manage new business models. This chapter provides an overview of case vignettes in the bond trading market, electronic book retailing and flat-screen LCD television markets to illustrate the rationale for coopetition-based business model design. The chapter proposes a framework on how, when and why business model innovation is required for coopetition-based strategies in order to contribute to competitive advantage.

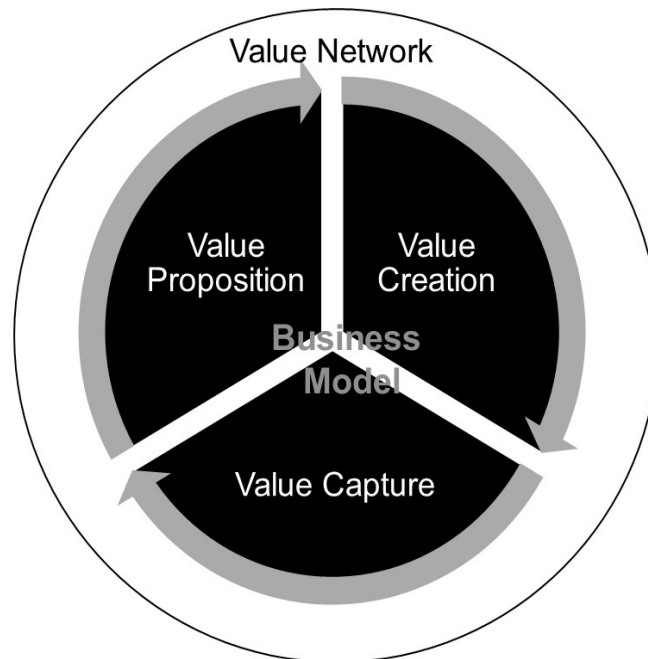
Keywords: Coopetition, Business Model, Innovation.

Introduction

Studies have shown that firms are increasingly cooperating and competing at the same time in order to create competitive advantage and, hence, deliver superior returns (Bouncken & Kraus, 2013; Brandenburger & Nalebuff, 1995; Ritala, Golnam, & Wegmann, 2014; Rusko, 2014). Shorter product lifecycle, convergence of multiple technologies and increasing costs of conducting R&D require firms to share resources with their competitors in order to improve the delivery of existing customer value proposition or develop new propositions (Gassmann, 2006; Gnyawali & Park, 2011). Resources needed to compete effectively often do not reside within a single firm and, hence, firms in the same competitive set often cooperate in order to share such resources and then compete to divide the jointly created value. Such simultaneous collaborative and competitive activities have been termed coopetition (see Bengtsson & Kock, 2014; Yami, Castaldo, Dagnino, & Le Roy, 2010). Business models are a key concept in providing an understanding of how firms can affect the mechanism of value creation and capture within a coopetition setting (Ritala, Golnam, & Wegmann, 2014; Velu, 2017).

Business models are a form of activity system that connects the internal perspective of the firm, such as resources and routines, with the external perspective, such as partners, markets and customers, and therefore articulates how the firm goes to market to implement the strategy (Baden-Fuller & Haefliger, 2013; Zott & Amit, 2010; Zott, Amit, & Massa, 2011). Business models can be seen as complex systems with components that connect the customer value proposition, how value is created, the means of value capture and the partners in the value network. Figure 1 provides a summary of the key components of a business model based on the 4Vs – value proposition, value creation, value capture and value network. Coopetition entails when and how the value network is formed between competing firms in order to develop and deliver the value proposition. Coopetition might involve the design of new business models in order to align the customer value proposition with how value is created and captured (Velu & Stiles, 2013; Velu, 2017). New business model design might require reactivating – changing the set of activities; relinking – changing the linkage between activities; repartitioning – changing the boundaries of the focal firm; or relocating – changing the location in which activities are performed (Dos Santos, Spector, & Van Der Heyden, 2015).

Figure 1: Components of the Business Model.



Source: Velu, C. (2018) BMI Research Programme.

Coopetition has been shown to be valuable from a demand perspective such as improving the value proposition to the customer. An example of coopetition from a demand perspective are the airline alliances such as Oneworld and Star Alliance, where firms form a global network in order to broaden their flight connectivity and provide customers with more convenient travel options (Fan et al., 2001). Studies have shown that the degree of market uncertainty drives the incentive for firms in the airline industry to cooperate, which can be in the form of horizontal coopetition between firms in the same market, vertical coopetition representing a supplier–retailer relationship, or both (Chiambaretto & Fernandez, 2016; Chiambaretto & Dumez, 2016). Coopetition has also been valuable from a supply perspective, such as the more efficient management of the supply chain. An example of coopetition from a supply perspective is the manufacturing alliance whereby Samsung supplies components for the Apple iPhone but both firms compete in the smartphone consumer market (Vergara 2012). In addition, coopetition is also possible in order for firms to improve the ability to be more innovative. An example of this is the coopetition among biotechnology firms in order to increase technology diversity and new product development (Quintana-Garcia & Benavides-Velasco, 2004). These forms of coopetition often involve a re-design of the business model of the firms. This chapter will illustrate the business model design issues by examining three cases in the bond trading market, book retailing and the television markets, respectively, in order to draw some key implications from a business model perspective.

1. Case Vignettes

The rationale for coopetition-based business models could be to increase the size of the current market, to create new markets or to increase efficiency in resource utilization in order to help improve the firms' competitive position (Ritala, Golnam, & Wegmann, 2014). In this section we

will examine three cases in order to provide the rationale for cooptation. In the first case, we examine the cooptation behavior among investment banks in the bond trading market in order to establish when firms might innovate their business model in an evolutionary or revolutionary manner, and the motivation behind these choices. In the second case, we examine the development of an e-commerce platform by Amazon in the book retailing industry. In the third case, we examine cooptation in sharing research and development activities between Samsung Electronics and the Sharp Corporation to develop the LCD television market.

1.1 Electronic Trading and Bond Markets

The reasons for firms to adopt a cooptation strategy could be either defensive or offensive (Velu, 2017). The defensive reason could entail protecting an existing business model through evolutionary innovation. An offensive reason could entail major changes in the competitive landscape by changing the business model through revolutionary innovation. We discuss how firms adopt cooptation strategies in network markets over time in order to respond to new technology, through either evolutionary business model innovation or revolutionary business model innovation¹.

Network markets are markets that display network externalities. In network markets the utility to each customer of adopting a firm's proposition increases with an increase in the total number of customers who have adopted the proposition (Farrell & Saloner, 1986; Katz & Shapiro, 1985). The dynamics of customer adoption of a new proposition and dis-adoption of an old proposition will affect the resource base of the firm in terms of market share. The rate of adoption and dis-adoption tends to follow an S-shaped or reverse S-shaped curve, whereby they are initially slow, then accelerate and then finally slow down again. Therefore, such changes in market shares over time might influence firms to adopt cooptation as a strategy to create competitive advantage. We discuss how the changing nature of the customer base motivates firms to adopt cooptation strategies to help innovate their business models.

The US bond market was the largest securities market in the world, with over \$17 trillion in bonds outstanding at the end of the year 2000. The bond industry has primary and secondary markets. In the primary market, government agencies and corporations issue new securities to raise funds. In the secondary market, institutional investors (such as asset-management firms and pension funds) buy and sell these securities to optimize the returns on their portfolios. The market was highly concentrated, with the top 10 banks having approximately 94–98 per cent of the market share between them.

Back in 1995 bond trading was done through the banks acting as intermediaries between buyers and sellers via telephone calls. The dealer banks earned revenues via the difference between the bid–ask spread (buy and sell prices). They assumed some risks by holding an inventory of bonds, as they might not be able to match the buy and sell orders exactly at any one point in time. The holding of inventory needed capital from the banks. Such a process was relatively slow and inefficient. The advent of the Internet provided the basis for a more transparent market. Two possible business models emerged. The first is an evolutionary business model innovation whereby

¹ This case example is drawn from Velu, C. (2016). Evolutionary or Revolutionary Business Model Innovation Through Cooptation? The Role of Dominance in Network Markets. *Industrial Marketing Management*, 53, 124–135.

the role of the banks as an intermediary remains the same but the process is transferred to an electronic trading platform rather than a telephone-based system. Prices and inventory levels are posted by the trading parties on the platform to enable trading. The second business model involves a revolutionary model that disintermediates the dealer banks as market-making intermediaries. The dealer banks' role changes from being an intermediary to a credit guarantor in order to enable trading directly between buyers and sellers on an electronic platform. This enables investors as buyers and sellers to trade directly with one another in order to reduce costs and improve the timeliness of trades being completed. The bank earns revenues from charging a fee for the role as a credit guarantor. In this model, banks can reduce the amount of economic risk capital set aside for market-making compared to the telephone-based business model, as their role as market-making intermediaries becomes redundant and there is no need to hold inventories of bonds.

Following the advent of the Internet, in 1999 a new entrant launched RevolTrade, the revolutionary version of the business model, which aims to disintermediate the banks. RevolTrade was able to price the bond cheaper for customers as a result of the new business model having no inventory positions. Initially, the banks did not respond, as the new entrant had not changed the market shares of the banks dramatically. However, a few months after its launch, RevolTrade was beginning to take market share away from the less dominant banks (the banks with relatively smaller market shares). The reason for this was that with smaller market shares customers were less likely to benefit significantly from the network effects compared to customers of the dominant banks (with relatively larger market shares). In early 2000, in response to RevolTrade, a group of less dominant banks decided to form a consortium, Begonia, and to launch the evolutionary business model using an electronic trading platform. The consortium of less dominant banks had a market share between them of 19.4 per cent. The less dominant banks adopted a coopetition strategy as a defensive mechanism. However, once they adopted the evolutionary business model, the rate of customer attrition from the dominant banks started to accelerate, due to the reverse S-shaped dis-adoption dynamics, as they were losing customers to the new entrants, as well as to Begonia. In response, in 2001 a group of dominant banks with market shares of 46 per cent joined forces to launch a revolutionary business model, Orchid. Orchid effectively disintermediated the role of the banks as intermediaries and enabled the amount of capital required to be reduced by approximately 75 per cent. This enabled the dominant banks to change the game dramatically, as merely copying the less dominant bank consortium would not be helpful to create competitive advantage for them. The dominant banks adopted a coopetition strategy as an offensive mechanism, but only after the less dominant banks had adopted a more defensive strategy first. In summary, we can draw two conclusions. First, in network markets, as a defensive mechanism to protect their existing business model, the less dominant firms tend to engage in coopetition by innovating their business models in an evolutionary manner before the dominant firms. Second, in network markets, as an offensive strategy to alter the existing business model, the dominant firms will tend to engage in coopetition by innovating their business models in a revolutionary manner after the less dominant firms. In drawing these conclusions, we provide a more nuanced insight and build on the study by Ritala and Sainio (2014), which demonstrated that increased technological coopetition contributes positively to business model radicalness.

1.2 Electronic Book Retailing

Platform-based business models are becoming increasingly prevalent in the digital economy. Platforms can be a collection of resources such as technologies, knowledge or skills that enable intermediaries to facilitate an exchange between actors in a market place (Thomas, Autio, & Gann, 2014; Velu, 2015). Such platform-based intermediaries might leverage the resources of other competing firms in order to enhance the value of the platform and, hence, increase the transaction flow of exchanges. We discuss the case of Amazon, which adopted such a platform-based approach².

Amazon began as an online bookseller in July 1995. The business model of Amazon was disruptive to the traditional bricks and mortar booksellers for several reasons. Amazon was able to provide a wider assortment of books, to price them just as competitively, and with distribution available all the time and promotion based on online reviews, all of which provide a more compelling proposition than the traditional retail model. After three years, Amazon started diversifying its platform to sell other products such as music and electronic consumer goods. Amazon soon recognized that leveraging its processes, infrastructure and brand through its platform provides a great opportunity to expand the market and create superior competitive advantage. Such a strategy might require working with competitors. In order to implement such a cooperation-based strategy, Amazon launched a third-party marketplace, Amazon Marketplace, in November 2000. Competitors of any size could list and sell their books (and other products) alongside Amazon's own propositions by leveraging Amazon's e-commerce platform and customer base. This enabled Amazon to implement its 'single store strategy', whereby Amazon becomes the place of choice for customers to buy either new or used books from Amazon or its competitors by comparing them on a single page. Amazon provided automated tools to third-party retailers to migrate their catalogs of new and used books to the Amazon web page. Moreover, other supplier information was also readily accessible by the customer, such as supplier ratings, shipping costs and returns policy.

Amazon's decision to cooperate with competitors was not straightforward, as there was a significant amount of resistance from within the firm. For example, there were concerns that allowing competitors to list books alongside Amazon could imply that Amazon could be undercut on price all the time. However, Amazon's business model was in doubt by mid-2000, and this was reflected in the stock price, which fell by two-thirds in mid-2000 and by 80 per cent by the end of that year. Amazon Marketplace was partly a response to such a loss in confidence by the investor community about Amazon. Among other relevant initiatives, Amazon Marketplace enabled the firm to offset operating expenses while increasing sales. The marginal cost of enabling competitors to list their products on Amazon.com was negligible, but Amazon earned commissions and subscription fees. Moreover, Amazon needed to hold less inventory of its own. In summary, Amazon built a platform-based business model by linking competitors' activities with its own in order to leverage the combined resources and provide a compelling customer value proposition. The platform-based business model enabled Amazon to reduce costs by holding less inventory of its own while earning revenues from commissions on third-party sales. Third-party sales via Amazon.com accounted for 20 and 35 per cent of North American sales by 2002 and 2010,

² This case example is drawn from Ritala, P., Golnam, A., & Wegmann, A. (2014). Cooperation-based business models: The case of Amazon.com. *Industrial Marketing Management*, 43(2), 236–249.

respectively. Coopetition-based strategy enabled the combination of increased sales and reduced costs, contributing considerably to Amazon's profitability and, hence, competitive position.

1.3 Flat-Screen LCD Televisions

Coopetition strategies could be motivated by the need to innovate products in order to stay ahead of other competitors and potential new entrants that leverage new technologies (Jorde & Teece, 1990). Coopetition among competitors might provide access to complementary knowledge and resources in a timely manner. Such coopetition among competitor firms might result in improved technological standards in the industry and also impact more widely on other participating firms in the industry. We discuss developments in the flat-panel television industry, where product life cycle is very short, capital investment is very large and there is a broad range of products³.

Samsung Electronics and Sony Corporations were long-time rivals, as they competed over many products in the electronics industry. However, they decided to cooperate in the development of the liquid crystal display (LCD) flat-panel TV market by establishing an R&D collaboration in 2003. The initial commitment from both firms was US\$1 billion each to develop the seventh-generation LCD TV. This commitment was tripled for the eighth-generation technology a few years later.

In order to better understand what prompted two large rival firms to cooperate in the LCD market it would be instructive to review developments in the TV market. The cathode ray tube (CRT) was the main form of TV technology for a long time but was replaced by the flat-panel television. The main technologies in flat-panel TV were LCD and plasma display panel (PDP). However, there were a number of other technologies as well, such as electroluminescent display (ELD), light emitting diode (LED) and organic light emitting diode (OLED). Both Sony and Samsung were unable to develop the technology themselves for LCD TV as a result of the compressed nature of the timescale for the rate of development in new TV-based technologies. Sony was the leader in the CRT TV market. Samsung was a leader in LCD panel production but was not the largest LCD TV maker. Each firm had unique capabilities that the other firm needed in order to build and establish the standards in flat-screen TV and to dominate that market. Samsung brought strengths in LCD technology, while Sony contributed complementary skills in high-quality standards in technology and product quality with brand recognition in television, respectively. Both firms also cross-licensed their patents, with 11,000 patents from Samsung and 13,000 from Sony, respectively.

Sony launched the Bravia series within one year of establishing the joint R&D collaboration with Samsung, following suit with the Bordeaux series. By 2008 Samsung and Sony were ranked first and second, respectively, in the TV market, which was a considerable improvement from their position as fourth and third, respectively, before the R&D collaboration. In summary, Samsung and Sony redesigned their business models through repartitioning their upstream activities by sharing R&D resources. The cooperation of Samsung and Sony in upstream R&D activities enabled them to compete effectively in the downstream TV market by enabling the firms to create quality flat-screen LCD TVs. Table 1 provides a summary of the three coopetition-based business models.

³ This case example is drawn from Gnyawali, D. R., & Park, B. J. (2011). Co-opetition between giants: Collaboration with competitors for technological innovation. *Research Policy*, 40(5), 650–663.

Table 1: Comparison of Coopetition-based Business Models.

	Value Proposition	Value Creation	Value Capture	Value Network	Rationale for Coopetition
Electronic Trading and Bond Markets – Revolutionary Business Model Innovation	Enable direct trading between investors in order to reduce costs and improve timeliness of trades.	Banks provide credit guarantee for the trades.	Banks charge a fee for acting as credit guarantor.	Dominant banks cooperating in order to change the structure of the market in a revolutionary manner.	Help to innovate the business model to create a new market.
Electronic Book Retailing – Amazon Marketplace	Enable customers to buy either new or used books from Amazon or its competitors by comparing them on a single page.	Consolidating Amazon and third-party books on a single store page and providing comparisons of ratings, shipping costs and returns policy.	Amazon earns the margin on its own inventory and charges a commission on the sale of third-party products.	Cooperate with competitors by enabling them to list books on the Amazon Marketplace website.	Reduce costs by holding less inventory, while earning revenues from commissions on third-party sales.
Flat-Screen LCD Televisions	Improved quality of flat-screen LCD televisions.	Cross-licensed patents.	Sony and Samsung were able to launch and sell their own brand of flat-screen televisions.	Repartitioning upstream activities by sharing R&D resources.	Sharing specialized resources enables faster product development.

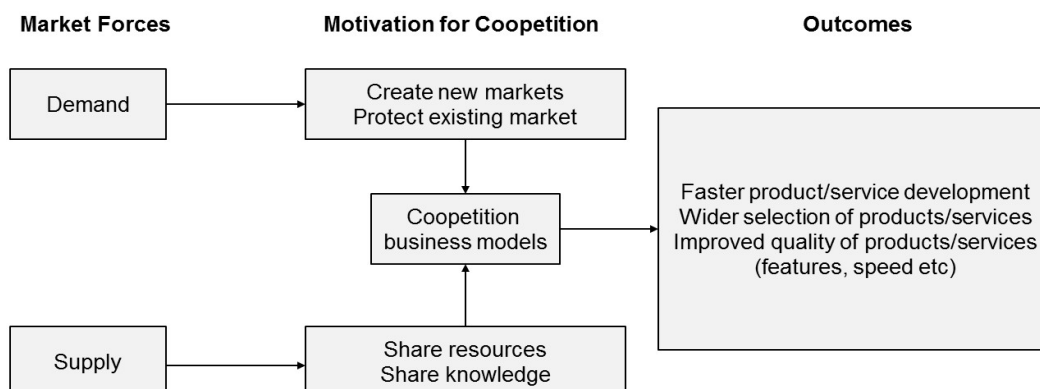
2. Discussion

Competitors are increasingly cooperating among themselves in order to create superior competitive advantage. Such a coopetition strategy provides the basis for extending the conventional strategy literature through the positioning school or the resource-based view. The business model provides a valid lens with which to articulate more clearly why the network of firms

is an important element in the process of value creation and value capture. There are several reasons for such cooptation, which can be viewed from a market or resources perspective (Ritala, 2012). First, firms might have a desire to protect their existing share of the market, increase the size of the current market or create totally new ones. Second, firms might want to access resources that they do not possess, use fewer resources or use their existing resources more efficiently. These motivations are aimed at improving performance through competitive advantage from existing business or at growth through innovation.

We have discussed a number of cases in this chapter in relation to firms adopting a cooptation strategy in order to create superior competitive advantage. In the first case, we examined how demand-side network externalities in the US bond trading market influenced incumbent firms of different levels of dominance to innovate their business models, in either an evolutionary or a revolutionary manner, in order either to protect their existing market or to create new markets, respectively. In the second case, we examined the electronic book retailing market, whereby Amazon created the Amazon Marketplace and allowed competitors to sell books on the same platform as a basis for creating a larger market and benefiting from scale economies by reducing its unit cost base. This enabled Amazon Marketplace to reduce costs, sharing its platform infrastructure and, hence, to hold less inventory while earning revenues from commissions from third-party sales, which helped to improve its bottom line. The basis of cooptation is the platform-based business model, whereby resources and the brand of Amazon are leveraged by competitors to gain access to customers for their products. In the third case, we examined the cooptation between two large rival incumbents, Samsung and Sony, in order to access each other's complementary resources and, hence, enable innovation in the newly evolving LCD TV market. The basis of cooptation is the outsourcing of the upstream R&D activities via a joint initiative of both firms, with a view to competing in the downstream product market. The sharing of knowledge resources enables faster product development. These cases emphasize the importance of business model innovation in enabling implementation of the cooptation strategy. The case vignettes illustrate how the business model design could vary depending on how the objectives of the market-demand-based or supply-based considerations drive the motivation for cooptation. Demand-based considerations could include the motivation to create new markets to protect an existing market. Supply-based considerations could include the motivation to share resources or knowledge assets. We develop a framework as one of the key contributions to summarize the findings from this chapter in Figure 2.

Figure 2: Framework for Cooptation-based Business Models



There are a number of open research issues in relation to business models and coopetition. These can be grouped into three categories, namely, risk management of business models, innovation-driven business model design and inter-temporal business model design. The first open research issue relates to how risk needs to be shared between parties within a coopetition arrangement. The business model design will influence how risks are shared between the different parties so that there are sufficient incentives for them to work together despite being competitors. The framework of the design of the business model needs to incorporate elements of which aspects to centralize or decentralize, as well as how to coordinate the activities of the firms. Such a business model design would need to factor in information management so that the right information were available to the parties concerned to make the decision, while minimizing conflicts of interest.

The second area where further research is needed is the design of coopetition-based business models that stimulate innovation. Often competitor firms might come together because the pace of change in the markets and technologies is too fast for each firm to innovate quickly enough and to remain competitive. Therefore, bringing resources together to help the innovation process is a key element of the coopetition strategy. However, it is not clear how the value created would be captured by the relevant parties as new propositions were developed. By the very definition of such innovation, it would not be possible to define all the means of sharing the value upfront. Therefore, an appropriate business model design that provides sufficient incentives for innovation so that each party can capture value appropriately needs further investigation.

The third area of research is the further contribution to the debate about how strategy influences structure, and vice versa. In particular, it would be helpful to conduct further longitudinal research on how coopetition-based business models might influence the strategy formulation of the firms involved and, hence, as a result influence the design of future business models. In particular, among the issues that require further investigation are the following questions: Would firms that have adopted coopetition-based business models in the past adopt further coopetition-based business models in the future, and, if so, how would they go about designing them?

Conclusion

Coopetition is increasingly becoming the approach that is adopted by competing firms in order to create competitive advantage. The reason for coopetition could be defensive or offensive, depending on the relative threats and opportunities. Often the basis for coopetition is to grow existing, or create new, markets, to share resources in fast-changing environments in order to achieve efficiency and also to enhance innovation capabilities. Coopetition requires the ability of firms to design, implement and manage new business models. This chapter provides an overview of some cases to illustrate the rationale for coopetition-based business model design. The research in coopetition and business model design is very much at a nascent stage, with much more still to investigate regarding how, when and why business model innovation is required for coopetition-based strategies to contribute in order to create competitive advantage.

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