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The Use of Secrets in Marketing and Value Creation

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THE USE OF SECRETS IN MARKETING AND VALUE CREATION

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submitted in partial fulfillment of the
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ABSTRACT

THE USE OF SECRETS IN MARKETING AND VALUE CREATION

Ivan Fedorenko

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Marketing

Keeping secrets is common to both corporations and public organizations. However, secrets have, until recently, received little attention in the marketing literature. The research on secrecy, to date, has been focused on the appropriating value from innovation. The purpose of my dissertation is to explore how secrecy can be used to create value for consumers.

Paper one integrates the existent research on secrecy to develop an overarching framework and categorize four common types of secrets: reputational secrets, trade secrets, managerial secrets, and marketing secrets. The drivers and consequences of secrecy are identified across all three levels of analysis: individual, organizational and macro level.

Paper two develops a conceptual model of marketing secrets. It maintains a relational approach to model three types of relationships that can be augmented by secrecy: between a secretive brand and customers knowing the secret (insiders), brand and customers from whom the secret is hidden (outsiders), and between insiders and outsiders. Finally, paper three provides an empirical evidence through an explorative quasi-experiment and a series of laboratory studies in the context of the video games industry.

Taken together, the three papers link the phenomenon of secrecy to the marketing literature on branding and consumer behavior. These studies contribute to the literature on consumer uncertainty, new product pre-announcements, and brand signaling. The practical implications include guidance on the use of secrecy in marketing campaigns.

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INTRODUCTION

Keeping secrets is common to both corporations and public organizations. They are crucial for protecting valuable knowledge, appropriating value from innovation, and sustaining competitive advantage, as well as for creating consumer anticipation and generating demand for new products. They are widely used in marketing: from 'secret' recipes of Heinz ketchup and KFC wings and to the intentionally vague trailers of the popular TV series, intended to conceal rather than reveal information about the plot. Surprisingly, secrets have received little attention in the marketing literature (Mills, 2015; Pehlivan, Berthon, Ucok Hughes, & Berthon, 2015).

The strategy literature has explored secrets from the perspective of protecting knowledge assets and capturing the value created through innovation (Bos et al., 2015; James et al., 2013). Sociologists and organization theory scholars emphasized the effects of secrecy on employee identity, control and social order in organizations (Dufresne & Offstein, 2008; Grey & Costas, 2016). For marketers, a key question is: how can secrecy be used to create value for the customer?

Amidst the growing public pressure for increased transparency and disclosure of business practices and processes, it is important to identify the limits of transparency in marketing relationship. That is the borderline condition under which opacity and non-disclosure might be even more valuable for companies and consumers. The purpose of this dissertation is to explore the role of secrecy in marketing interactions and relationships and to uncover the psychological and organizational mechanisms that enable the use of secrecy for value creation.

Structurally, the dissertation consists of three essays. The first essay starts with reviewing the growing body of research on secrecy across the fields of marketing, innovation management, technology strategy, and organizational behavior. The integrative approach to the review allows identifying the key elements of organizational relations that can be augmented by secrecy.

I analyze the extant literature on secrecy across individual, organizational and institutional level, within and across organizational boundaries to develop a multilevel framework, categorize and define four common types of organizational secrets: reputational secrets, trade secrets, power secrets, and marketing secrets. This framework upholds the relational perspective on secrecy by focusing on what information is hidden, by whom, from whom, and for what reason. I position marketing secrets against other types of organizational secrets on these four dimensions to clarify their peculiar role in enhancing the exchange relationships between firms and customers.

Then, in the second essay, I set out to develop a conceptual model for the use of secrecy in marketing. I uphold the relational perspective to identify how the secrets created by brands on the market are experienced and perceived by customers depending on whether they are on the inside and entrusted to share the secret or kept in the dark. This allows to identify three modes of secretive relation in marketing: between the brand and customers who share the secret (insiders), between the brand and customers from whom the secret is hidden (outsiders), and between insiders and outsiders. The resulting set of propositions describes the threefold role of secrecy in marketing. First, it creates value for insiders by reinforcing brand connection, which may lead to increased loyalty and extra-role behavior

(Belk, 1988; Escalas & Bettman, 2013). Second, when positively framed by pre-existing brand equity, secrecy can provoke outsiders' curiosity about the brand so that consumer uncertainty becomes a positive experience (Lee & Qiu, 2009; Tanner & Carlson, 2009). Finally, secrecy creates a social order among customers by establishing insiders as an associative reference group (Bearden & Etzel, 1982). Affiliation with this privileged group makes insiders feel good about themselves while outsiders are eager to join and catch up with those in the know (Escalas & Bettman, 2003, 2005).

In the final essay, I empirically explore the relationship between marketing secrets and value creation by analyzing a naturally occurring quasi-experiment and a series of laboratory experiments in the context of the computer games industry. This industry provides a unique environment for studying secrecy because the game developers publishers routinely invite customers to participate in the beta-testing of their new products. This beta testing is positioned as open ("public") when everybody can participate but can be also presented as "closed" when only a strategically chosen group of lead users is invited to sign up. The closed beta testing thus effectively creates a secret. Brand equity is hypothesized to play a moderating role as brand knowledge positively frames customer uncertainty created by the secret (T. D. Wilson, Centerbar, Kermer, & Gilbert, 2005). I employ the identification strategy based on the instrumental variables (IVs) to identify exogenous variation in the uses of secrecy and brand equity and use the sales volume as online word-of-mouth behavior as measures of value creation outcomes. The results confirm the existence of the direct effect of secrecy on value creation and the importance of the interaction between the use of secrecy and brand equity. The surprising and interesting finding is that smaller brands often benefit more from the use of secrecy than market leaders.

In the laboratory environment, consumer curiosity is established as an important mediator in the relationship between secrecy and value creation outcomes. The results suggest that an introduction of the new forthcoming product elicits consumer curiosity when the product is framed as a secret, and the greater curiosity inflates the prescribed value as measured by purchase intentions, predictions of rating and word-of-mouth intentions.

This research amplifies the extant literature on brand signaling, creating marketing anticipation through new product pre-announcements (e.g. Schatzel & Calantone, 2006) and extends the understanding of uncertainty in consumer behavior (Castaño, Sujan, Kacker, & Sujan, 2008).

TOP SECRET:
INTEGRATING 30 YEARS OF RESEARCH ON SECRECY

INTRODUCTION

Whereas business schools and management consultants discuss industry standards and organizational best practices, it is uniqueness rather than similarity that defines great organizations (Teece, 2007). Some of them, such as Apple, are obsessed with protecting the secrets of their success. They implement comprehensive security systems, access regulation, and engage in surveillance to hide whatever they believe makes them unique (Peter Lewis, 2017; Musil, 2017). For the public, fascination with those secrets is an important part of their greatness.

Yet, secrecy as a practice of limiting organizational transparency is often portrayed negatively and is subject to public scrutiny (Birchall, 2011). It is seen as a source of corruption and as a threat to the public interest (De Maria, 2006). On the other hand, secrecy has been recognized as an important vehicle for capturing value from knowledge assets and innovation (Teece, 1998; James, Leiblein, & Lu, 2013). Recently, a new research stream has emerged that conceptualizes secrecy as key to value creation (e.g. Hannah, Parent, Pitt, & Berthon, 2014; Mills, 2015). Embracing secrecy is seemingly at odds with the research that emphasizes organizational transparency and open-source (e.g. Schnackenberg & Tomlinson, 2014). This creates a tension in literature as management scholars try to identify when, where and for whom secrecy is beneficial. Hence, there is a need for a comprehensive understanding of secrecy.

The aim of this review is to integrate extant research on organizational secrecy. To do this, we adopt a broad, multi-disciplinary view, and develop an overarching framework for studying secrecy in organizations. The key elements of the framework are insiders who share and hide valuable information, outsiders from whom it is hidden, the nature of that secret information, and the intent which is the reason behind secrecy. We use this framework to identify four types of secrets that augment intra-organizational and extra-organizational relations: reputational secrets, trade secrets, marketing secrets, and power secrets. Then, we analyze their drivers and consequences across three levels of analysis: individual, organizational and the macro level. The review concludes by identifying under-researched themes and perspectives on organizational secrecy that open opportunities for future work in this area.

METHOD: SELECTION AND ANALYSIS OF LITERATURE

To understand the role of secrecy in organizations, we selected articles that focus on the use of secrecy in an organizational context. This means that this review excludes studies in economics and political science that focus on the use of secrecy on the national and international level (Bok, 1985). We also exclude articles from psychology and sociology that explore secrecy in the context of individuals and families (e.g. Anagnostaki, Wright, & Papathanasiou, 2013; DePaulo, Wetzel, Sternglanz, & Walker Wilson, 2003).

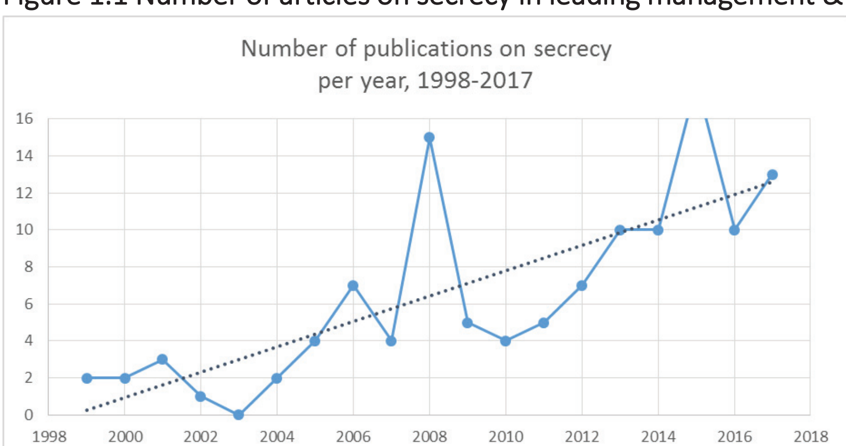
The article selection process followed the systematic review methodology (Leseure, Bauer, Birdi, Neely, & Denyer, 2004; Tranfield, Denyer, & Smart, 2003). We started with the commonly used search engines (EBSCO Business Source Complete and ISI Web of Knowledge) to identify scholarly peer-reviewed articles. We searched for the 50 most impactful journals in every category, according to Scimago Journal Rank: “Strategy and management”, “Organizational behavior”, “Management of technology and innovation”, “Management information systems”, “Marketing”. The keyword search for “secrecy” and “secret” resulted in an initial pool of 167 papers. Excluding duplicates and articles that did not explicitly focus on the use of secrecy, according to their abstracts (e.g. “The secret of innovation”), narrowed the sample to 88 articles.

The subsequent search of the publications relied on a broader set of keywords, including derivatives such as “covert”, “stealth”, “withholding of information” and “non-disclosure”. This search revealed 40 additional articles for a total of 128 articles. Our article sample is outlined in table one. While our review covers articles that were published between 1987 and 2017, figure one illustrates the number of articles on all forms of secrecy that were published in the leading journals from 1998 to the present, which represents the preponderance of articles on the topic.

Table 1.1 Literature review article sample.

Keywords	***Initial pool***	***Duplicates or no focus on secrecy***	***Net sample***
Secret	90	15	75
Secrecy	77	64	13
Concealment	16	3	13
Covert	37	22	15
Stealth	17	9	8
withholding of information	5	3	2
non-disclosure	3	1	2
Total	245		128

Figure 1.1 Number of articles on secrecy in leading management & marketing journals



The largest number of articles on secrecy was published in *Business Horizons*. From 2007 to 2017 it published 17 articles on secrecy. Twelve of these can be found in the 2015 special issue on the topic of secrecy and "The Magic of Secrets". The relative novelty of the theme and the lack of conceptual clarity together with the importance and omnipresence of secrecy in real-time management might explain the pioneering role of practice-oriented journals. *Harvard Business Review, California Management Review* and *MIT Sloan Management Review* regularly publish articles on secrecy what contrasts drastically to the construct's scant appearance in leading academic journals such as *Academy of Management Journal* (two articles in 1994 and 2014) and the *Journal of Management* (one article in 2013). Based on discipline, the bulk of the research articles on secrecy (29 articles) have appeared in the innovation management journals, such as *Research Policy* (eleven articles between 1998 and 2018) and *Technovation* (six articles between 2006 and 2017). These articles explore topics such as the relative effectiveness of patenting and secrecy for innovation appropriation (Arundel, 2001) and cross-industry differences in the use of patents and informal appropriation mechanisms (Neuhäusler, 2012).

The emergent research streams on secrets in marketing (twenty-four articles from 2006 to 2017) are published in journals such as *Marketing Science* (three articles from 2006 to 2013) and *Journal of Retailing* (two articles published from in 2015 and 2017). In 2008, the *Journal of Public Policy and Marketing* dedicated a special issue to the studies of covert, or 'stealth' advertisement - a topic very similar to secrecy.

Not to be excluded, management journals such as *Organizations Science* (five from 2002 to 2016) and *Organization Studies* (five from 1999 to 2017) have also published articles on secrecy on topics such as employee resistance to surveillance (Collinson, 1999), the tensions between bureaucratic practices of secrecy and the growing demand for open government (Kornberger, Meyer, Brandtner, & Höllerer, 2017). Table 1.2 presents a chronology of secrecy articles identifying the year published, the number of articles that year, as well as the journal, article title and the author(s).

Table 1.2 The emergence of the field: key publications on secrecy in 1987-2008

Year	#	Key publications, topics, and contexts
1987	1	Journal of Business Ethics: • Ethical implications of secrecy in organizations (Wexler, 1987)
1989	1	Management Science: • Models for managing secrets (Steele, 1989)
1994	1	Academy of Management Journal: • Managerial concealment of negative organizational outcomes (Abrahamson & Park, 1994)
1997	1	Industrial and Corporate Change: • Protective Mechanisms for keeping Organizational Secrets (Liebeskind, 1997)
1998	1	Research Policy: • What percentage of innovations are patented (Arundel & Kabla, 1998)
1999	2	Organization Studies: • Employee resistance to surveillance (Collinson, 1999) Journal of Retailing: • Mystery shopping
2000	1	Journal of Product Innovation Management: • Communication flows in NPD teams
2001	3	Research Policy: • The relative effectiveness of patents and secrecy for appropriation (Arundel, 2001) Harvard Business Review: • Pay secrecy (Case et al., 2001) • The use of secrets in “retro” marketing (Brown, 2001)
2002	1	Organization Science: • Knowledge and Boundaries in New Product Development (Carlyle, 2002)
2004	2	California Management Review: • Stealth marketing (Kaikati & Kaikati, 2004) MIT Sloan Management Review: • Strategic management of intellectual property (Reitzig, 2004)

2005	4	Organization Science: • The Effects of Trade Secret Protection Procedures on Employees' Obligations to Protect Trade Secrets (Hannah, 2005) • An analysis of property regimes for software development (de Laat, 2005) Harvard Business Review: • Covert Positioning (Moon, 2005) Journal of Business Research: • Secret reserve prices in online auctions (Walley & Fortin, 2005)
2006	6	Management Science: • Conducting R&D in Countries with Weak Intellectual Property Rights Protection (Zhao, 2006) Journal of Business Ethics: • Ethical implications of secrecy in organizations (De Maria, 2006) MIT Sloan Management Review: • Keeping trade secrets secret (Hannah, 2006) European Journal of Marketing: • Self-empowerment and consumption (Henry & Caldwell, 2006) Marketing Science: • Role of secrecy in Folk Marketing (Shugan, 2006)
2007	5	Research Policy: • Appropriation instruments and absorptive capacity (Arbussà & Coenders, 2007) Technovation: • Appropriability of innovation results (González-Álvarez & Nieto-Antolín, 2007) R&D management • Strategies for appropriating returns on innovation (Hurmelinna-Laukkanen & Puumalainen, 2007) Journal of Management Studies: • Factors that Influence Whether Newcomers Protect or Share Secrets of their Former Employers (Hannah, 2007) Academy of Management Review • Pay secrecy (Colella et al., 2007)
2008	15	Business Horizons: • Strategies for prohibiting employee communication (Susana, 2008) Research Policy: • Protection of innovations in knowledge-intensive business services (Amara et al., 2008) **Journal of Public Policy & Marketing: Special issue on stealth marketing** Management Science: • Appropriability and Commercialization (Ducheneaux, Goldfarb, Shane, & Thursby, 2008) • Consumer privacy and marketing avoidance (Hann, Hui, Lee, & Png, 2008) Journal of Management Inquiry: • Ethical implications of secrecy in organizations (Anand & Rosen, 2008)

For analytical as well as conceptual convenience, we coded the articles into a set of common categories for the purposes of our analysis. Each of the 128 articles was classified according to its broad theme. We identified five broad themes within our article set, four of which related to seven different situations, contexts where secrecy exists in organizations, while the last theme – "protecting secrets" is overarching across the contexts

WHAT'S A SECRET? KEY ELEMENTS AND PERSPECTIVES ON SECRECY

A secret is an intentional concealment of information (Bok, 1989) where secrecy is the habit and/or trait of concealment (Larson & Chastain, 1990). In its simplest form, secret keeping is an inevitable everyday endeavor in the sense that every individual continually chooses what information should, or should not, be shared with others. (Kelly, 2002).

In this section, we reconcile psychological, sociological and legal perspectives on secrecy to identify and relate the primary elements of a secret: insiders (those holding a secret), outsiders (those from secret is hidden), the substance of a secret (information to be hidden), intent (the reason why information is to be hidden), and the protective barriers created to keep the information secret. We analyze the main factors that determine the use of secrecy in organizations, and the consequences of secrecy for both insiders and outsiders, and for the relationship between them across three levels: individual, organizational and macro level.

Organizational secrets are always relational and intersubjective in nature. There are at least two subjects who are crucial for a secret to exist: the insider – the one who possesses the information of interest, and the outsider – the one from whom the secret is hidden. Secrets are possessions whose value is created and enhanced by denying knowledge of them to others (Richardson, 1988). Yet, a coincidental failure to share information does not make a secret, as knowledge is naturally asymmetrically distributed (Wexler, 1987). Besides the very substance of hidden information, there should be an *intent,* which is a reason behind a conscious decision of an insider to keep that information hidden from an outsider. The intent is always related to the broader relationship between the two parties, and to the insider's desire to reinforce, cease or otherwise transform this relationship with a secret (DePaulo *et al.,* 2003).

Personal secrets

On an individual level, the ability to differentiate between secret and non-secret information and to withhold information is an important stage in human development (Anagnostaki *et al.,* 2013). It helps to delineate the boundary between what is public and what is private and thus to define the boundaries of one's self (Leary and Tangney, 2011; Wexler, 1987). Individuals keeping a secret are faced with the paradoxical task of having to think about the secret so as not to unwittingly reveal it, while at the same time attempting to suppress related thoughts about the secret (Afifi & Caughlin, 2006). Consequently, secrecy has been believed to lead to ego depletion, anxiety, and other negative psychological symptoms (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Baumeister & Heatherton, 1996). However, empirical research has revealed no psychological connection, except in the case of shameful or threatening secrets (Anagnostaki *et al*., 2013). Moreover, no positive effect was found for revealing the secret (Kelly & Yip, 2006) and there are often circumstances when the secret keeper may be better off not revealing the secret (Kelly & McKillop, 1996).

Individuals from whom the contents of a secret are withheld, find secrets fascinating (Berlyne, 1950, 1954). The more secrecy limits the availability of information, the more valuable it becomes. This suggests that those from whom information is hidden, tend to overestimate the value of the secret (Wright, Wadley, Danner, & Phillips, 1992). Witness the case of the secret formula in Coca-Cola, which has given the product an aura of uniqueness for over 100 years.

Interpersonal secrets

At the group level, the system of distances and intermissions created by secrecy is necessary for intimate relations. The act of sharing a secret within a group creates a condition of "they and we" which, according to social identity theory (Ashforth and Mael, 1989), serves to strengthen group cohesion (Fine & Holyfield, 1996; Rigney, 1979). Secret-holders tend to confide in those with whom they feel emotionally close. This is why total secrecy is rare (Vrij, Nunkoosing, Paterson, Oosterwegel, & Soukara, 2002). Keeping a collectively shared secret is much harder than a private one, it requires creating dedicated *protective barriers* such as initiation rituals, oaths, clearance procedures and non-disclosure agreements that create incentives for keeping a secret and outline sanctions for breaking the secrecy. It is these practices that differentiate group or organizational secrets from private ones (Simmel, 1950).

The micro-politics of secret telling works to enhance the social bond between the teller and the receiver (Rodriguez & Ryave, 1992). However, secrets can also provoke distrust (Birchall, 2011) and alienation (Ashley & Leonard, 2009). Thus, the consequences of secrecy for the relations between may be unpredictable. In sum, secrecy is a risky business (Luhrmann, 1989).

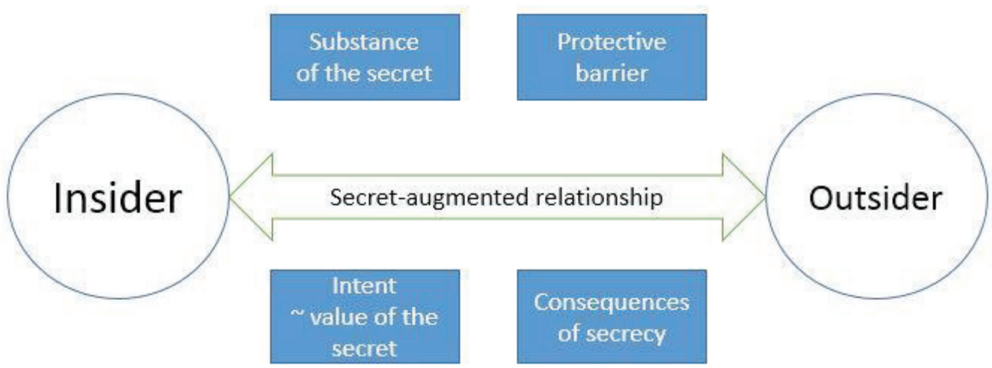
Secrecy reinforces the uneven distribution of knowledge and directly shapes power relations. Secrecy creates a social hierarchy and reveals inequality (Wexler, 1987), as what one knows determines who has power and how that power can be utilized (Lowry, 1972). Therefore, the *intent* that drives people to seek and obtain secret information often includes getting a power, authority and an advantage in relation to outsiders (Lowry, 1972) as well as hiding one's vulnerabilities (Keane, 2008). This adds to the social fascination with secrets.

In summary, an interpersonal, inter-group perspective on secrecy unveils and emphasizes two additional elements of a secret: protective barriers intended to keep a secret as such, and the consequences of secrecy for both insider and outsiders. The latter can be intended and unintended, and is not necessarily positive, in that secrets can create distrust and jealousy (Afifi & Caughlin, 2006; Bok, 1985).

Codifying the secrets

Integrating the diverse perspectives on secrecy reveals two dimensions that characterize all secretive relations. The first dimension is the level of analysis: individual, organizational or macro level. While our primary focus is on an organizational level, we take into account interactions and potential discord existing between organizations and individuals, such as when organizations monitor employee performance through covert surveillance (Di Domenico & Ball, 2011), or when managers conceal negative organizational outcomes from regulators and markets (Abrahamson & Park, 1994). The second dimension is the locus of the relationships which refers to the secrets that are kept within the organization such as regulating information sharing between teams and departments (Carlile, 2002) as compared to secrets that span organizational boundaries and impact the relationships with customers (Kaikati & Kaikati, 2004), competitors (e.g. Arundel, 2001) and broader external stakeholders (Floreddu & Cabiddu, 2016). These two dimensions underpin our framework for analyzing four types of secretive relations as summarized in Figure 1.2.

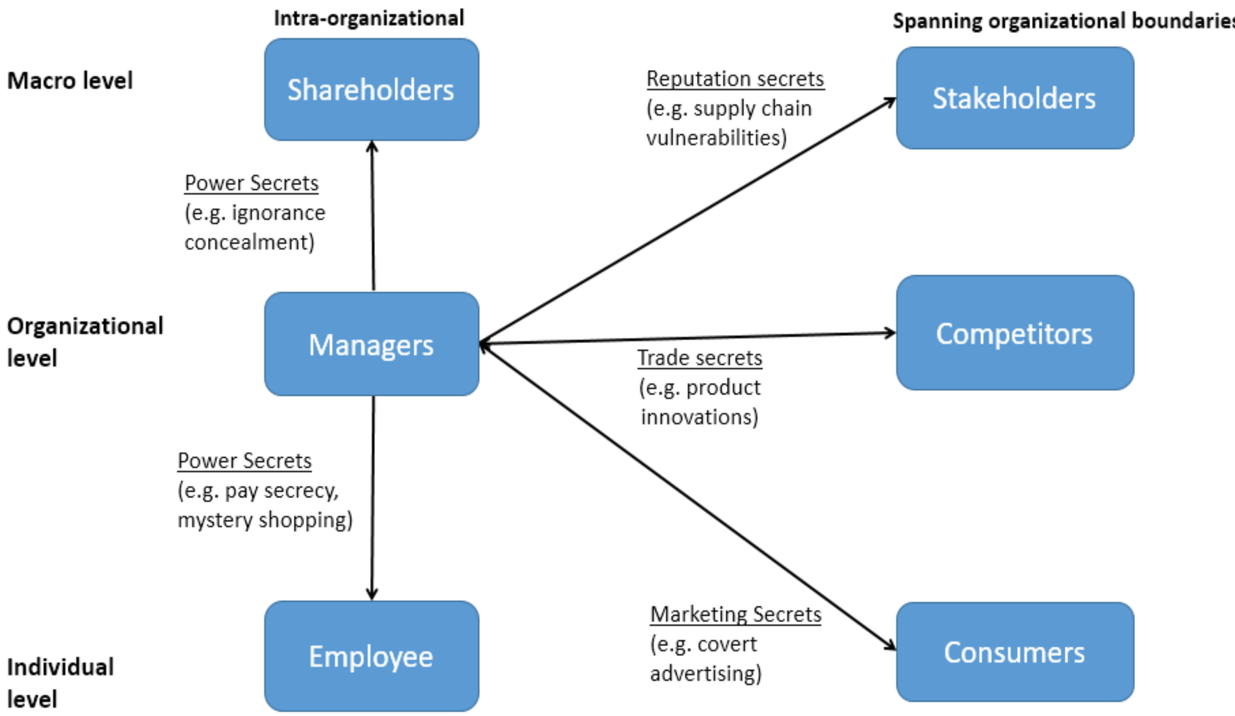
Figure 1.2 Key elements of a secret



It is important to note that some of these secrecy relationships are bidirectional. For example, while firms broadcast covert advertising (Campbell & Marks, 2015) and hide information about their new products to create demand (or anxiety) from consumers (Brown, 2001), consumers also conceal information about their consumption patterns from firms. This is done to protect consumer privacy (Plangger & Watson, 2015; Thompson, 2001) and to cover up personal vulnerabilities (Liu, Keeling, & Hogg, 2016; N. Wong & King, 2008).

In sum, the secretive relations differ not just in the nature of those holding the secret and from whom the information is withheld, but also in the substance, information content that is hidden. We see that there are intended and unintended consequences when holding as well as divulging secrets. In the next section, we develop a typology and systematically review the extant research on organizational secrets. We divide the literature into four broad categories based on the type of secret we are considering, reputation secrets, trade secrets, marketing secrets, and power secrets. We also develop a fifth category, protecting secrets, which spans the other four. Our typology is presented in figure 1.3

Figure 1.3 The typology of secretive relations



RESEARCH REVIEW

For this review, we adapt and augment the dynamic view on secrecy which identifies four-stages lifecycle of a secret: the creation of a secret, installation of preventive mechanisms, exploitation, and minimization of leakage (Bos, Broekhuizen, & de Faria, 2015).

The studies exploring the early stages of a secret lifecycle generally address questions about *why* individuals and organizations create secrets (Vrij et al., 2002; e.g. Wadhwa, Bodas Freitas, & Sarkar, 2017). That is, the use of secrecy appears as a *dependent* variable, stipulated by number of external factor such as industry structure and strength of legal intellectual rights protection (de Faria & Sofka, 2010; Pagnattaro, 2012) as well as by firm-specific and contextual factors such as firm size and type of knowledge to be protected (Arundel, 2001). In contrast, researchers looking into the late stages of a secret lifecycle typically focus on the consequences, effects of secrecy on the firm and individual-level behavior. As such, they consider secrecy as an *independent* variable influencing or moderating firm strategy (Leiponen & Byma, 2009), performance (de Laat, 2005; Hussinger, 2006) and individual well-being of employee and consumers (Kang, DeCelles, Tilcsik, & Jun, 2016; Liu et al., 2016).

Thus, as we review the thematically organized sets of literature on different types of secrets, we further categorize these studies based on whether their focus is on the analysis of preconditions and intentions or on the consequences of secrecy, That is, whether secrecy is considered a dependent or independent variable in the analysis of organizational relations. Then we turn to the installation and upkeep of the protective barriers. Table 1.3 presents the key literature.

Table 1.3 The antecedents and consequences of secrecy

Type of secrets	Creating secrets (secrecy as DV)	Consequences of secrecy (secrecy as IV)
Reputational secrets: organizational concealment of information from stakeholders	• (Alexander, 2013) – on tax transparency and avoiding tax secrecy due to public scrutiny. • (Carlos & Lewis, 2017): IV – reputation threat • (Agarwal et al., 2013) – on self-disclosure bias; IV - performance • (Floreddu & Cabiddu, 2016) – on firms' concealment of complaints and conflicts on social media; IV – the level of reputation • (Marshall et al., 2016) – on supply chain disclosure; IV – the level of risk and strategic value	• (Werner, 2017)**:** DV – investor reaction • (Claeys, 2017) – on the disadvantages of secrecy in a time of crisis **Effect of secrecy on power and social cohesion** • (Costas & Grey, 2014; Grey & Costas, 2016) • (Dufresne & Offstein, 2008) • (Parker, 2015): DV – the inflated perception of the organization's capabilities

	• (Keane, 2008): IV –organizational vulnerability • (Pressey et al., 2014) – on dark networks (IV – industry, performance)	• (Scott, 2013): on invisibility by design and organizational identity of 'stigmatized' businesses • (Shapiro, 2013): on balancing secrecy vs efficiency • (Stohl & Stohl, 2011)
Trade secrets: Innovation appropriation & intellectual property protection	**IV –country, institutional environment:** • (de Faria & Sofka, 2010) • (Delerue & Lejeune, 2011) • (Zhao, 2006) • (Nelson, 2016) • (Gans, Murray, & Stern, 2017) • (Walsh & Huang, 2014) **IV – industry, market structure** • (Amara et al., 2008) • (Holgersson & Wallin, 2017): IV – firm size, • (Gallié & Legros, 2012) • (Thumm, 2001) **IV – firm size:** • (Arundel, 2001) • (Leiponen & Byma, 2009) • (Neuhäusler, 2012) • (Milesi et al., 2013) **IV: past innovation performance** • (Sofka, de Faria, & Shehu, 2018) • (Zanarone, Lo, & Madsen, 2016) **IV – radicalness of innovation:** • (Anton & Yao, 2004): • (Zobel, Lokshin, & Hagedoorn, 2017) • (Zaby, 2010) **IV – innovation type: process or product** • (B. Hall, Helmers, Rogers, & Sena, 2014): • (Hanel, 2006) • (Thomä & Bizer, 2013) • (González-Álvarez & Nieto-Antolín, 2007) **IV: business model** • (Bonakdar, Frankenberger, Bader, & Gassmann, 2017):	• (Arbussà & Coenders, 2007): DV – R&D and downstream activities; absorptive capacity; • (Dechenaux et al., 2008): DV – commercialization vs termination • (Graham, 2004) – on complementarity; DV- use of continuation in patenting • (HanGyeol, Yanghon, Dongphil, & Chungwon, 2015): DV – R&D productivity; secrecy more effective at the invention stage than at commercialization • (Katila et al., 2008): DV – startup's decision about alliances with a large corporation • (Hurmelinna-Laukkanen & Puumalainen, 2007): DV – perceived strength of IRP protection + om communication barriers and employee immobility • (Castellaneta, Conti, Veloso, & Kemeny, 2016): DV – VC investments; • (Castellaneta et al., 2017): DV – Market Value • (Delerue & Lejeune, 2010): DV - appropriability of R&D investments • (Hussinger, 2006): DV – sales of new products • (Wadhwa et al., 2017): DV – innovation performance; • (Anokhin & Wincent, 2014): DV: secrecy, negatively moderates the influence of technological arbitrage opportunities on startup entry rates • (Carlile, 2002) – on constrained organizational learning • (Moenaert, Caeldries, Lievens, & Wauters, 2000) – on information flows in NPD teams (trust and confidence)

		• (Perkmann & Salter, 2012): DV – effectiveness of university-firm partnership
Marketing Secrets Stealth marketing: spurious promotion	• (Magnini, 2011): IV – experiential nature of the company' offering • (Pehlivan et al., 2015) • (Milne et al., 2008) • (Roy & Chattopadhyay, 2010): Review, typology of stealth marketing (4P)	• (C. Campbell & Marks, 2015): on native advertisement (no source disclosure), DV – a higher level of trust and credibility; risks • (Kaikati & Kaikati, 2004); on stealth marketing for building awareness, WOM • (Martin & Smith, 2008): on stealth marketing, consumer skepticism and the additional defense mechanisms • (Moon, 2005) – on stealth positioning: concealing the true category of the product (p.8) to encourage acceptance • (M. C. Campbell et al., 2012; Petty & Andrews, 2008; Rotfeld, 2008; Sprott, 2008; Wei, Fischer, & Main, 2008): on the effectiveness of stealth marketing and consumer resistance • (Milne et al., 2009): negative reaction to covert marketing is moderated by brand equity, previous experience • (Ashley & Leonard, 2009): DV - decreased trust in and commitment to the brand
Managing consumer uncertainty about the *product*	• (Ofek & Turut, 2013): IV - market forecasting capabilities (strong) and the demand-side benefits (small) - suddenware	• (D. Hall, Pitt, & Wallstrom, 2015) – on denial of availability and reactance; DV - demand • (Brown, 2001) • (Mills, 2015) – on acknowledgment, acquisition and dissemination value of secrets; DV – a sense of agency • (Yoganarasimhan, 2012): on fashion; DV: demand volume ↓, the signaling value of a product ↑ • (Harutyunyan & Jiang, 2017): DV – expectations, surprise, and satisfaction (good examples!)
Secret *pricing*		• (Bernhardt & Spann, 2010) • (Voigt & Hinz, 2014) DV – WTP (willingness to pay_ • (Walley & Fortin, 2005); DV – WTP, demand (auction interest)

Consumer secrets: customers' concealment of information from firms and each other	• (Henry & Caldwell, 2006): IV – social class; DV - stigmatization remedy • (N. Wong & King, 2008) on healthcare intervention narratives; IV – the perception of risk; DV - – stigmatization remedy, empowerment • (Thomas et al., 2016): on consumers' hiding consumption; IV - identity threat, goal conflict between personal and social identities.	• (Bian, Wang, Smith, & Yannopoulou, 2016) on counterfeit; DV - demand • (Liu et al., 2016) – on consumers' well-being narratives and concealment of negative self; DV – self-compensation
Consumer privacy and disclosure avoidance	• (Allen & Peloza, 2015) • (Dinev et al., 2013) • (Hann et al., 2008) • (Plangger & Watson, 2015) • (Weinberg, Milne, Andonova, & Hajjat, 2015)	• (Aguirre et al., 2015): DV – vulnerability and trust (when firms engage in overt information collection, users exhibit greater click-through intentions
Power secrets: managerial concealment of information from an employee	• (Finn & Kayandé, 1999): on mystery shopping: • (Di Domenico & Ball, 2011) on covert surveillance • (Anand & Rosen, 2008)**:** ethical considerations • (Abrahamson & Park, 1994) – concealment of negative outcomes (IV – outside directors, large institutional investors)	**Pay secrecy: DV - motivation** • (Belogolovsky & Bamberger, 2014) • (Case et al., 2001) • (Colella et al., 2007) • (Trotter, Zacur, & Stickney, 2017) • (De Maria, 2006): DV - corruption • (Lehman & Ramanujam, 2009): DV – a rule violation • (Shapira, 2015) on managerial ignorance concealment: consequences - vicious distrust and ignorance cycles, failures.
Keeping the secret: Protective mechanisms	• (Liebeskind, 1997) • (Crittenden et al., 2015) • (Olander & Hurmelinna-Laukkanen, 2015) - HRM (leave and leak prevention) • (Pagnattaro, 2012): non-disclosure agreement, limited physical access, law enforcement • (Robertson et al., 2015) • (Stead & Cross, 2009) • (Sussman, 2008) • (Wetter, Hofer, Schmutz, & Jonas, 2017) • (Maurer & Zugelder, 2000): legal mechanisms **Employee compliance and resistance to secrecy:** • (D. Hannah, 2005, 2006, 2007; • D. R. Hannah, McCarthy, & Kietzmann, 2015; • D. Hannah & Robertson, 2015,)	

Trade secrets: What is hidden from the competition

Trade secrets are the most common form of organizational secrecy. The focus is on technology strategy and in particular on the *protection of intellectual property* (e.g. Arundel, 2001; Crittenden *et al.,* 2015). Knowledge-based property rights are weak and are costly to enforce. Therefore, firms use organizational arrangements, to differentially reduce the observability of knowledge (Teece, 1998). The competitive advantage of a firm depends on the degree to which some firms are able to protect their knowledge from imitation more effectively than other firms (Barney, 1991). Thus, secrecy is one of the most important mechanisms for protecting knowledge assets and intellectual property, and hence is a viable alternative to patenting and copyright protection (e.g. Milesi, Petelski, & Verre, 2013; Neuhäusler, 2012).

The concept of trade secrets is embodied in the US Uniform Trade Secrets Act (UTSA) of 1985, which outlines three criteria that must be met for a secret to be legally protected: (1) organizations' trade secrets contain information; (2) the secrets are valuable to the organizations, and that value is derived, in whole or in part, from the secrecy of the information; and (3) the organization must make reasonable efforts to protect the secrets (Hannah, 2005).

Trade secret protection is structured around two irreconcilable rights: (1.) the right of the corporation to its intellectual property, and (2.) the right of the individual to seek gainful employment and utilize their abilities. As soon as a trade secret becomes an integral part of the employee's total capabilities, they cannot divest themselves of their intellectual capacity. Even when not shared openly and consciously, trade secrets once obtained, may manifest themselves subconsciously in routine daily decisions, providing for 'inevitable disclosure'. Protection of intellectual property in courts generally includes requesting a restraining order preventing a former employee from working in the particular field for another company, from disclosure of any information, and from future contacts with former colleagues (Baram, 1968; Castellaneta, Conti, Veloso, & Kemeny, 2016). Witness the popularity of employment contracts that forbid workers to work in competing organizations for set periods of time. Those contracts are, in essence, a contractual attempt to prevent the transfer of sensitive organizational knowledge (Lemley, 2008),

Knowledge protection mechanisms differ by the size of the firm. For small firms, the choice tends to be between secrecy and speed to market (Leiponen & Byma, 2009), while larger companies are more likely to choose the patenting system (González-Álvarez & Nieto-Antolín, 2007). However, when smaller entrepreneurial firms are seeking equity funders, then property protection becomes more important. In addition to size, knowledge protection mechanisms differ by industry. For example, patents are the principle knowledge protection mechanism in the pharmaceutical industry and medical equipment. However, secrecy is often preferred in industries such as special machinery, computers, auto parts, and chemicals (Hanel, 2006). Finally, the institutional environment also plays an important role in determining whether the firms choose to disclose vital information through patents or keep it secret. In environments with limited protection, disclosure through patenting risks imitation (Anton & Yao, 2004). Therefore secrecy is the primary protection mechanism used in countries where intellectual property rights protection is weak (de Faria & Sofka, 2010; Delerue & Lejeune, 2011; Zhao, 2006). In addition to the protection of existing knowledge, secrecy is also an important mechanism for creating incentives for innovation because incentives to innovate depend on the degree to which the innovator can appropriate future rent streams (James et al., 2013; Liebeskind, 1996). The more radical innovation, the more likely it is to be protected by secrecy rather than 'formal' mechanisms of patenting and copyright registration (Hurmelinna-Laukkanen & Puumalainen, 2007; Zaby, 2010).

In acquisitions, trade secret protection has been found to have a positive effect on firm market value (Castellaneta, Conti, & Kacperczyk, 2017). Having these protection mechanisms allows entrepreneurs to take the risks and engage in alliances with established firms and thus gain access to resources such as manufacturing capacities (Katila, Rosenberger, & Eisenhardt, 2008). Yet, the evidence concerning the effectiveness of secrecy as compared to other protective mechanisms is scarce and mixed. For example, research suggests that patents are more effective in protecting innovations already in the market, whereas secrecy is important for inventions that are not yet commercialized (Hussinger, 2006). Secrecy has been shown to have a positive effect on firm self-reported innovation performance (Hussain & Terziovski, 2016), but the effect on sales and on short-term and long-term financial performance yet remains unexplored.

In sum, the literature on trade secrets has explored the factors determining the firms use secrecy to protect their valuable knowledge assets from competitors and appropriate the innovation value. However, there is not enough evidence yet to assess the effectiveness of secrecy as a knowledge protection mechanism compared to other more formal methods.

Reputation Secrets

Reputation secrets are secrets that managements keep from external stakeholders such as state regulators, investors, and the mass media. The main goal of withholding information from the stakeholders is protecting the public image, maintaining the attractiveness of the organization, and keeping the stakeholders engaged with the organization (Anand & Rosen, 2008). The main driver of secrecy is the perception of organizational vulnerability which leads to threatening the reputation (Carlos & Lewis, 2017). That is the perception that certain information about the organization if revealed, could expose the organization to a loss of prestige or reputation. Those organizations with many vulnerabilities are most likely to have many secrets, and the greater the degree of vulnerability, the greater the importance of the secret (Keane, 2008, p.2).

Examples of reputational secrecy include tax secrecy, concealment of organizations' strategies for tax avoidance (Alexander, 2013), review secrecy – concealment of customer complaints and conflicts on social media (Floreddu & Cabiddu, 2016) and supply chain secrecy - non-disclosure of suppliers and partnerships in the value chain (Marshall, McCarthy, McGrath, & Harrigan, 2016). For the organizations highly dependent on the investor's commitment and financial markets, financial performance is the most sensitive to disclose. That explains the "self-disclosure bias": firms disclose more information when they are performing above expectations, and only the legally required minimum of data otherwise (Agarwal, Fos, & Jiang, 2013). In a similar fashion, social media platforms such as Facebook and Twitter discontinue disclosing active users' numbers. These metrics used to be a key signal to investors and others about how these businesses are doing and how quickly they are growing (Bell, 2019). Now, hiding this data prevents the companies from being directly compared to competitors, some of which are growing faster in their user count (Kastrenakes, 2019).

The general rule is that the greater the strategic value of the information coupled with the greater the risk that organization may be exposed to be the information revealed, the more likely it is to be kept secret (Keane, 2008; Marshall et al., 2016). Thus, any illegal organizational activities such as cartels and non-competition agreements, involve the greatest concealment efforts (Pressey, Vanharanta, & Gilchrist, 2014).

The stakeholder's reaction to the disclosure of an organizational secret is dependent on the nature of a stakeholder's relations with the organization. On average, investors react positively toward firms identified as making covert political investments, especially if the firm operates in the heavily regulated industry (Werner, 2017), while consumers and trade unions may react differently. That does not mean consumers shy away from secrecy. There are backstage businesses, such as nursing homes, that are stigmatized and invisible by design but still attractive to consumers (Scott, 2013). Counterintuitively, an absence of detailed information about the organization may be a sign that the stakeholders have trust and confidence in that organization. For, as one may recall, the disclosure is just a control mechanism, and in a trade-off between trust and control, the need for greater control signals an absence of trust (Tomkins, 2001).

Secretive organizations develop a very special kind of organizational identity. When someone is entrusted to keep a secret, there is a concomitant signal that— along with the entrusted information—the recipient of the secret is valuable. Being a member of the secrecy network, then, can generate strong affective commitment to the organization (Dufresne & Offstein, 2008). Within the organizations, secrecy can fundamentally shape behavior and interactions by, regulating what is said and not said, by whom and to whom.

Such regulation is a source of control and power for that in-the-know have an agency to decide whether to share or keep secret with outsiders. Secrecy can also shape organizational identity construction, which is how individuals, groups, and organizations define 'who they are' (Costas & Grey, 2014; Grey & Costas, 2016).

Moving outside the organizational boundaries, the lack of information about secretive organizations, coupled with the experience of interacting with them, often results in an inflated perception of their capabilities (Parker, 2015). Indeed, building the public fascination and awe, the impression of extraordinary 'wizard-of-Oz' capabilities is what constitutes 'the magic of secrets' (Luhrmann, 1989). Like any magic, it implies keeping the results in the open while ensuring that the underlying processes remain hidden. That is why strategies are more open than ever, but operational knowledge in increasingly confidential (Reponen & Galliers, 2006).

In sum, in the literature on reputational secrets, the main predictor of secrecy between the organization and its stakeholders is the perception of organizational vulnerability and risk. Conceptual work posits that secrecy may shape organizational identity and increase the attractiveness of an organization to stakeholders, but no empirical work has been done to verify these predictions, nor has work been done to explore the mechanisms behind this predicted effect.

Marketing Secrets: Between the firm and its customers:

Secrets that are kept between an organization and customers are known as marketing secrets (Pehlivan et al., 2015). The goal of marketing secrecy is to elevate the effectiveness of marketing interactions by decreasing the visibility of various elements of their marketing mix: product, price, distribution, and promotion. What a consumer knows about a product or service, is crucial to how it is marketed (Vigar-Ellis, Pitt, & Berthon, 2015).

The research on marketing secrets suggests that temporarily withholding information about new *products* can be useful in creating market anticipation (Schatzel & Calantone, 2006). It has been shown that, when positively framed by brand equity and previous experiences with the brand, secretive products might induce intensive word-of-mouth, 'buzz' around and elicit an emotion of surprise in customers (Derbaix & Vanhamme, 2003; Houston, Kupfer, Hennig-Thurau, & Spann, 2018). Firms and brands that have a pre-existing positive history with the consumer may be a subject to optimism bias towards their new products (Tanner & Carlson, 2009). That is, consumers may have unrealistically high expectations about the quality of future products resulting in a strong preference towards them in lieu of the products currently offered on the market (Dahlén, Thorbjørnsen, & Sjödin, 2011). Many brands in the experiential product categories, such as haute couture fashion, use 'cloaking' of new products to provoke consumers' over-excitement and increased commitment to the brand (Yoganarasimhan, 2012). The empirical studies confirm that the "teasing" effect is often hedonically beneficial because uncertainty engenders curiosity and thereby builds up a potential for a positive experience (Ruan, Hsee, & Lu, 2018).

Companies sometimes withhold information about *distribution channels* and even deny products' availability in order to ignite consumers' eagerness: when customers want something and it isn't immediately available, they may want it even more (Hannah *et al.*, 2014). A denial of availability implies that there is an 'acknowledgment value' created for the consumer (Mills, 2015). By limiting the access to information about a products' availability, companies propagate the perception of scarcity. The latter enhances value perception, which in turn impacts purchase intentions (Eisend, 2008). Scarcity is linked to the customers' sense of exclusivity. That is, companies may increase demand by deliberately holding back supply and delaying customer gratification. Keeping a demanded product's release date and availability under wraps makes potential buyers savor the belief that they are the lucky ones, the selected few (Brown, 2001). Witness the long-standing practice of limiting production practiced by Harley Davidson. By limiting the production of their motorcycles, Harley was able to increase the perception of the desirability of their products and enhance their brand.

The practice of keeping customers unaware of the *price* has attracted research attention in conjunction with the proliferation of 'name-your-own-price' online auctions (e.g. Bernhardt & Spann, 2010). Before the start of auctions, the seller sets the reserve price – the minimum price for which he is ready to part with the product. Then, buyers make their bids indicating how much they are ready to pay for the offering. Keeping a reserve price secret has a positive effect on auction attractiveness (average number of participants) and on increasing participants' willingness to pay (Voigt & Hinz, 2014; Walley & Fortin, 2005).

The marketplace is often crowded and marketers find it challenging to be heard and seen. Hence, they try to reach a target audience surreptitiously, without their *advertisement* being perceived as an advertisement (Kaikati & Kaikati, 2004; Roy & Chattopadhyay, 2010). This strategy is known as a 'stealth' or 'covert' marketing. The goal is reducing consumers' skepticism towards a message. Some firms try to achieve that by blurring the line between promotion and entertainment (Rotfeld, 2008; Sprott, 2008). Others endeavor to disguise their message as a word of mouth (Magnini, 2011; Martin & Smith, 2008).

More comprehensive use of stealth marketing includes *stealth positioning*: hiding the product's true nature (Moon, 2005). For example, Sony's AIBO robot was positioned as a lovable pet instead of an albeit limited, household aide. This positioning attracted elderly consumers into being early adopters (Roy & Chattopadhyay, 2010). Overall, stealth marketing is often effective but inevitably ethically questionable (Milne, Bahl, & Rohm, 2008; Milne, Rohm, & Bahl, 2009; Petty & Andrews, 2008). As soon as consumers realize the hidden agenda of the interaction, they feel betrayed and often develop strong brand resistance (Ashley & Leonard, 2009; M. C. Campbell et al., 2012).

While companies hide different elements of their marketing mix from their customers, the latter also adopt secretive behaviors. Customers routinely avoid disclosing information about their consumption practices and preferences to protect themselves from unwanted scrutiny and targeting (Pehlivan *et al*., 2015). Consumers are increasingly concerned about privacy and strive to protect their contacts, personal and demographic info to ensure anonymity, especially from companies that require personal data(A. M. Allen & Peloza, 2015; Dinev, Xu, Smith, & Hart, 2013; Plangger & Watson, 2015). They are even willing to give up convenience and perks of personalization if obtaining them requires sharing their data (Aguirre, Mahr, Grewal, de Ruyter, & Wetzels, 2015). These concerns have been validated by recent scandals that revealed how social media giants covertly collected and shared with advertisers huge amount of consumers' data (Sherr, 2018; Yurieff, 2018).

Consumers are even more prone to withholding information about distressing life events like job loss and health issues (N. Wong & King, 2008). They construct and project wellbeing narratives to cover up their vulnerabilities and mitigate the risks of being socially excluded or losing access to their habitual lifestyle (Liu *et al.*, 2016). Secretive behavior often helps consumers to mitigate an identity threat that afflicts their sense of who they are so that they can resolve a conflict between personal self-concept and social identities, relations with social groups (Thomas, Johnson, & Jewell, 2016). Hence, hiding consumers' vulnerable information, e.g. one's social status, is a commonly employed remedy for prolonged stigmatization (Henry & Caldwell, 2006).

Power secrets

Besides secrets kept from competitors, consumers, and institutional stakeholders, secrets are kept between organization members. The main reason for regulating information flow within the organizational boundaries is re-shaping the distribution of power and control. For what one knows determines what one can do (Anand & Rosen, 2008; Dufresne & Offstein, 2008). The prominent examples of managerial practices explicitly intended to provide supervisors with a greater degree of control over employee performance include mystery shopping and various forms of covert surveillance at the workplace (Di Domenico & Ball, 2011; Finn & Kayandé, 1999).

One more complicated instance of a powerful secret is the infamous practice of pay secrecy that keeps salaries under wraps and prohibits employees from sharing the information about their salaries (Case, Sim, Bakke, Kay, & Tulgan, 2001). A primary motivation for pay secrecy often cited by managers is conflict avoidance while the implicit goal is in acquiring more power for compensation negotiation and reward decisions (Colella, Paetzold, Zardkoohi, & Wesson, 2007). However, pay secrecy often has an adverse effect on performance and motivation, for it decreases the effectiveness of compensation as a signaling mechanism (Belogolovsky & Bamberger, 2014).

Employee quite often hides information about themselves from managers and colleagues to protect personal vulnerabilities. That kind of behavior clearly manifests when employee have to cope with stigmatization at work (Jones & King, 2014). Consider the minority employee who may attempt to 'whiten' their resumes in order to get a prestigious job (Kang *et al.,* 2016) or the case of women who try to 'de-gender' their profiles to earn respect in the workplace (Patricia Lewis & Simpson, 2012). One is likely to pursue even more secrecy when there is a need to cover up a suspicious erosion of a boundary between organizational and personal spheres, such as romantic relations at work (F. Wilson, 2014).

Managers themselves may conceal the information about their actions, decisions, and outcomes from superior stakeholders, including shareholders and regulators. The content of managerial power secrets is either personal, e.g. concealment of managerial incompetence (Shapira, 2015) or organization-wide, such as concealment of negative organizational outcomes (Abrahamson & Park, 1994). The latter might be thwarted by outside stakeholders but managerial decision making so far remains a black box, inaccessible to the demands for organizational transparency (Schnackenberg & Tomlinson, 2014). These secrets are different in that they are self-sanctioned. Unlike the decisions about pay secrecy or keeping under wraps new products that are collectively negotiated, these managerial secrets are sanctioned exclusively by those who decide to keep them. Therefore, the lack of public scrutiny increases the likelihood that the secret action may cross ethical boundaries result in a rule violation. (e.g. Lehman & Ramanujam, 2009).

The preceding power dynamics and tough organizational culture often stimulate hiding information that is likely to be perceived negatively by those in the position of power, even in spite of inevitable disastrous consequences. Withholding of information about safety accidents and sabotage of safety monitoring are major factors in many technological breakdowns and environmental disasters (Collinson, 1999). Similarly, misreporting of project status and wreckages define all major project failures (Keil, Smith, Iacovou, & Thompson, 2014). In these situations, organization members responsible for escalating information about the organization-wide negative events feel threatened and strive to protect their status. Even the best intentions often go undercover when they confront rigid organizational structures, as in the case of 'stealth' innovation teams that secretly accumulate resources and develop working prototypes furtively before making a case in front of upper management (Miller & Wedell-Wedellsborg, 2013).

In sum, the literature predicts that the quest for power, for privileged positions within organizations, is the major source of motivation for secretive behavior, especially when confronted with rigid organizational culture. So far, the research on power secrets has emphasized it's negative and potentially detrimental outcomes, such as security breaches and technological disasters. That uncovers an intriguing avenue for researchers willing to investigate, namely under which conditions secrets and regulations of information flow might have positive outcomes.

Protecting secrets

While the previous sections focused on four different types of secrets, in this section we focus on barriers to secrets. Specifically, there are three types of rules around the enforcement of secrets: 1) rules that restrict the transfer of specified knowledge; 2) rules that restrict social interaction by specified employees with specified others; 3) rules that restrict physical access to specified areas where knowledge is stored. Three respective types of protective mechanisms involve non-disclosure contracts, compensation schemes, and structural isolation (Liebeskind, 1997).

Despite the widespread use of non-disclosure agreements (NDAs), their efficacy has been questioned and shown to be short-lived (Dufresne & Offstein, 2008). Thus, legal/contractual restrictions alone are not sufficient and must be complemented with other organizational and motivational mechanisms (Herath & Rao, 2009). This is especially important at the executive level: directors generally have access to valuable information and are hard to control. Therefore, additional measures, such as equity-participation and family ties are often used to ensure the protection of trade secrets (Stead & Cross, 2009). High-level executives often sign non-compete agreements where once they leave an organization they cannot be hired by a competitor for a period of time.

Structurally isolating valuable knowledge by changing the physical location of specific teams and units can be another effective way of protecting secrets (Sussman, 2008). So far, two distinct types of isolation procedures have been operationalized: restriction procedures, and secret handling procedures. Surprisingly, employees' familiarity with the restrictions is often negatively related to their felt obligations to protect secrets; in contrast, employees' familiarity with secret handling is positively related to felt obligations to protect trade secrets. Most importantly, both relationships are moderated by employees' perceptions of the degree of rule enforcement (Hannah, 2005, 2006). Organizations might face even a tougher challenge when a knowledgeable employee leaves for a new position with a rival. One solution is a *job mobility restriction*, such as non-competition covenants (Delerue & Lejeune, 2010). The very act of signing such agreements not only reinforce employee's legal obligations but also increases their awareness of the restrictive rules (Pagnattaro, 2012).

Secret protection rests upon the centuries-old notion of master-servant relationship, and traditional notions of loyalty. The feeling of being trusted plays an important role in sustaining a 'positive secrecy climate' in organizations (Hannah & Robertson, 2015). Being a member of a selected group, of an inner circle can generate a strong affective commitment to the organization (Dufresne & Offstein, 2008). When someone is entrusted to keep a secret, there is a signal that—along with the entrusted information—the recipient of the secret is valuable. Security-related rule-following behavior is often rooted in an intrinsic rather than extrinsic motivation (Son, 2011).

Being a secret-holder can lead to an affirmational identity, strong identification with other members of the organization. In turn, the degree to which employees identify with their employer is found to be one of the decisive factors determining whether they protect a secret (Hannah, 2007). This identification regulates many aspects of organizational behavior and lays the foundation for shared behavioral norms (Ashforth & Mael, 1989). Following the prescriptions affirms one's self-image, while violating them evokes anxiety and discomfort in oneself and others (Akerlof & Kranton, 2000). That's why the embodiment of secrecy-protective norms in organizational culture is believed to be often more effective than mechanistic controls (Crittenden, Crittenden, & Pierpont, 2015; Hannah, 2006; Robertson, Hannah, & Lautsch, 2015).

Finally, when an organization faces a leak of secret information, leaking additional fake secrets may be an effective measure to confuse rivals (Dufresne & Offstein, 2008). For example, a firm may decide to preannounce future products untruthfully in order to confuse and deter competitors (Jung, 2011; Ofek & Turut, 2013). However, this runs the risk of confusing other stakeholders, damaging a firm's reputation and undermining future credibility (Bayus *et al.*, 2001; Jung, 2011). Indeed, every protective mechanism has both intended and unintended consequences.

In sum, the literature on protecting secrets suggests various protective strategies and analyses their relative effectiveness. What is missing is the factor analysis of what determines the particular mix, peculiar designs of the protective mechanisms in different environments and organizational contexts, and whether these designs differ across different types of secrets.

Theoretical Implications

Throughout the literature review, we have analyzed organizational relations augmented by secrecy, both within and across organizational boundaries, at the individual, organizational and macro levels. Organizing the results into an overarching framework allowed us to identify four major types of organizational secrets: reputation secrets, power secrets, trade secrets, and marketing secrets. For every type of secrets, we have discussed the key elements of the secretive relationship and then deliberated on the preconditions and consequences of secrecy in the context of this relationship. To this end, we have structured our discussion around the studies that consider organizational secrecy as a dependent vs as an independent variable.

In summary, the review shows that determinants of the use of secrecy have been extensively studied under various theoretical lenses, such as resource-based view (e.g. Arundel, 2001; González-Álvarez & Nieto-Antolín, 2007), institutional theory (e.g. Amara, Landry, & Traoré, 2008; Neuhäusler, 2012) and signaling theory (Castaño et al., 2008; Jung, 2011). It has been found, that smaller firms, pursuing a radical innovation in an environment with weak intellectual property protection are the most likely to choose trade secrets as a value appropriation mechanism (de Faria & Sofka, 2010; Holgersson & Wallin, 2017). In contrast, big, reputable firms that possess strong capabilities in predicting market demand are the most likely to use secrecy in marketing (Ofek & Turut, 2013).

One important effect of secrecy is that it fosters awareness of the organization and its members (Costas & Grey, 2014; Grey & Costas, 2016). Secrecy can fortify social bonding among those in the know, in terms of emotional closeness, the strength of ties and coalition-making (Rodriguez & Ryave, 1992). Secrecy inevitably leads to the construction of identities, as it creates the cognitive boundaries between insiders versus outsiders and thus re-makes their definitions of “us” and ”them”(Berthon, Pitt, Hannah, Berthon, & Parent, 2016; Keane, 2008). The sense of exclusivity and distinctiveness provided by secrecy positively affects members’ identification with the organization, inflates their trust and loyalty (Ashforth & Mael, 1989). The reciprocal trust plays a crucial role in the reproduction of organizational identity and ensures survival.

It is also believed that the differential distribution of knowledge may affect the relations of power and control within an organization (Grey & Costas, 2016). Such prediction is generally consonant with the strategic-contingency view prediction that organizational actors who control the flow of information are likely to gain an increased influence on strategy and decision-making (Salancik & Pfeffer, 1977). That is, the ownership of a secret imbues the power of autonomy and choice in deciding what to do with the secret (Mills, 2015).

The literature suggests that in addition to the well-discussed positive benefits of secrecy, there are unintended negative consequences. Secrecy can restrict the flow of information in a firm and therefore reduce organizational learning (James *et al.,* 2013). Intra-organizational boundaries created to protect a secret often prevent knowledge transfer between organizational functions, hinder wider knowledge creation and undermine new product development (Carlile, 2002).

Strong protection of trade secrets might positively affect firm market value (Castellaneta et al., 2017, 2016). At the same time, secrecy might create a toxic environment that undermines managerial integrity and favors corruption (De Maria, 2006). The restrictions imposed upon the formal channels of information circulation throughout the organization might be followed by the rise of informal and uncontrollable information flows, such as gossip (Kurland & Pelled, 2000). Moreover, researchers often observe employee resistance and discontent with the rules imposed to protect organizational knowledge (Hannah & Robertson, 2015; Sussman, 2008). That means that the formidable organizational loyalty and trust might be not a result of a secrecy regime, but a prerequisite for its effective use (Crittenden *et al*., 2015; Robertson *et al.*, 2015).

One theoretical lens which seems underemployed in the extant studies on organizational secrecy is signaling theory. Signaling theory focuses on describing behavior when two parties have access to different information and one party chooses whether and how to communicate that information while the other party must decide how to interpret the signal (Connelly, Certo, Ireland, & Reutzel, 2011; Spence, 1978). Secrecy implies establishing differential access to information and since signaling theory focuses on the process by which asymmetrical information is overcome, there are natural synergies between the two. So far, signaling theory has only been used for exposing pay secrecy and it's negative outcomes. It has been shown that protecting pay secrecy might undermine the effectiveness of compensation as a communication tool. Secrecy muffles the signals about the desired behavior and performance that one's compensation sends to another employee, and makes these signals harder to interpret. (Belogolovsky & Bamberger, 2014) In marketing, a signaling approach manifests in attempts to reduce consumer uncertainty about new products by releasing detailed pre-announcements (Jung, 2011; Schatzel & Calantone, 2006).

Paradoxically, some of the most successful consumer brands, Apple and Google among others, are vigilant in hiding any information about its future products or technologies (Peter Lewis, 2017; Musil, 2017). Moreover, empirical studies do not always support the preeminence of strong signals. On the contrary, there is strong evidence in marketing that highlights the communication value of less explicit signals, e.g. less visible brand logos (Berger & Ward, 2010). Such veiled branding carries the risk of misidentification, e.g., observers can confuse a high-end purchase for a cheaper alternative. Yet, the most experienced consumers in a particular domain, e.g. apparel, prefer subtle signals because they provide differentiation from the mainstream. Those insiders are capable of decoding the meaning of subtle signals that facilitate communication with others in the know. Thus, in certain contexts, the very subtleness of the signal, the scarcity of information about the brand may be signal in itself, capable of communicating the hidden value.

Normative implications

Our review raises important implications for managers who endeavor to establish and enhance secrecy regimes in their organizations. We have discussed internal and environmental circumstances under which the secrecy might be the best available option for protecting knowledge, appropriating value from innovation and creating consumer anticipations. It is important to note that the distinction between the different type of secrets serves best as an analytical ideal-type classification. Real-life secrets may function as a trade secret when hidden from competitors and as a marketing tool when hidden from customers. Witness Heinz sauce secret recipe that protects valuable know-how but also inflates the perception of value. Many companies in the service industry keep pricing information hidden to increase the supply of potential customers into the sales pipeline. Yet, especially in the B2B sector, many companies legally protect their pricing quotas as trade secrets to prevent customers from sharing them with competitors (Weinrich, 2014)

Managers should be aware of the unintended and potentially detrimental consequences of secrecy, such as employee discontent, mistrust, and diminished organizational learning, especially in the context of new product development. It is necessary to explicitly formulate from whom information is hidden (e.g. competitors, consumers, other external or internal stakeholders), and what is the intended result to be achieved, such as first-mover advantage or eliciting surprise and anxiety among the customers. This agenda, once formulated, determines the choice for a particular protective mechanism. E.g. marketing secrets are short-lived and often rely on non-disclosure agreements but rarely justify investments in physical and structural protection.

With regard to the secret's lifecycle, managers should strategically assess when and how particular secrets could be revealed. It is evident that no secrets might be held forever and every piece of information is going to be inevitably disclosed one day (e.g. Marshall *et al*., 2016). Hence, it is critically important to have the necessary rules and procedures in place to guide organizational reaction for an eventual breakage of a secrecy regime. Our analysis of the consequences that experiences of secrecy should also lead managers, shareholders, and regulators to reflect on ethical warnings and threats to the managerial integrity associated with the use of secrets.

DIRECTIONS FOR FUTURE RESEARCH

Our objectives in this review were to summarize and integrate the diverse and seemingly unrelated studies on secrecy across disciplines as well as to uncover gaps in the current literature and possible areas for future inquiry. The theoretical and topical integration led us to develop a two-dimensional framework as an organizing heuristic, combining levels of analysis and intra-organizational versus extra-organizational nature of secretive relations. This review has advanced our understanding of the use of secrets; yet much remains to be explored.

On the organization level, the only research question thoroughly explored to date is about the use and consequences of pay secrecy (Belogolovsky & Bamberger, 2014; Colella *et al.,* 2007). Other types of power secrets intended to increase the degree of managers' agency and control over their task environment have been only scarcely explored. Despite the theoretical prediction that the structure of information exchange has the ultimate influence on social hierarchies, this influence has not been investigated yet. That is of no surprise, however, given the very nature of secrecy. Gaining any access, asking questions and exposing intra-organizational relations concerning secrecy with a scientific investigation appear to be an almost unbearable task. There is, however, a limited research stream exploring dynamics of power between companies and their customers, as both sides are making decisions on what information to disclose or withhold from each other (Barnett White, 2004; Pehlivan *et al.*, 2015; Plangger & Watson, 2015). This research stream invites the integration with studies on organization's relational power and interdependence to illuminate how organizations could use an uneven distribution of information to elevate their position in inter-organizational relations.

The extant literature considers a high degree of intra-organizational cohesion and trust both as a pre-requisite for successfully holding a secret and as an outcome of sharing a secret. Yet, very little research has been dedicated to the operationalization and measurement of how secrecy, social cohesion, and trust influence each other in different contexts. Secrets are social phenomena, based on cognitive processing and strongly influenced by social norms. Therefore, it is surprising that organization scholars have yet to explore the influence of different cultural backgrounds on the experience of secrecy. These questions offer important managerial implications, especially for multinational campaigns.

With reference to protecting the secret, experiences, and consequences of secrecy transgression, intentional disclosure of information prescribed to be hidden, offer yet another promising avenue for future research. Breaking the rules of information flow regulation, such as in the case of whistleblowing, implies facing not only formal sanctions but also a strong social norm (Perry, 1998). Such behavioral prescriptions are important elements of one's social identity (Akerlof and Kranton, 2000). Hence, both keeping and breaking the secret ought to be a highly identity-related experience. It is unclear though, whether identity dynamics determines one's intention and capacity to handle the secret or the other way around. There is a theoretically warranted rationale for a bidirectional relationship between identity and secret-handling behaviors which has never been explored to date.

In sum, while there is a robust organizational literature on secrecy, many research gaps remain to leave a significant amount of work that still needs to be done. Our hope is that this literature review will both enhance and extend the on-going conversation around secrecy in an organizational context and encourage other scholars to join us in exploring this exciting topic.

HIDE AND UNCOVER: THE USE OF SECRETS IN MARKETING

Introduction

While some consumers like companies to be transparent, it is important to understand the limits of disclosure (Birchall, 2011). Be it an ingredient of a new product, potential acquisition target, an innovative manufacturing process, or a supply chain failure, keeping these secret is essential to firm survival and competitiveness (Dufresne & Offstein, 2008). Hence, although often viewed with negative connotations, secrecy is often a necessity (Anand & Rosen, 2008).

The strategy literature has explored secrets from the perspective of protecting knowledge assets and capturing the value created through innovation (Bos et al., 2015; James et al., 2013; Teece, 1998). Sociologists and organization theory scholars emphasized the effects of secrecy on employee identity and social order in organizations (Dufresne & Offstein, 2008; Grey & Costas, 2016). Surprisingly, despite this critical importance, the notion of secrets have until recently received little attention in the marketing literature (Mills, 2015; Pehlivan et al., 2015)

It has been argued that withholding certain brand information might be a source of value for customers (Hannah et al., 2014). Brand-related mystery (withheld information) may increase anticipation and desire for an offering (D. Hall et al., 2015). Many firms benefit from creating 'under the radar', unadvertised offerings and choosing locations where only people who look for them would find them (Yoganarasimhan, 2012; Harutyunyan & Jiang, 2017). This is in contrast to the argument that marketers should decrease consumers' uncertainty through detailed pre-announcements (Jung, 2011; Schatzel & Calantone, 2006). In this paper, we develop a conceptual model for the use of secrecy in marketing. The research questions we address are *why* customers would value secrets, and *how* secrecy can be used to create value.

We approach secrecy from a relational perspective and describe three modes: between the brand and customers knowing the brand secret (insiders), between the brand and customers from whom the secret is hidden (outsiders), and between insiders and outsiders. We argue that the role of secrecy in marketing is threefold. First, it creates value for insiders by reinforcing brand connection, which may lead to increased loyalty and extra-role behavior (Belk, 1988; Escalas & Bettman, 2013). Insiders enjoy an extra degree of control over their relationship with a secretive brand granted by their agency over whether to keep or share the secret. Therefore, they experience a stronger brand connection. Second, when positively framed by pre-existing brand equity, secrecy can provoke outsiders' curiosity about the brand so that consumer uncertainty becomes a positive experience (Lee & Qiu, 2009; Tanner & Carlson, 2009). Finally, secrecy creates a social order among customers by establishing insiders as an associative reference group (Bearden & Etzel, 1982). Affiliation with this privileged group makes insiders feel good about themselves while outsiders are eager to join and catch up with those in the know (Escalas & Bettman, 2003, 2005).

The model extends the literature on consumer uncertainty, branding, and new product per-announcements. It challenges conventional wisdom by identifying the conditions under which market anticipation and demand might be stimulated by withholding information. The practical implications include suggestions about designing marketing campaigns to elicit secrets.

Our paper is set as follows. First, we review the theoretical foundations of secrecy to delineate the differences between marketing secrets and other types of secrets, Second, we develop a model of the marketing secrecy and a set of testable propositions. Third, we discuss the theoretical and managerial implications that secrecy has on consumers' perceived uncertainty and self-brand connection. Then, we identify the boundary conditions and lay out the potential risks of secrecy on consumer trust and loyalty. The paper concludes by outlining directions for future theorizing and empirical studies.

Theoretical background

Secrets and secrecy

Secrets involve deliberately hiding information from other people (Lane & Wegner, 1995). They are the rules of regulation, of governance of interpersonal information circulation. Secrecy, in general, is the ability or habit of keeping secrets (Simmel, 1950). In general, secrecy is seen in a negative light, fueled by the fear of conspiracies, corruption, unethical and illegal behavior secrets might hide (Keane, 2008). On the other hand, secrets can attract, inspire awe and fascinate. The desire to know, to quench one's curiosity determines the attitude towards many secrets, for 'hiding invites probes' (Bok, 1989, p. 32).

Secrets inevitably involve the creation of a cognitive boundary to control access to what is perceived as a person's private domain and thus is related to privacy. The latter is intended to protect personal information, especially when it could render the exposed person vulnerable to stigma or danger. The notion of privacy is important for protecting one's rights, e.g. consumer rights where they face corporate surveillance and unauthorized processing of consumer's personal information (Goodwin, 1991). Marketers have discussed privacy in relation to the protection of vulnerable consumers: for example in the case of medical records (A. M. Allen & Peloza, 2015; Henry & Caldwell, 2006).

The difference between privacy and secrecy is that privacy is about to the selective access; “we don’t solely keep others away from our private places, sometimes we invite them in” (DePaulo et al., 2003). For example, consumers often share personal information with companies for the sake of convenience (Weinberg et al., 2015). Moreover, along with secrets about the self, there are secrets about social units (Simmel, 1950). Thus, what is private is not necessarily a secret, and what is secret is not necessarily private: for privacy need not hide and secrecy hides more than what is private (Bok, 1989, p. 11).

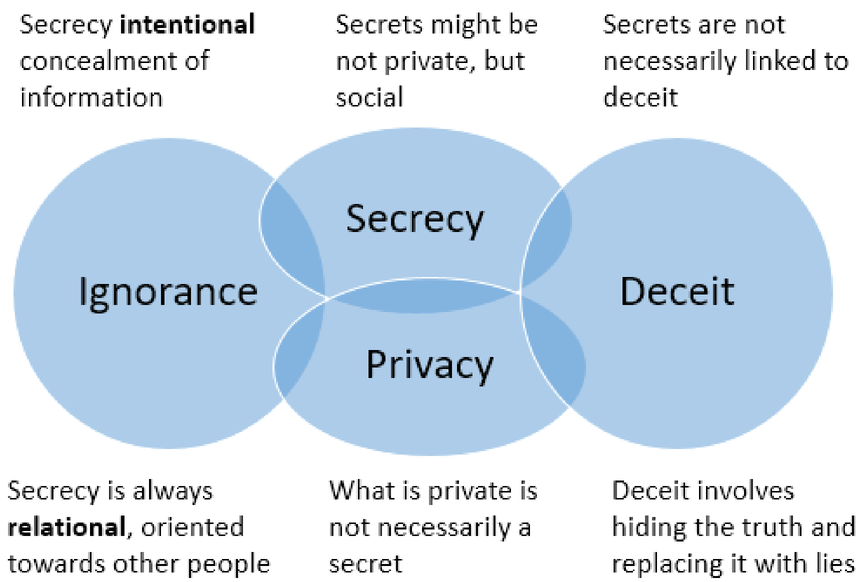
Secrecy does not equal ignorance: the absence of information. The latter is a default state by itself and does not require any action or any other subjects to exist. On the contrary, secrecy as a refusal to act (to share information) is an act in and of itself (Simmel, 1950). Thus, the key features that differentiate secrecy from the simple absence of information are the intentionality and its relational nature. Secrets are possessions whose value is enhanced by denying knowledge to others (Richardson, 1988). Concealed information separates one group from another and one person from the rest. What one knows and others do not, separate people (Luhrmann, 1989). Consequently, the purpose of creating and holding a secret is always related to transforming the relationships between the secret creator and those with whom the secret is shared and those from whom it is hidden. Secrets often intend to create a relational advantage over those from whom they are hidden (Richardson, 1988). Firms hide information about new technologies to gain a competitive advantage over their competitors.

Secrets are only meaningful in relation to the people from whom they are kept and with whom they are shared. The very fact of having a secret involves a critical distinction between those in the know – insiders, and those from whom the secrets are kept – outsiders (Rigney, 1979). The act of sharing a secret within a group creates a condition of "us vs them" which in turn serves to strengthen group cohesion. This dynamic has been observed within a variety of consumer communities: for example, extreme sports enthusiasts (Fine & Holyfield, 1996) and 'secret societies' of wine lovers (Cohn, 2017; Hall, Pitt, & Wallstrom, 2015).

Both privacy and secrecy are more often interpersonal that just personal and it is the interpersonal aspect of access regulation that is most likely to "open doors to deceit" (DePaulo et al., 2003, p. 392). Indeed, secrecy is often perceived as a component of deceit: a deliberate attempt to mislead others. Deceit involves two acts: hiding true information and replacing it with false information. For example, some firms try to mislead their competitors by releasing deceptive announcements about new technology. Such tactics, named *vaporware* in the tech industry, keep the real state of a companies' R&D secret (Jung, 2011; Ofek & Turut, 2013).

The relationship between secrecy and the related constructs of privacy, ignorance, and deceit is shown in Figure 1. The constructs are objective states rather than subjective. Henceforth we discuss these constructs as ethically neutral. While privacy and protection of personal information are generally perceived positively, it can be misleading and deceitful, e.g. when the illness is feigned to avoid unpleasant work or to defraud insurance companies (DePaulo et al., 2003). On the contrary, despite a negative connotation, deceit is often necessary to avoid imminent dangers and ensure survival.

Figure 2.1 The relationship between secrecy, ignorance, deceit, and privacy



Not all secrets are born equal: strategic vs marketing secrets

Firms are created through communication between stakeholders (Taylor & Robichaud, 2004). Thus, what is kept silent as important as what is said. Secrets and the boundaries they enact are constitutive of an organization (Stohl & Stohl, 2011). The ability to capture value from knowledge assets is often predicated upon keeping secrets (Liebeskind, 1996; Teece, 1998).

The protection of knowledge assets is especially important for creating incentives for innovation. Incentives to innovate depend on the degree to which the innovator can appropriate future rent streams (James et al., 2013). In the strategy literature, secrecy is seen as an effective value appropriation mechanism, along with patents and trademarks.

Keeping secret allows a firm to leverage first-mover advantage and to enjoy the quasi-monopolistic rent (Bhattacharya & Guriev, 2006).

Marketing secrets, such as a new movie plotline, or a release date for a new product, is information withheld from consumers. They are linked to the customer curiosity and often involves the denial of availability: when customers want to know something and the marketer tells them that it is secret, they may want it even more (Eisend, 2008). The ultimate goal is to create customer anticipation and thus demand (Schatzel & Calantone, 2006). Importantly, marketing secrets are rarely totally secrets: rather they are 'signaled' secrets. That is the target audience is aware of the existence of the secret (Brown, 2001).

Strategy scholars differentiate four stages in use of secrecy: (1) choice of secrecy a protection strategy, (2) installation of protection mechanisms, (3) use of secret knowledge, and (4) minimization of the negative effect of information leakage (Bos et al., 2015). In contrast, marketing, there is a final fifth stage: the disclosure of secret knowledge. Whereas strategic secrets are generally not disclosed, in marketing secrets are eventually revealed to consumers in the course of a marketing campaign (Hannah et al., 2014). Table 1 summarizes the differences between strategic and marketing secrets.

Table 2.1 Strategic vs marketing use of secrecy

	Strategic Secrets	**Marketing Secrets**
Goals	Capture value from innovations	Create customer value, stimulate demand
Information concealed	Process (Technology)	Market offering (4P's)
Kept from	Competitors	Customers
Benefits	• Protect knowledge assets • Prevent competitive imitation • Leverage first-mover advantage • Capture value from innovation	• Reinforce customer-brand connection • Shape consumer identities • Positive framing of uncertainty
Disclosure	The secret is kept as long as possible until it lost its value	The secret is revealed during the marketing campaign

Marketing scholars have argued that possessing secret knowledge adds value for customers by providing a sense of exclusivity (e.g. Hannah et al., 2014). This is a notably subjective and pleasurable state dependent on customers' perception of having access to scarce knowledge. The secret appears as a vehicle for value creation, an innovation that increases the consumer's valuation of the benefits (Priem, 2007). Thus, the value that marketing secrets create for customers should be assessed as perceived value, net valuation of the perceived benefits accrued from an offering that is based on the costs they are willing to give up for the needs they are seeking to satisfy (Kumar & Reinartz, 2016).

Being in-the-know satisfies customer's psychological need for uniqueness and establishes a social hierarchy rewarding those 'in the know' with the privileged social status and increased self-importance (Tian, Bearden, & Hunter, 2001). Moreover, keeping and sharing secrets creates a sense of intimacy, strong bonds between those who share the secret (Anagnostaki et al., 2013). Hollywood has learned to benefit from secrecy and intimacy it creates by revealing information about soon-to-be-released movies and arranging exclusive early viewing in secretive locations where everyone in attendance is required to sign a non-disclosure agreement (Dickey, 2017). Recently, hi-tech companies such, as Apple and Tesla, have started to employ a similar technique (Reichow, 2017).

So far, however, marketing scholars have not explored *why* secrets are of so much value for consumers, and how secrecy may be applied in marketing for creating value. The next part of our paper is dedicated to modeling the secrecy-related mechanisms of value creation.

The model

Note that all the needs, psychological states, and benefits described above link to the meanings ascribed to the exchange and ownership rather than to the functional or aesthetical attributes. That is, secrecy appears as a brand-level phenomenon as it changes the brand meanings in a way that affects customer perception of value.

The key elements of the relationship created and redefined through the use of a secret may be outlined as follows. A brand that initially possesses full information about its value offering (products, channels), defines what part of that information is to be secret and from whom (outsiders). In doing so, it defines the content, essence of the secret, as well as those who should be in the know (insiders), and how the secret is to be protected.

Whereas the strategic use of secrecy seeks to prevent certain actions, e.g. competitive imitation, marketing secrets are intended to inspire action, such as word-of-mouth and purchase. For that to happen, customers must be made aware of the existence of the secret. A crucial difference between individual secrets and public secrets lies in the means required for maintaining shared secrets: rewards and initiation procedures, loyalty oaths and censorship (Bok, 1989). Thus, we suggest that publicly signaling the existence of a secret is key to initiating value creation. Four types of customer roles in relation to public and private secrets are summarized in Table 2.2

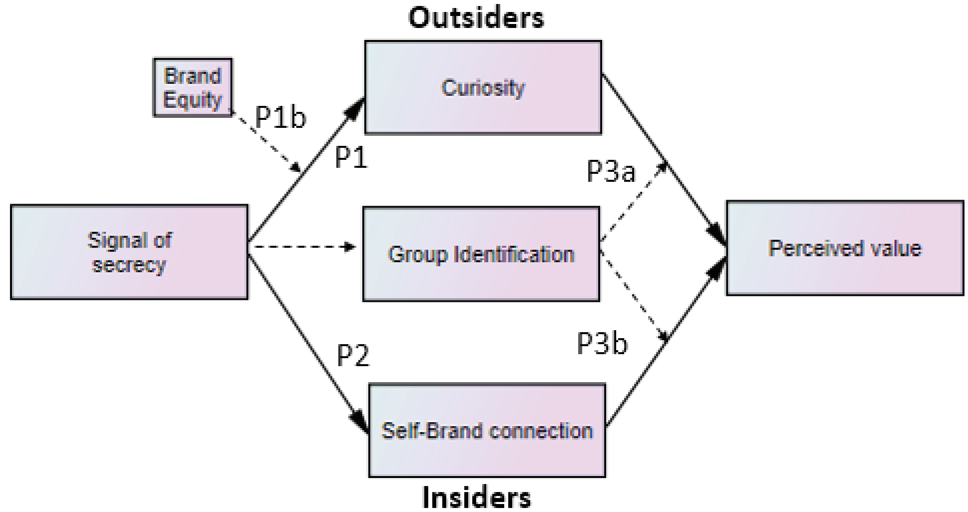
Effectively, complete secrecy is unlikely to create any value for consumers. It is the *signal of secrecy*, a message that communicates that there is something unknown, hidden and mysterious about the brand that sets up the system of relationship around marketing secrets.

Table 2.2 Consumer roles in relation to public and private secrets

	Private Secret	Public Secret
Consumer as Insider	Secret Keeper, knowing that others don't know there is a secret	Secret Keeper, knowing that others know that there is a secret
Consumer as outsider	Unaware of the secret existence	Aware that there is a secret

Given the key roles as outlined in Table 2, we model the use of secrets in marketing as a system of relationships, structured around the information boundary: a) between the insiders, outsiders, and the firm/brand; b) between insiders, outsiders, and the content of the secret; c) between insiders and outsiders. The following three sections are devoted to conceptualizing the specificities of these relationships, and how insiders and outsiders are different in their perception of a secretive brand's value.

Figure 2.2 The conceptual model of the value of secrets in marketing



Experiencing the secret from outside

Secrecy reduces the availability of knowledge and thus increases the sense of uncertainty. The latter is a subjective state of an individual that lacks certain knowledge (Bar-Anan, Wilson, & Gilbert, 2009). From an evolutionary perspective, gaining and processing important information ensures greater control over the environment and thus enhances the probability of survival. Thus, uncertainty is generally viewed as an aversive state that should be reduced (Hogg, 2000; Reid & Hogg, 2005). However, it has been shown that uncertainty generally intensifies all affective reactions. Uncertainty makes unpleasant events more unpleasant but also makes pleasant events more pleasant (Bar-Anan, Wilson, & Gilbert, 2009). One explanation is that gaps in knowledge provoke curiosity and leads to an increased perception of stimuli (Berlyne, 1954; Litman & Spielberger, 2003).

All that is unknown can both attract and inspire caution (Bok, 1989) for human curiosity and desire for novelty are characteristic drivers of human behavior (Berlyne, 1954). Curiosity is broadly defined as a desire for acquiring new knowledge and new sensory experience that motivates exploratory behavior (Boyle, 1983). It has occupied a pivotal position in the study of motivation, emotion, and cognition for decades. The critical distinction has been identified between diversive, "breadth" curiosity and specific, or "depth" curiosity. The first is a desire to learn about as many objects and events as possible, while the latter is a focused desire to learn more about a particular object (Ainley, 1987). Breadth curiosity is often considered an everlasting, imminent personal trait, associated with sensation seeking and exploration (Boyle, 1983, 1989). Naturally, some people are more curious than others. On the contrary, depth curiosity is often a specific motivational state, provoked by a particular stimulus. It is a form of cognitively induced deprivation that arises from the perception of a gap in knowledge (Loewenstein, 1994). That is, a feeling that there is something (supposedly important) that we do not know, do not understand about a particular object might provoke an urge to learn it by engaging with this object. We argue that visible, manifested presence of a secret related to a brand is a strong situational determinant that provides for such a motivational state. Secrets ignite customers' curiosity.

Being curious is an intrinsically pleasurable experience. It entails reacting to events with open, non-defensive attitudes. This includes tolerance for ambiguity and uncertainty and viewing difficulties as challenges more often than as threats (Kashdan, Rose, & Fincham, 2004; Kashdan et al., 2018). Many brands learned early to harness the power of curiosity in "mystery" ads that reveal the identity of a brand only at the end (Loewenstein, 1994). We propose that creating and protecting a brand secret might increase the attractiveness and perceived value of that brand.

Proposition 1. Creating a secret provokes outsiders' curiosity and eagerness to engage with the brand. That is, the effect of secrecy on the perceived value of a brand is mediated by curiosity.

This proposition seemingly contradicts some tenets of signaling theory concerned with reducing information asymmetry between two parties in a market. Generally, it implies that when two parties have access to different information, one party, the sender, must reduce the asymmetry by choosing how to communicate that information, and the other party, the receiver, must choose how to interpret the signal (Connelly et al., 2011). Thus, according to signaling theory, withholding important product information would *reduce* customer value and willingness to engage in a transaction, because the receiver generally has a strong preference for uncertainty avoidance.

There have been numerous marketing studies exploring consumers' uncertainty avoidance. For example, an extended warranty reduces customer uncertainty about the quality of a product (Boulding & Kirmani, 1993). In a similar fashion, new product pre-announcements that precede the actual product introduction helps to build consumers' prior-to-launch perceptions of the forthcoming product and thus reduce consumer uncertainty (Le Nagard-Assayag & Manceau, 2001). Such pre-announcements are primary vehicles for a firm to resolve market uncertainty in its own favor and build competitive equity and market anticipation (Ofek & Turut, 2013; Schatzel & Calantone, 2006).

It has been noted, however, that building higher consumer expectations might have a potential downside when the actual experience does not live up to elevated expectations (Le Nagard-Assayag & Manceau, 2001). In some cases, pre-purchase information that reduces consumer uncertainty about a product can affect consumer decisions to reverse an initial purchase or service enrollment decision (Shulman, Cunha, & Saint Clair, 2015). The information provided as a pre-announcement intends to reduce uncertainty but it also serves as a point of reference for assessing the actual experience. If a perceived utility of ownership does not meet the threshold of expected utility, consumers feel disappointed. Thus, there must be a limit for uncertainty reduction, a boundary condition under which the uncertainty reduction reduces rather that creates value.

Indeed, recent research indicates that uncertainty may yield more pleasure than certainty (T. D. Wilson et al., 2005). For example, when customers do not know what exactly they might win as a loyalty reward, they tend to savor the reward experience and enjoy it more (Lee & Qiu, 2009). So, consumers might be sometimes better off when information is hidden prior to the experience. Note, however, that the reward experience must be positive in itself. The customer's awareness of, and positive attitudes toward, a brand is a necessary prerequisite for the positive perception of uncertainty in a customer-brand relationship. It follows that uncertainty should be *positively framed* for customers to perceive the value of secrecy.

A brand with high equity can serve as a positive frame in which to interpret uncertainty. When consumers are uncertain about the product attributes, firms use brands to signal quality (Erdem & Swait, 1998, 2004). Companies routinely leverage this signaling effect by extending their brands to new product categories (e.g. Moorthy, 2012; Washburn, Till, & Priluck, 2004). Brand knowledge decreases information costs and perceived risks for customers. The positive effect of brand knowledge on consumer response to the marketing of an offering is known as consumer-based brand equity (Keller, 1993a). The effect occurs when the consumer is familiar with the brand and holds some favorable brand associations in memory. On the individual consumer level, brand equity is a consumers' different response between a focal brand and an unbranded product when both have the same level of marketing stimuli and product attributes (Yoo & Donthu, 2001).

We propose that consumer-based brand equity enables a positive framing of uncertainty in a consumer-brand relationship. Brand equity moderates the effect of secrecy on the perceived value of a secret. The strongest brands benefit the most from creating secrets and maintaining positive customer uncertainty. By contrast, non-existent or negative brand equity nullifies the effect, and may even result in the negative value of a secret. That is why the strongest brands appear to be the most obsessed with secrecy. For example, Apple is notoriously secretive and Google treats employee product leaks with harsh sanctions (Mills, 2015; Snyder & Leswing, 2017). Similarly, the publishers of the Harry Potter novels implemented a comprehensive secrecy regime after the franchise became a blockbuster (Brown, 2001).

Proposition 1b: The effect of secrecy on perceived value is moderated by brand equity. The greater the brand equity, the stronger the effect.

Brand equity can be conceptualized as having four dimensions: brand loyalty, brand awareness, perceived quality of the brand, and brand associations (Aaker, 1996; Keller, 1993b) Brand awareness is the ability to recognize or recall that a brand is a member of a certain product category. Thus, brand recognition and recall can decrease the perceived level of consumer uncertainty about a brand. However, it is brand loyalty and perceived quality which adds a positive frame to the perception of uncertainty. Brand loyalty is the attachment that a customer has to a brand. It manifests behaviorally as a readiness to buy the brand as a primary choice.

In the situation of uncertainty, customers may lack the information necessary to judge quality. Therefore, it is brand loyalty that positively frames uncertainty generated by brand secrecy and guides subsequent behavior. More specifically, consumers' reaction to the signal of secrecy is likely to depend on their level of brand loyalty. That means, prospective customers that admire the brand but have not reached the actual purchase decision yet, are as likely to positively perceive the use of secrecy.

As the level of brand loyalty increases customers are increasingly likely to value the uncertainty of brand secrets, more than detailed product pre-announcements. Recent studies confirm the existence of the hedonically beneficial 'teasing effect': uncertainty engenders curiosity and thereby builds the potential for a positive experience (Ruan et al., 2018). Thus, when positively framed by brand equity, secrecy is likely to create value for outsider customers. Yet, the insider customers are the ones expected to derive the most value from their knowledge of the secret. In the next section, we unpack the insiders' value creation mechanisms triggered by the signals of secrecy.

Valuing secrets from the inside

Customer insiders are positioned inside the information boundary. Their position is much closer to the brand that outsiders', so that perceived distance in customer-brand relationships is less. That position reflects decreased information costs and lowers perceived risks. In fact, these insiders are closer to the brand's core than many uninformed employees and shareholders (Hannah, 2006). In a sense, they are a part of the brand.

Our approach to understanding the insiders' value of secretive brands is focused on the meanings they assign to these brands. The key idea is that people engage in consumption behavior in part to construct their self-concepts, and create and maintain their identities (Belk, 1988; Bettman & Escalas, 2015). A brand becomes more meaningful and valuable the more closely it is linked to the consumer's self (Escalas, 2004). Thus, in assessing the insider's relationship with the brand, we focus on the self-brand connection. The latter measures the extent to which brand meanings are incorporated into a consumer's self-concept. We propose that keeping a secret about a brand reinforces insiders' connection to the brand.

They use their favorite brands as a marker to denote their identity to others and to remind themselves of who they are. In a sense, the brand becomes a part of their self-identity(s). This consumer-brand interaction meets the psychological needs of self-differentiation and self-presentation (Escalas & Bettman, 2005; Kleine, Kleine, & Allen, 1995).

Consumers carry a variety of identities that represent their social connections and activities and reveal different senses of their selves by retelling the stories of their possessions as a reflection of their identities (P. Wong, Hogg, & Vanharanta, 2012). Not all elements and aspects of one's identity are equally accessible at all times. People structure their behavior in a particular context based on a "working self-concept"— that different aspect of the whole of identity that is more salient in a given moment (Markus & Kunda, 1986). A connection to the brand becomes more identity-relevant and valuable when identities that are linked to the brand are sampled more often and become more salient.

People form connections to the brands by processing their experiences with brands. Confronting a secret is indeed a psychologically significant experience because it provokes an intrusive recurrence of secret thoughts so that they are recalled earlier and more often (Lane & Wegner, 1995; Wegner, Lane, & Dimitri, 1994). Confronting a secret related to the certain brand makes aspects of identity linked to that brand more easily accessible and salient for a consumer. Hence, they assign additional value to self-brand connections, as the most salient aspects of identity are generally most positively valued (Berkman, Livingston, & Kahn, 2017). In effect, keeping a secret about a brand increases the salience of identity linked to that brand and the importance of this identity for consumers' mental representation of the self.

People make things (be they physical or virtual) a part of their self in several ways; for example, by learning them or by exercising control over them (Belk, 1988, 2013). As secret-keepers learn some secret information a brand they exercise an extra degree of control over their relationship with the brand. Simply, they have the agency of keeping or sharing a secret; "the power to remain silent is linked to the understanding that one can exert some control (Bok, 1989, p. 38). Perception of increased behavioral control, a sense that a decision to be made in a particular situation and the outcomes of a situation are one's own and determined by one's will is a positive experience. The intrinsic brand value is enhanced when consumers ascribe a feeling and memories of the increased control to the brand (Ertimur, 2007; Esmark, Noble, Bell, & Griffith, 2016). The more control consumer enjoy over the context, their own behavior and outcomes, the more identity-relevant this context becomes (Averill, 1973; Fedorenko & Berthon, 2017). Again, keeping a secret about a brand makes this brand relevant for building self-brand connections.

Consumers value the most those brands that represent their abilities and act as symbols of personal accomplishment and thus provide self-esteem (Ball & Tasaki, 1992;

Richins, 1994). Being in possession of a scarce and protected knowledge serves as a sign of recognition and thus provides for self-esteem and self-importance. It allows insider consumers to differentiate themselves and express individuality. Based on these perceived psychological benefits of increased self-esteem and self-differentiation, a stronger self-brand connection may be formed. Sharing a secret reduces the perceived distance between insiders' selves and the brand; secrets serve as bonding devices between the brand and customers in-the-know.

Proposition 2: Keeping a brand secret reinforces insiders' connection to the brand. That is, the effect of secrecy on insider perceived value perceived is mediated by the self-brand connection.

The interaction of insiders and outsiders

The interaction of the personal and the collective shapes identity. Identity has been identified as a primary source of motivation (Markus & Wurf, 1987). Therefore, secrecy can motivate people to change their behavior by regulating what is said and not said by whom and to whom. Such regulation, in turn, shapes identity construction, the ways individuals, groups, and organizations define who they are (Costas & Grey, 2014).

Any relationship that is structured around a collectively shared secret occurs between two groups: insiders and outsiders. Hence, it is an intergroup relationship that involves the creation and expression of social identities. The latter derive their meanings from the knowledge of membership of a group, together with the value of that membership. Social identity influences an individual's perception and behavior so that members of a particular group starts to see and act in similar ways, and tend to protect and promote the group.

With reference to the secretive relationship, insiders can recognize themselves as belonging to a certain group and derive value from this membership, based on the relative status of their group. Since the position of the group relative to knowing the secrets creates a sense of hierarchy, assigning a higher status to those in the know (Grey & Costas, 2016; Richardson, 1988), the group knowing the secret is valued more by its members.

Proposition 3a: Keeping a secret increases the perceived value of a brand for insiders by creating group identification and assigning the group a higher social status.

When outsiders are aware of both the existence of a secret and of insiders' knowledge of the secret, they see themselves excluded from the 'inner circle' and thus disadvantaged; this may result in negative reactions such as envy or anger, or distancing through apathy and disengagement. As a result of outsiders' finding themselves in a disadvantaged position, the value created through social comparison can range from non-existent to negative.

We propose that, when outsiders recognize insiders as a reference group, they desire to associate with this group. Accordingly, this group serves as a source of attitudes and values. When reference group (insiders) become associated with a brand such meaning may be appropriated by other consumers as they construct their self-identities. As a result, consumers may form self-brand connections to the brands used by the reference group (Escalas & Bettman, 2005). Thus, the association with insiders as a reference group can positively moderate outsiders' perception of the secretive brand. The stronger the association the, larger the perceived value.

The association with a reference group influences individual behavior in several ways. The most relevant one in the context of secrecy is information. Faced with increased uncertainty about the brand caused by secrecy, outsiders experience curiosity and seek information from available sources. Sources with high credibility include those with presumed expertise (Bearden & Etzel, 1982). The fact that insiders possess valuable information about the brand naturally makes them a credible source. They emerge as an associative reference group as outsiders will strive to mimic their relationship with the brand. Therefore, the association with insiders as a reference group serves as a moderator for outsiders' perception of the brand.

Proposition 3b: Association with insiders as reference group moderates the outsider's perceived value of a secretive brand for outsiders. The stronger they associate with insiders, the more attracted they will be to the secretive brand.

Discussion

The objective of this paper is to conceptualize the mechanisms of value creation using secrets in marketing. We employ a relational view of secrecy and developed a conceptual model and related propositions. Three types of relations are modeled: among insiders, among insiders and between insider and outsiders. This way, we follow a three-way approach – the relationship of person–object–person, an under-developed perspective in consumer research (P. Wong et al., 2012). Both material and virtual; possessions carry cultural and symbolic meanings and often are used by consumers to communicate who they are to others (Belk, 1988, 2014). Our models suggest that brand secrets construct new consumer relationships and re-shape identities. Brand secrets enable the consumers to change their selves; "to acquire any new knowledge is to be changed, but the change from learning secrets is less predictable" (Bok, 1989, p. 34). This paper thus contributes not only to the nascent, emerging literature on marketing secrets but to the understanding of customer-brand relationships and self-brand connection.

Theoretical implications

Our exploration of brand secrets suggests that we might need to rethink the role of transparency in customer-brand relationships. Current theorizing suggests, that for a strong relationship to exist, customer-brand communications must be frequent and *open* to foster trust. Trust is critical to the formation of service-based relationships because most services are difficult to evaluate prior to experiencing them, and some services remain difficult to evaluate even after they have been performed. Customers who develop trust in service suppliers have good reasons to remain in these relationships: they reduce uncertainty and vulnerability (Berry, 1995). Moreover, trust is critical for value co-creation, for the realization of value-in-use (Gebauer, Fller, & Pezzei, 2013; Pera, Occhiocupo, & Clarke, 2016). Secrecy, in contrast, is often suspected of inhibiting trust, fostering suspiciousness and paranoia (Bok, 1985; Keane, 2008). Recent public fracas about Apple slowing down older iPhones is illustrative.

In developing our model, we focused on the potential benefits of secrecy for both companies and consumers. However, the value created for consumers through brand secrets can be negative as well as positive. For example, when the brand equity and past experiences are not enough to positively frame consumer uncertainty, or when the frustration of being left out of the 'privileged' circle cannot be compensated with a stronger self-brand connection. In such situations, the feeling of uncertainty might intensify negative affective reaction (Bar-Anan et al., 2009).

Secrecy is one of the factors that determine the balance of power in marketing relationships. Those who keep a secret exercise more relational power, because they have control over the information flow. Secret holders occupy a position of power in that by withholding knowledge, they are able to create cognitive boundaries for others and shape social reality. The secret holders' relational power is even more amplified by the ability to hide their vulnerabilities (Keane, 2008). The balance of power is highly dependent on perceived mutual dependence. Therefore, those who can hide their vulnerabilities can reduce the perceived dependence on external partners (Pfeffer & Salancik, 1978). A firm that hides valuable information from customers is often trying to influence and control consumers behavior. On the other hand, a firm who shares a secret with a chosen segment of customers, for example with lead users of a new software product, empowers them. Sharing a secret is sharing power. Relational power, in turn, has an ambivalent effect on trust. Perceived power in the relationships breeds trust and respect from partners, but also creates conflict and mistrust of the powerful parties' intentions (Moorman, Deshpandé, & Zaltman, 1993).

In marketing campaigns, companies strive to signal the quality of their offerings and earn customers' trust by disclosing as much information as possible through pre-announcements (Jung, 2011; Schatzel and Calantone, 2006). Yet, in certain situations, the additional information released to reduce consumer uncertainty can reduce rather than increase perceived value and may even reverse the purchase intention (Shulman et al., 2015). We argue that the scarcity of information about the brand may be a signal in itself, the one that communicates hidden value. Thus, the secrecy may be seen as a tradeoff between trust and appeal.

The conceptual model proposed enhances our understanding of consumer behavior under risks and uncertainty. It contributes to the relevant literature by adopting a relational view of a specific type of uncertainty – the one intentionally created by withholding information and calling it a secret. We explicitly link the perception of risk and uncertainty to the notion of self-brand connection and brand signaling power. This insight also contributes to the discussion of identity and its role in regulating consumer behavior, for we suggest that secrets re-shapes both insiders' and outsiders' identities.

Our relational model focuses specifically on consumer-brand relationships. That is, all the propositions we develop apply to marketing secrets rather than to strategic ones for the latter reside in the competitive firm-firm relationships. One may note, however, that the identity effects of secrecy predicted for insiders, an increase in self-brand connection, might exist in the firm's relationships with other stakeholders. It has been noted, for example, that an employee entrusted with a strategic secret often develops a stronger sense of organizational identification and loyalty (Hannah, 2007; Robertson et al., 2015).

Managerial implications

The conceptual model we propose has important implications for entrepreneurs and managers. It provides a canvas for them to understand how the use of secrecy can help them create value for their customers, and what are the side effects of using secrets to protect valuable knowledge. In particular, our model highlights the importance of considering the balance of power between the organization and differentiated customer segments, and the ambiguous effect secrecy might have on trust in the marketing relationships. Secrecy can be a useful tool in balancing the competing demands of building long-term trust in customer relations and strengthening brand appeal.

Further, our model provides a basis for understanding how secrecy shapes consumer identity. Managers launching an identity marketing campaign, trying to reach their customers by appealing to who they are or whom they desire to be, should be aware of these effects, for identity marketing can easily backfire (Bhattacharjee, Berger, & Menon, 2014). We identify the boundary conditions and necessary pre-requisites for the successful use of secrecy. That is, the strongest brands can benefit most from the use of secrecy whereas for nascent and emerging brands this strategy risks alienating consumers. The existence of a strong and reputable brand community from which the insider customers may be recruited is a valuable asset for the brand considering the use of secrecy. The identification with them as a reference group can help mitigate the outsiders' negative feelings.

One important implication of the use of secrets in strategic marketing is the necessity to plan in advance not only for protective mechanisms and measures but also for disclosing hidden knowledge. Everything that is hidden will be inevitably be revealed. Managers should have a strategic plan for gradually revealing secrets, so as to maximize value creation and capture through a secrets' lifecycle.

Directions for future research

We hope that the model will spur further research into the link between information exchange regulation, trust, uncertainty, and power in marketing relations. It will be important to conduct empirical research to operationalize and assess the proposed effects. We envision a promising opportunity for field experimentation in industries where important information about soon-to-be-released products is revealed differentially to various customer segments. Fields might include software publishing and beta-testing with lead-users, movie and music publishing. It is important for marketing scholars to explore value creation and value transfer in every dimension of secrecy: between insiders and brand, outsiders and brand, and between insiders and outsiders. Given that secrecy might have ambivalent effects on brand appeal, trust and identity value, the examination of boundary conditions and moderating effects is necessary to determine when and where the value of a secret would be positive or negative for every customer segment.

Our model offers promising avenues for future theorizing and empirical research on power balance in marketing exchange relations. While we have explored the relations between customer groups and the 'secretive' organization, as well as between insiders and outsiders customer segments, the intra-organizational relations with respect for marketing secrets remain generally unexplored. Generally, information about market offerings is distributed unevenly within organizations. Hence, an interesting set of questions arises about the differential effects secrecy might have on intra-organizational boundaries and the balance of power. There is anecdotal evidence of such effects. For example, in fast-food restaurants, when customers order secret menu items advertised exclusively online through a specialized 'secret' website, frontline employees are often unaware of such offerings. Facing such an unconventional order forces a frontline employee to seek advice and resolution by escalating the situation to their managers, and reaching out to the marketing department. Feeling deprived of the important information that others in the organization already have, makes the employee feel disrespected, with inevitable repercussions (Addady, 2016). Even so, control over intra-organizational information is an important source of power (Salancik & Pfeffer, 1977). Thus, the secret-controlling departments should expect to enjoy greater power within the firm.

Conclusion

Based on a relational approach we developed a conceptual model of marketing secrets. We identify the key features that differentiate marketing secrets, such as a focus on value creation (rather than value capture), concealment of valuable information from customers (rather than competitors), and their shorter lifecycle and inevitable disclosure as part of a marketing campaign. We posited that a nuanced understanding of secret-related relations provides the basis for the understanding of power and trust in marketing exchanges.

To create value for both insiders and outsiders, managers must take into account not only the brand's relations with each group but also the network of secret-related relations between customer segments. By presenting a framework for how marketing secrets can create value for customers, affect power, trust, and brand equity, we hope to stimulate further inquiry into the 'secretive' marketing strategies.

SECRECY AND CONSUMER VALUE IN THE VIDEO GAMES INDUSTRY

Secrets involve deliberately hiding information from other people (Bok, 1989). They are widely used in marketing: from 'secret' recipes of Heinz ketchup and KFC wings and to the intentionally vague or ambiguous trailers of the popular TV series, intended to conceal rather than reveal information about the plot. Some of the world's best brands seem to be obsessed with secrets. For example, Apple employs comprehensive security clearance and access systems (Mills, 2015; Snyder & Leswing, 2017) while Google threatens employees over product leaks (Musil, 2017). Surprisingly, secrets have, until recently, received little attention in the marketing literature (Mills, 2015; Pehlivan et al., 2015). For marketers, a key question is: how can secrecy be used to create value for the customer?

The purpose of this study is to explore the relationship between secrecy and value creation by analyzing a naturally occurring quasi-experiment in the video games industry. We argue that keeping some of the information about soon-to-be-released products secret from the public might be a source of value. The specific question we focus on is whether deliberate concealment of information about new offerings makes then more valuable to the consumer.

We use the video games industry to explore the impact of secrecy on value. Game publishers routinely invite customers to participate in either "open" vs "closed" beta testing of their products. In the 'closed beta', participants are required to sign non-disclosure agreements that prevent them from sharing critical information about the product characteristics and features with the public. We analyze the use of the 'open' vs 'closed' beta testing strategies as a naturally occurring quasi-experiment since random assignment and controlled manipulation are not possible in the real market setting (A. M. Grant & Wall, 2008). Here we follow the 'opportunistic' procedure for analyzing naturally occurring phenomena outlined by (Cook & Campbell, 1979).

To the best of our knowledge, this is the first empirical study linking the use of marketing secrets and value creation. It contributes to the literature on the new product pre-announcements. The paper departs from the dominant view that the companies should reveal as much information as possible to in order to decrease information asymmetry (e.g. Castaño, Sujan, Kacker, & Sujan, 2008; Ofek & Turut, 2013). It also extends the consumer behavior literature on consumer uncertainty (Lee & Qiu, 2009; Tanner & Carlson, 2009) by introducing brand equity as a key moderator of secrecy effect. The practical implications include guidance on the use of secrecy in marketing campaigns.

The rest of the paper is organized as follows: First, we review the theoretical foundations of secrecy to develop a model and hypotheses. Second, the research setting (the video games industry), experimental design (naturally occurring quasi-experiment), data, methods, and variables selection are described. Third, the findings are presented and discussed. The paper concludes by outlining the limitations and directions for future research.

THEORETICAL BACKGROUND AND HYPOTHESIS

Marketing secrets

Secrets involve deliberately hiding information from other people (Lane & Wegner, 1995). They are the rules of regulation, of governance of interpersonal information circulation, and secrecy is the ability or habit of keeping secrets (Simmel, 1950). There is a generally negative view of secrecy, inspired by the fear of conspiracies, of corruption, of unethical and illegal behavior secrets might hide (Keane, 2008). On the other hand, secrets can attract, inspire awe and fascination. The desire to know, to quench one's curiosity, determines the attitude towards many secrets. Hiding invites probes, and prohibitions incite to transgressions (Bok, 1989, p. 32).

Secrets are possessions whose value is enhanced by denying knowledge of them to others (Richardson, 1988). The very fact of having a secret involves a critical distinction between those in the know – insiders, and those from whom the secrets are kept – outsiders (Rigney, 1979). Possessing some secret knowledge creates value for customers by providing a sense of exclusivity. Being in-the-know satisfies customer's psychological need for uniqueness (Tian et al., 2001) and create a kind of a social hierarchy, rewards those 'in the know' with the privileged social status.

Hidden, intimate mysteries are the essence of the value proposition for a variety of consumer offerings, such as secret wine societies (D. Hall et al., 2015), secret restaurants in Manhattan (Huffington Post, 2016) and secret arcade bars in the Boston area (Slane, 2017). Marketing secrets provoke consumer curiosity and often involve the denial of availability: when customers desire information about an offering but the marketer tells them that it is secret, they may want both the information and the product even more (Eisend, 2008). The ultimate goal for the marketer is to create customer anticipation and demand for the product (Schatzel & Calantone, 2006). That is why marketing secrets are rarely totally secret: in most cases, the target audience is well aware of the existence of the secret (Brown, 2001).

To date, marketing scholars have not empirically tested the effect of secrecy on consumer value. Customer's curiosity and anticipation of a new product manifest in pre-release consumer buzz, in distinct types of behavior and communications, such as product reviews. In general, such behaviors as purchase and product advocacy are common indicators of the perceived value (Leroi-Werelds et al., 2014). Prior to launch, the number of these communications are primary sales drivers, whereas the valence of these communications is seldom influential (Marchand, Hennig-Thurau, & Wiertz, 2017). Thus, in this study, we use the volume of reviews and sales as measures of value. Specifically, we hypothesize:

H1-1: Keeping part of the information about new products secret has a positive effect on sales after the release of these products.

H1-2: Keeping part of the information about new products secret has a positive effect on the number of consumer reviews both before and after the release of these products.

Brand equity and positive framing of consumer uncertainty

All that is unknown can both attract and inspire caution (Bok, 1989), for human curiosity and desire for novelty are the characteristic drivers of human behavior (Berlyne, 1954). The effect has been operationalized in marketing through the construct of positive uncertainty (Dahlén et al., 2011). That is, when positively framed, uncertainty may yield more pleasure than certainty (Lee & Qiu, 2009).

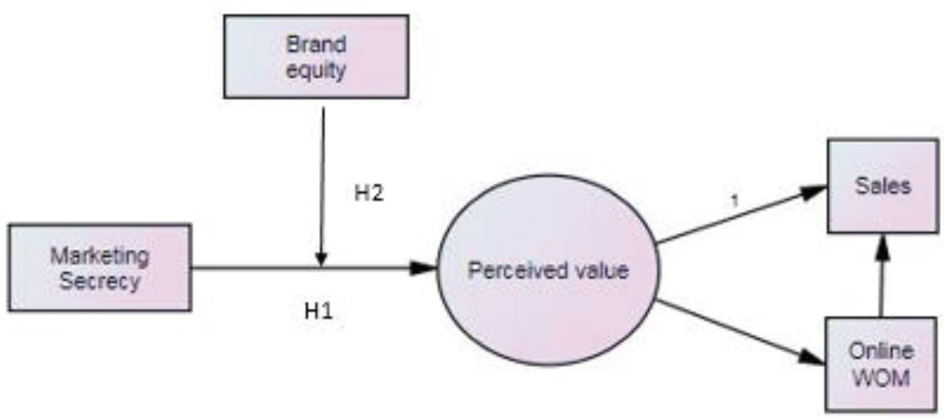
Overall, the primary signaling vehicle with regard to product quality is brand equity (Erdem & Swait, 1998, 2004). Companies leverage brand equity through extending their brands to new product categories and by creating brand alliances (e.g. Moorthy, 2012; Washburn et al., 2004). Brand knowledge decreases information costs and perceived risks for customers (Keller, 1993a), performing a positive framing. Thus we hypothesize that brand equity moderates the effect of secrecy on value creation. That is, brands with high equity benefit the most from creating secrets, while brands with low equity benefit the least. For example, the publishers of the Harry Potter novels implemented a comprehensive secrecy regime around the forthcoming novels, only after the franchise became a blockbuster (Brown, 2001).

H2-1: Brand equity positively moderates the effect of secrecy on the sales of new products.

H2-1: Brand equity positively moderates the effect of secrecy on the volume of consumer reviews.

The proposed conceptual model is summarized in Figure 1.

Figure 3.1 The relationship between the use of secrecy, brand equity, and value creation



VIDEO GAMES INDUSTRY AND BETA TESTING STRATEGIES

Some 64% of US households own at least one device on which video games are played, and 60 % of Americans play video games daily (Entertainment Software Association, 2018). Globally, the video games market is worth over $100 billion and is estimated to exceed $118 billion by the year 2020 (Newzoo, 2016). Surprisingly, this important industry has been mostly overlooked by marketing scholars, except for a few recent studies on the emergence and evolution of online and mobile games (Ozuem, Borrelli, & Lancaster, 2017).

There is a variety of devices used to play games: smartphones, tablets, handheld and TV consoles, and personal computers (PC). We focus on the latter since they are the most frequently used devices (Entertainment Software Association, 2018). Computer games generate about 30% of the revenue and constitute the backbone of the industry. 87% of gamers who play on other devices also play on PC (Newzoo, 2016). One notable characteristic of the PC market is the diversity of hardware and software configurations of the computers in use: different processors, graphics cards, operating systems, and memory. Due to these different hardware and software configurations, the consumer experience with a game can be highly variable. Other factors that affect gaming experience include cultural and educational background and the physical abilities of players. This creates the need for extensive beta-testing of games prior to their commercial release. Beta testing allows for customer feedback, the testing of multi-platform and configuration compatibility, the ironing out of software bugs and adjusting gaming difficulty (Serrels, 2015).

There are four different ways companies approach beta-testing: in-house, closed beta, open beta, and early access. The companies that perform beta-testing in-house hide any early-stage product imperfections and vulnerabilities from the public. However, they must carry all the costs and risks of this time and labor consuming process. On the contrary, companies that perform open beta-testing, routinely invite the general public to participate and provide feedback. This approach transfers part of the costs of the beta-testing to volunteering participants. It also enables companies the get ideas for improving the game experience from the participants. Open beta is essentially crowdsourcing of beta testing (Djelassi & Decoopman, 2013), and carries common crowdsourcing downsides: absence of confidentiality, lack of exclusivity, and the possibility of competitive imitation (e.g. Bloodgood, 2013).

Closed beta attempts to combine the benefits of the open beta while mitigating the downsides. Participants are required to sign non-disclosure agreements preventing them from sharing critical information about the product with the public – effectively creating a secret (Slitherine, 2018). Finally, early access allows early backers and sponsors to participate in product development. Thus, it combines both co-creation and crowdfunding (José Planells, 2015).

For the purpose of this study, we focus on the distinction in signaling secrecy and thus recognize both closed beta and exclusive early access opportunities as signals of secrecy as compared to 'silent' in-house development and testing.

DATA AND VARIABLES

The cross-sectional dataset used in this study is comprised of the publicly available data. We focus on two kinds of outcomes, sales and word-of-mouth behavior, which are arguably the most relevant measures of perceived value (Leroi-Werelds, Streukens, Brady, & Swinnen, 2014). For these outcome variables, the number of online consumer reviews was collected from the primary PC distribution platform Steam. Besides sales, the platform provides updates, customer support, and community outreach. Most game publishers require that games sold through other channels (e.g. offline stores) be registered on Steam and connected to a user's unique account.

Sales data was acquired from SteamSpy, the most comprehensive and reliable third-party game ownership and play time source (Good, 2018). Steam Spy collects data from individual profile pages on Valve's SteamCommunity.com social portal. Prior to the changes in privacy policy dated April 2018 and known as GDPR (the European Union's General Data Protection Regulation act), profiles were 'public' by default, so that every profile contained a list of every game that Steam users have registered to their accounts and how many hours they've played for each of those titles. After Valve altered privacy settings to comply with GDPR, Steam Spy had to change their reporting from direct assessment to the algorithmic estimate (ArsTechnica, 2018). They have acknowledged that the change resulted in inflating estimation errors. For the purpose of this study, PC games published in 2017-2018 (prior to April 2018) were included (n=296).

'Multiplayer platforms' that are not standalone games were excluded. These included massive multiplayer online role games (MMORPG) such as 'ARK: survival evolved' and combat/battleground royale games such as 'Player Unknown's Battleground'. In order to include game price as a covariate, freemium and other free-to-play games were excluded. The microtransaction business model of these games make the demand, sales volumes incompatible with single payment games. Table 1 provides summary statistics for the dependent variables.

Table 3.1 Descriptive statistics: sales, reviews, price, expert rating

Variable	Obs	Mean	Std. Dev.	Min	Max
Sales	319	256056.4	278145	22000	1558000
Reviews	319	3672.329	5289.84	66	31566
Rating	308	74.61136	8.964496	38	92
Price	319	114.109	1536.644	2.99	27472

The original distributions of both sales and reviews volumes are naturally skewed to the left, therefore a log transformation has been performed. The resulting dependent variable both assess the perceived value-in-use and therefore they are moderately correlated (0.76).

Independent variables: open vs closed beta testing, brand equity

For the independent variable, the data on beta testing strategy was collected from the online platforms dedicated to beta testing, such as Alphabetagamer.com. It routinely publishes announcements of open beta tests, instructions and directions for signing up for closed beta tests.

We employed a brand awareness metric as a proxy for brand equity. It was modeled as a fixed factor based on the game publisher brand recognition as of December 2016 (Statista, 2016). The list of 'top' brands that publish their games through Steam and have reached the 10% recognition threshold include 2K (Take-Two), Activision, BANDAI NAMCO, Bethesda, CAPCOM, Daedalic, Devolver, SEGA, Square Enix, THQ Nordic, Ubisoft, and Warner Bros Games. Table 2 summarizes the independent variables.

Table 3.2 Sample composition: brands and secrecy in beta testing strategies

	Secrecy		
Brand	0	1	Total
Non-TOP 10	97	120	217
TOP 10	63	39	102
Total	160	159	319

The retail price and expert ratings collected from Metacritic as a proxy for product quality are included as covariates moderately correlated to the dependent variables (see table 3).

Table 3.3 Correlations between the dependent variables and covariates

	LgSales	LgWOM	Rating	Price
LgSales	1.0000			
LgWOM	0.7785	1.0000		
Rating	0.2158	0.2998	1.0000	
Price	0.0768	0.0505	0.0029	1.0000

RESEARCH DESIGN: A NATURALLY OCCURRING QUASI-EXPERIMENT

We used a 2*2 between-subjects (open vs beta-testing, high and low brand equity) quasi-experimental design to test the effects of marketing secrecy on post-release sales and online reviews volume. A characteristic of naturally occurring quasi-experiments is the non-randomized assignment of subjects (games) to the experimental and control groups. Given the absence of the random assignments the internal validity could be compromised (Hebblethwaite, Parsons, & Spence, 2017). Yet quasi-experimental studies are a useful method that allows for the determination of causal relationships, much as in the laboratory experiments but in a real-world context (Goldberg, 1990). They have been used extensively in marketing strategy and consumer research (e.g. Chen, John, Hays, Hill, & Geurs, 2009; Li, Kannan, Viswanathan, & Pani, 2016).

The beta tests, sales and online review posts examined in this research are real events that naturally occurred on the Steam platform throughout the year of 2017. The sales and reviews happened after the release of the game what enables the use of a quasi-experimental design. Games that have signaled secrecy through closed beta-testing or exclusive early access are considered “secret” while those developed quietly in-house are treated as a control group (Cook and Campbell 1979; Jap 2003). To minimize the effect of the extraneous events on the study, the sales period was limited to 10 weeks after a game’s release date.

Naturally, publishers decisions about emitting secrecy signals prior to product launch are not random but endogenous due to the self-selection bias. Moreover, the brand awareness modeled as a binary variable reflecting the brand’s status as one of the most renowned on the market is also likely to be endogenous. At any particular point in time, a brand cannot choose their brand awareness. However, it can be built over time through advertising, public relations, social media activities, and sales (Aaker, 1996; Vashisht & S. Pillai, 2017). Thus, our analysis is focused on the direct effects and interaction between two endogenous variables.

We employ the instrumental variable (IV) identification strategy and use brand prominence on social media measured by the number of Facebook followers as the instrumental variable (IV) to obtain the exogenous variation in resulting sales and word-of-mouth behavior on the Steam platform. We also instrument secrecy with genre-specific expectation, the probability of using secrecy.

Table 3.4 The instrumental variable: genre-specific expectations of secrecy

	Secrecy		
Genre	0	1	Total
Action	43	34	77
Adventure	49	17	66
RPG	22	28	50
Racing	2	9	11
Shooter	15	8	23
Simulation	8	21	29
Sports	3	6	9
Strategy	18	36	54
Total	160	159	319

Computer games compete on the market within genre sub-markets where the publishers learn best practices and handle competitive pressure. Therefore, the more widely secrecy is used within a specific genre sub-market, the more likely publishers are to use secrecy while launching new products for this sub-market. At the same time, the genre-specific expectation of using secrecy is an external, exogenous factor for each specific publisher. In summary, we treat both the use of secrecy and brand awareness as endogenous to sales and word-of-mouth outcomes.

RESULTS

As a benchmark we run several regressions without controlling for endogeneity. The results are listed in Table 3.5 (sales outcome) and Table 3.6 (WOM outcome). As this tables indicates, there is a strong association between the use of secrecy and both value creation outcomes ($t = .22$ and $t = .25$, $p < 0.01$). To control for the variance in outcomes due to the seasonality (Christmas sales) and for the difference in the release year (2017 vs 2018), dummy variables for year and quarter of the release date were included. Controlling for price, average critic rating, previous franchise reputation and release date confirms that the relationship is robust. The coefficient on Secrecy implies that the use of secrecy signaling will result in about 1.3 percent point increase in value creation.

There is also a strong relationship between brand awareness and both outcome variables (t = .14 and .18 respectively, significant at .1 and .05 level respectively). At the same time, the interaction between secrecy and brand awareness appear statistically insignificant in relation to both value creation outcomes.

Table 3.5 The relation between secrecy, brand equity and sales (OLS).

Variable	OLS	OLS2	OLS3	OLS4
Secrecy	.2***	.21***	.21***	.22***
Brand	.15*	0.13*	.13*	.14**
Brand*Secrecy	-.01	-.00	-.00	-.00
Rating		.01***	.01***	.01***
Price		.00*	.00*	.00*
Franchise			-.02	-.01
Season_Dummy1				.18***
Season_Dummy2				-.01
Season_Dummy3				-.06
Year_dummy				.09***

legend: * p<.1; ** p<.05; *** p<.01

Table 3.6 The relation between secrecy, brand equity and WOM outcomes (OLS).

Variable	OLS5	OLS6	OLS7	OLS8
Secrecy	.26***	.26***	.26***	.25***
Brand	.24**	.18**	.20**	.18**
Brand*Secrecy	-.14	-.10	-.10	-0.09
Rating		.02***	.02***	.02***
Price		0	0	0
Franchise			-.06	-.06
Season_Dum~1				.10
Season_Dum~2				-.06
Season_Dum~3				-.06
Year_dummy				-.02

Note that the focal interaction between the use of secrecy and brand awareness is an interaction between two potentially endogenous variables. Given the self-selection bias and the fact that brand awareness is likely to be endogenous to sales, our empirical strategy is focused on identifying the exogenous variation in both secrecy and brand awareness.

To address the possible endogeneity, we instrument for the use of secrecy using local genre-average probability of using secrecy as an instrument. We also instrument for the “top brand” – one of the most recognizable brands on the market status using the number of Facebook followers as an instrument.

The Wu-Haufman specification tests have been conducted to check for the endogeneity of brand awareness with social media prominence (number of Facebook followers) and for the endogeneity of the use of secrecy with the genre-specific expectation of using secrecy as an instrumental variable (Hausman, 1978). The results suggest that both secrecy and brand awareness are indeed endogenous ($F = 4.96$ and $F = 9.17$, $p < .05$). Therefore, we use the number of Facebook followers as the IV to obtain the exogenous variation in resulting sales and WOM behavior to identify the effect of secrecy and the moderating role of brand awareness. The exclusion restriction tests have been conducted to ensure that the genre-specific secrecy and number of Facebook followers are not directly related to sales and word-of-mouth outcomes on the Steam platform.

Tables 3.7 and 3.8 present the two-stage regression estimates based on whether the product has emitted signals of secrecy and whether the product was launched by one of the most prominent brands, for the sales volume and reviews volume as outcome variables. The regression results based on the exogenous variation in the use of secrecy and brand awareness reveal that when controlled for price, average critic rating, previous franchise reputation and release date, there is indeed a direct effect of secrecy signaling on consequent sales ($t = .47$ $p<.05$) and on word-of-mouth outcomes ($t = .46$ $p<.1$). It implies that the use of secrecy will result in 1.6 percent increase in value creation.

Brand awareness appears to be the strongest driver of value creation with its direct effects on sales ($t = .56$, $p<.01$) and on word-of-mouth behavior ($t=.85$, $p<0.1$) while the interaction between the use of secrecy and brand awareness has a significant effect on the word-of-mouth outcomes ($\beta = -.71$, $p<.05$) but is only marginally significant with relation to sales ($\beta = -.46$, $p<.1$).

Table 3.7 The effect of secrecy and brand awareness on sales (2SLS).

Variable	TSLS	TSLS2	TSLS3	TSLS4
Secrecy	.30	.30	.36	.47**
Brand	.46**	0.43**	.51**	.56***
Brand*Secrecy	-.32	-.28	-.37	-.46*
Rating		.01***	.01***	.01***
Price		.00*	.00**	.00**
Franchise			.08	.05
Season_Dummy1				.18***
Season_Dummy2				.01
Season_Dummy3				-.04
Year_dummy				.13**

legend: * p<.1; ** p<.05; *** p<.01

Table 3.8 The effect of secrecy and brand awareness on WOM outcomes (2SLS).

Variable	TSLS5	TSLS6	TSLS7	TSLS8
Secrecy	.21	.29	.42	.46*
Brand	.69***	.67***	.84***	.85***
Brand*Secrecy	-.46	-.49	-.68**	-.71**
Rating		.01***	.02***	.02***
Price		.00	.00*	.00*
Franchise			-.17**	-.15**
Season_Dummy1				.11
Season_Dummy2				-.01
Season_Dummy3				-.03
Year_dummy				.02

legend: * p<.1; ** p<.05; *** p<.01

Comparing the 2SLS model estimates to the OLS model for each of the outcome variables, we find that the 2SLS estimates are very similar across models with different control variables but significantly different from OLS estimates. That reflects the fact that social media prominence is exogenous to Steam sales and WOM outcomes. Moreover, there is only moderate inflation in standard errors of 2SLS estimates compared to OLS. That means that both local genre-specific expectation of using secrecy signaling and social media prominence are strong instrumental variables that enable us to identify exogenous variation respectively in the use of secrecy signaling and brand awareness.

The estimates suggest that signaling secrecy has a positive effect on resulting sales and WOM behavior (H1 supported). However, the interaction between secrecy and brand awareness is only marginally significant and has a negative sign (H2 not supported).

Discussion and limitations

We have assembled a body of empirical evidence that supports the causal effects of signaling secrecy on value creation as measured by sales and word-of-mouth behavior in the computer games industry. The quasi-experimental study supports this main hypothesis, at least in the context of experiential products, such as video games.

To obtain exogenous variations in sales and word-of-mouth behavior, we used the social media prominence measured by the number of Facebook followers as the instrumental variable for brand awareness and genre-specific expectation of using secrecy as an instrumental variable for secrecy signaling. Comparing products that have emitted secrecy signals throughout the product development stage and those that have not, we found that those ‘secretive’ products exhibited a statistically significant increase in value creation. Because products in two groups were largely comparable, with very similar characteristics on average, our identification strategy enabled us to attribute the changes in value creation to the use of secrecy.

Our study also shows that in response to an increase in brand's signaling capabilities on social media due to exogenous factors such as extensive advertising or public relations events and social media activities, there could be an increase in brand awareness which could lead to an increase in sales and word-of-mouth behavior. Surprisingly, we only found a significant moderating effect of brand awareness on secrecy effect with relation to WOM outcomes. Moreover, this moderating effect appears negative contrary to our hypothesizing. That is, the strongest brands benefit less from the use of secrecy than generic brands.

We attribute this counterintuitive finding to several critical limitations in our data and analysis. First, there is significant heterogeneity in secrecy signaling as it is employed by different brands. Some brands invest a considerable effort in enforcing secrecy and prevent insider customers from sharing information about product development, while others do not. Weaker brands and startups provide exclusive early access for their investors and crowdfunding backers to increase their engagement and commitment to the project. That is, they do not use secrecy as a marketing tool but just as a byproduct of their investor relations practices. Second, so far, we have only secondary data on brand awareness as a measure of brand equity. We rely on brand awareness to moderate the effect of secrecy and can only use a binary expert assessment of whether a particular brand is among the strongest brands on the market or not. This lack of information on brand equity measures other than brand awareness prevents us from further pinpointing the impact of secrecy and its interaction with brand equity. Yet, brand awareness might be just not enough to deliver the positive framing of consumer uncertainty. Many consumers could be aware of the brand yet without the brand loyalty and high expectations of quality they could not arrive at a positive perception of uncertainty (Aaker, 1996; Ruan et al., 2018).

Finally, there is a caveat in using the data derived exclusively from the Steam platform. Several prominent brands such as Microsoft do not distribute their product through Steam but through their own channels, such as Microsoft Store and Origin store. The absence of the product from these top brands might be a reason the study fails to properly identify a moderating effect of brand equity. At the next stage of our research, a series of laboratory studies have been conducted to mitigate these three limitations.

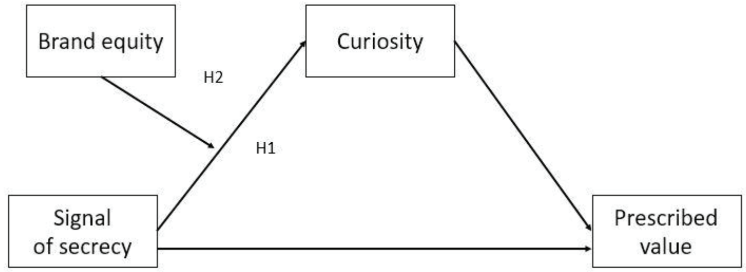
STUDY 2. Lab experiments

A series of experiments have been conducted in the controlled laboratory environment to explore how presenting a new product launch as a secret ignites a curiosity and affects the evaluation of the brand and its a new product. A between-subjects experimental design has been employed with 2 conditions relative to a secret: secret or no.

In summary, we hypothesize that framing a new product announcement as a secret will influence the consumer perception of the product such that they would feel much more curious about the product, and once their curiosity is satisfied, prescribe more value to the 'secret' brand.

H1: Framing the product announcement as a secret provokes consumers' curiosity about the product.
H2: The effect of secrecy on consumer's curiosity is moderated by consumer-based brand equity.

Figure 3.2 The relationship between secrecy, brand equity, curiosity, and value



Method

Participants. One hundred undergraduate students were recruited from a general business class to participate in a new computer games evaluation study. In exchange for their participation, they were told that they would receive an extra credit point towards their course grade.

Procedure. Each participant was asked to answer a set of question about their experience with computer games, and personal preferences – favorite games, genres, and characters, as well as questions measuring their pre-existing brand awareness and brand loyalty. Next, participants were presented with the sketches of the shapes of three computer games publishers brand logos and asked to complete the logos by adding (missing) brand names and drawing missing elements. This cognitive response task (brand-focused drawing exercise) ensured that participants would focus on brands attributes when presented with a product-level stimulus. The particular brand was chosen based on the pre-test based on students' familiarity and brand awareness.

The study employs four Lykert-type metrics of brand loyalty: I try to purchase games from this brand; I will not buy from other brands if there is an alternative from this brand; This brand would be my first choice; Overall, I consider myself to be loyal to this brand adapted (Aaker, 1996; Keller, 1993b).

After that, the actual stimulus was introduced. The stimulus was an announcement of new computer games to be launched in the next few weeks. The close proximity of the launch was intended to minimize the likelihood that participants would question whether the launch would actually occur. The announcement briefly described the plot, genre, and characters, and contained the official poster of the game together with publishers' brand name and logo. In the 'secret' condition, the announcement contained a red sign that stated: "All information about this game release date, price, and gaming experience is a protected trade secret of the publisher".

Then, participants were asked to complete the questionnaire by evaluating these soon-to-be release products and answering questions measuring their degree of curiosity about these products. An intention to purchase the product (1-10 scale) and intention to recommend the brand (0-10 scale) are employed as measures of prescribed value. These measures reflect two measures employed during the quasi-experimental study: sales and word-of-mouth outcomes. Four metrics from the state-curiosity inventory has been adapted to assess participants' curiosity: I want to know more about this game; I am intrigued by what is happening in this game; I feel like seeking things out about this game; I feel like asking questions about this game (Naylor, 1981).

Results

Manipulation Checks. Participants in the 'secret' condition expressed a higher degree of curiosity and prescribed higher value to the secretive products and brands. Series of t-tests has confirmed that framing of a product as a secret has a significant effect on curiosity ($t=3.12$, $p<.01$). The same effect is observed with relation to the measures of prescribed value.

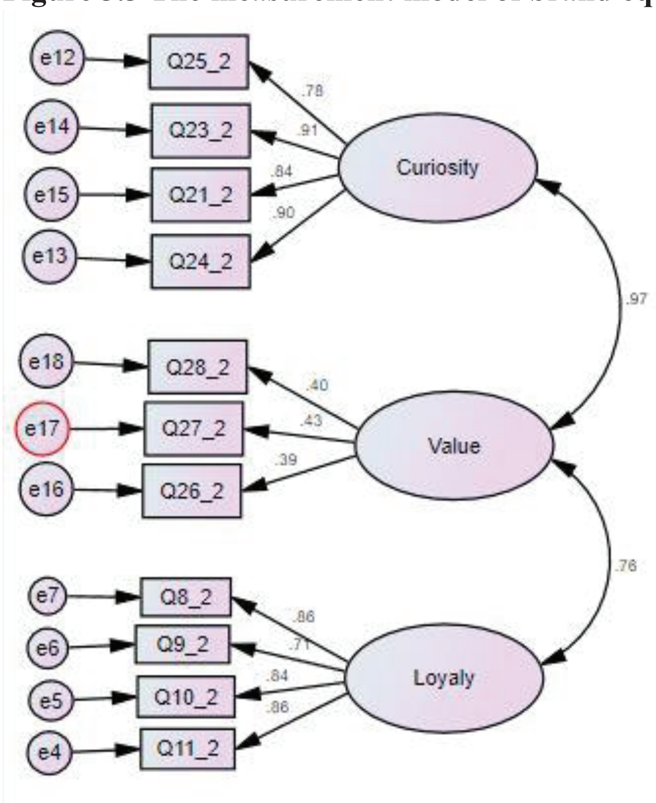
As expected, participants in secrecy signaling condition express higher intention to purchase (t= 2.1, p<.05), and intention to recommend (t= 2.6, p<.01)

Table 3.9 Consumer curiosity and perceived value dependent on the use of secrecy

Secrecy	Curiosity	Recommend	Purchase
0	10.8	5.51	2.83
1	13.3	6.66	3.43
δ	2.5	1.15	0.60

Confirmatory factor analysis (CFA) has been performed using SPSS AMOS to verify the validity of the measurement model (See Figure 3.3).

Figure 3.3 The measurement model of brand equity, curiosity, and value



A linear regression analysis has been performed to preliminary assess the effect of secrecy treatment separately on mediating variable – curiosity and on the value creation outcomes (See Table 3.9). The use of secrecy in itself appear to have no effect (t = -.76 - 1.21, - 0.26) while brand loyalty has a significant effect on WOM intention (t = 2.7, p < .01). Yet, the interaction between the use of secrecy and brand loyalty has a significant effect on consumers' curiosity (t = 1.96, p=.05) and on purchase intentions (t=2.01, p<.05).

Table 3.10. The effect of secrecy and brand loyaly on curiosity and value creation

	Outcome variable curious_E	*Outcome variable Purchase_E*	*Outcome variable Recommend_E*
Secret_E	-1.66	-.88	-.290
loyalty_E	-.024	.03	.13***
*Secret_E*loyalty_E*	.26**	.09**	.08

PROCESS macro for SPSS has been employed to conduct the moderated mediation analysis and calculate two equations simultaneously to identify the interaction between the use of secrecy, brand loyalty, curiosity, and prescribed value. Table 3.10 summarized the estimation results for the model (macro 7) that has been specified using independent variable *Secret_E*, mediator *curious_E* and moderator *loyalty_E* for two dependent variables: purchase intention *Purchase_E* and WOM intention *Recommend_E* (n=94).

Table 3.11 The moderated mediation (PROCESS) model of secrecy and value creation

	Outcome variable curious_E	*Outcome variable Purchase_E*	*Outcome variable Recommend_E*
Secret_E	.12	.13*	.12**
loyalty_E	-1.26*	--	--
*Secret_E*loyalty_E*	.26**	--	--
	curious_E	.41***	.41***

The results confirm that secrecy in itself has no significant direct effect on consumer curiosity, ($t=1.49$, $p=.14$) while brand loyalty has a negative effect ($t = -1.66$, $p=.1$). That means that consumer a generally less curious about the brands they already admire. Yet, the interaction between the secrecy and brand loyalty effectively ignites curiosity ($t=2.2$, $p<.05$). The secrecy also positively affects both measures of prescribed value: purchase intentions ($t=2.78$, $p<.01$) and WOM intention = 2.41, $p<.05$).

In turn, consumer curiosity ignited by the secrecy and brand loyalty boosts prescribed value as measured by purchase intention ($t= 5.41$, $p<.01$) and WOM intention = 5.09, $p<.01$

The results are consistent with the previous findings for they confirm that the use of secrecy has a significant direct effect on value creation outcomes. Moreover, these finding uncover the psychological mechanism of value creation as the interaction between the use of secrecy and brand equity proves to be a driver of consumer curiosity, which, in turn, plays a critically important role in consumers' perception of value.

DISCUSSION

These findings support our hypothesis that the use of secrecy, framing a new product as a secret can lead to greater future sales as evidenced by customers/ purchase intentions and can inflate word-of-mouth as suggested by the intention-to-recommend metric. Thus, there is evidence that the use of secrecy affects not only product-level expectations but also brand-level customer relationships.

Further, the experimental results provide support for the view that customer's curiosity serves as a primary vehicle for consumer value creation. The greater is the customer curiosity, the greater value is prescribed to the forthcoming product. These findings complement the results of our field quasi-experimental study. Laboratory environment allows to mitigate data and operationalization issues that are inevitable in a field quasi-experimental context: treatment heterogeneity, limited availability of brand equity measures and platform/data source limitations and thus reveal the details of the value creation mechanism.

Brand loyalty serves as a moderator that enables positive framing of customer uncertainty created by the use of secrecy. That is, loyal customers tend to over-inflate the expectation about the forthcoming products from their favorite brands. Brands can leverage this mechanism by strategically limiting the pre-announcement behavior and by signaling secrecy instead. Many computer game publishers lead the way with their practices of igniting per-launch consumer buzz and engaging lead user in value co-creation with comprehensive closed beta testing practices.

Taken together, these studies extend our understanding of consumer uncertainty and customer-brand relationship. They depart from the pre-announcement common sense that suggests revealing as much information as possible and provides valuable insights for the brands to enhance their go-to-market strategies by signaling secrecy.

CONCLUSION

Taken together, these three essays on secrecy extend our understanding of when, why and for whom secrecy is valuable in the marketing exchange relations. The relational approach to secrecy has enabled us to identify key elements of the secretive relations, describe how marketing secrets are different from other types of organizational secrets and to define the conditions under which secrecy can be used by companies to create value for the customers.

We have developed the conceptual model that explains the role of secrecy in marketing relationships and the value creation mechanisms of secrecy. Confronting secrecy has been shown to elicit varying emotions and reactions in customers depending on whether they are entrusted to share a secret (insiders) or left in the dark (outsiders). While insiders enjoy their privileged position and develop a closer personal connection to the secretive brand, outsiders might feel left behind and jealous. Establishing insiders as a reference group is a key feature for the outsiders to develop a positive perception of secrecy. Brand equity has been shown to play an important role in framing uncertainty as a pleasurable experience and igniting curiosity about the secret in customers.

Our empirical findings in the context of computer games industry support the propositions of our conceptual model. Both field studies and laboratory experiments suggest that secrecy has a positive effect on value creation. It may lead to an increase in sales and word-of-mouth outcomes. We have shown that the successful use of secrecy depends on whether the brand can elicit curiosity and leverage brand equity for the customers to enjoy the secret.

These findings depart from the prevailing view that favors the ultimate organizational transparency, full disclosure and early pre-announcements for we have shown that sometimes secrecy, limited visibility can be an important source of value for the customers. We hope these findings will inspire our colleagues across the globe to join us in exploring this exciting topic.

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