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THEORY/CONCEPTUAL

Disadoption

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Abstract The adoption and diffusion of new products and behaviors has been studied extensively and comprehensively (e.g., Rogers 2003). Disadoption—how and why people volitionally stop using products and/or cease certain behaviors (e.g., customer defection, smoking cessation)—by contrast, has received less and more situation-specific attention. This paper presents a general (conceptual) framework for understanding disadoption. Disadoption is defined and delineated from other behavioral discontinuances. Antecedents and consequences of disadoption along with the process behind disadoption are discussed. Directions for research as well as methods to either increase or decrease the likelihood of disadoption are also discussed.

Keywords Disadoption · Discontinuance · Behavior cessation · Disposal · Divestment

It is widely accepted that adoption follows a consistent pattern (Bass 1969) and is driven by a common set of factors (Rogers 2003). Advertising (Dockner and Jørgensen 1988; Horsky and Simon 1983), word of mouth (Godes and Mayzlin 2009; Iyengar et al. 2011), expertise (Moreau, Lehmann, and Markmann 2001), categorization (Moreau, Markmann, and Lehmann 2001), warranties (Bearden and Shimp 1982), price (Danaher et al. 2001), and product characteristics (Horsky 1990) all influence adoption rates and patterns. Considerable effort has also gone into examining and predicting diffusion patterns (Mahajan et al. 1990; Sultan et al. 1990), with later work examining specific types such as use-diffusion (Shih and Venkatesh 2004). Overall, the understanding of adoption has been facilitated by research focused on systematically delineating and characterizing adoption in general (Gatignon and Robertson 1985).

By contrast, disadoption, defined here as the intentional, volitional, and long-term cessation of a behavior or the use of a product or service that was previously adopted, has received relatively little attention. While specific cases such as smoking cessation (e.g., Redmond 1996; Wolburg 2008), dieting (Polivy and Herman 1985), product disposal (Jacoby et al. 1977), and customer defections have been studied (see Table 1), the focus has been on specific decisions rather than on developing a general (conceptual) understanding of disadoption. In contrast, the basic thesis of this paper is that disadoption is a general phenomenon and that all disadoptions share similar general characteristics and causes, albeit weighted differently. Because disadoption is a broad topic, we focus on (i) highlighting the importance of disadoption both theoretically and practically, (ii) providing a sample of the myriad of factors that drive it and its consequences, and (iii) providing some promising directions for future research.

A product/service's profitability is dramatically impacted by whether and when consumers disadopt it. Nonetheless, Prins et al. (2009); pg. 304) observed that "marketing knowledge on disadoption … is relatively scarce," and, as of 2009, identified only four other papers focused on disadoption: Parthasarathy and Bhattacherjee's (1998) examination of online service disadoptions; Lemon et al.'s (2002) examination of customer retention; Hogan et al.'s (2003) analysis of the value of a lost customer; and Libai et al.'s (2009) investigation of service diffusion. In terms of physical possession disadoption, much of the

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Table 1 A sample of literature examining discontinuance and disadoption

Subject Area	Authors	Year	Disadoption-Related Highlights
Behavior	Hirschman	1992	introduces a theory of compulsive consumption, which inhibits disadoption
	Kozinets	2002	explores how consumers at the Burning Man project distance themselves from the market
	Polivy and Herman	1985	shows how dieting (disadoption) regularly leads to binge eating (re-adoption)
	Wolburg	2008	examines reasons why the disadoption of smoking is so difficult
	Fenech and Longford	2014	links discontinuance rates of durable goods to adoption patterns and country characteristics
Disposal	Jacoby et al.	1977	introduces a taxonomy of disposition (disposal)
Lifestyle	Andreasen	1984	discusses how the failure to transition (disadopt) w/ lifestyle changes decreases satisfaction
	Bardhi et al.	2012	examines relationships to possessions within nomadic lifestyles
	Haws et al.	2012	introduces product retention tendency
Modeling	Fader et al.	2005	present a simplified method of counting active consumers in a non-contractual setting
	Hogan et al.	2003	model the value of a lost customer
	Libai et al.	2009	incorporate firm and category level customer attrition to improve diffusion model
	Schmittlein et al.	1987	present a model for counting active consumers in a non-contractual setting
	Fenech and Tellis	2016	examine the influence of substitute products on current product market penetration
Obsolescence	Kim & Srinivasan	2009	modeling disadoptions (via upgrading) due to functional obsolescence
	Packard	1960	the seminal work on obsolescence, a strong driver of disadoption decisions
Services	Lemon et al.	2002	demonstrate how expected use/regret influence decisions to discontinue a service relationship
	Parthasarathy and Bhattacherjee	1998	presents several reasons for discontinuing use of an online service
	Prins et al.	2009	examines the impact of adoption timing on disadoption of a service
Social Influences	Berger and Heath	2008	shows that groups disadopt products that are adopted by undesirable out-groups
	Nitzan and Libai	2011	examines how social networks influence the disadoption of a service provider
	Redmond	1996	examines quitting smoking as a social influence (diffusion) phenomenon
Valued Possessions & Gifts	Bradford	2009	documents how consumers gift assets to transfer meaning across generations
	Brough and Isaac	2012	shows how new users' use intentions influence one's willingness to sell possessions
	Lastovicka and Fernandez	2005	shows how consumers transfer meaningful assets to strangers
	Price et al.	2000	identifies events/emotions/decisions precipitating disposition of special possessions
	Sherry et al.	1992	examines attitudes and behaviors related to gift disposition
	Walker and Irwin	2005	examines how emotional attachment influences disposal decisions

research has been qualitative (see Garcia and Fenech 2012 for an exception) including Belk's 1988 article on possessions and the extended self; Price et al.'s 2000 article on older consumer's disposition of special possessions; and Sherry et al.'s 1992 examination of the disposition of gifts and re-gifting (see also Bradford 2009 and Lastovicka and Fernandez 2005).

This paper integrates several streams of research and examines disadoption as a general phenomenon in the spirit of Broniarczyk and Griffin's (2014) review of decision difficulty, Hamilton and Chernev's (2013) exploration of price image, Greenleaf and Lehmann's (1995) analysis of reasons for decision delay, Belk's (1988) examination of the extended-self, and Botti et al.'s (2008) discussion of choice under restrictions. Specifically, the paper (i) defines disadoption, (ii) delineates what is from what is not disadoption, (iii) discusses the antecedents and consequences of disadoption, and (iv) provides directions for future research.

The concept of disadoption

Defining and delineating disadoption

There are many types of behavior cessation which vary in terms of (i) the level of conscious thought involved, (ii) whether the cessation is voluntary or not, and (iii) the time period for

which the cessation lasts. Cessations range from ones which are not noticed, involuntary, and short term to those that are actively considered beforehand, voluntary, and intended to be permanent, which we term disadoption. To help define the focus of the current paper, we distinguish between three types of behavior cessation (see Table 2):

- Discontinuance: Any interruption/cessation of a behavior or use of a product whether voluntary or involuntary (e.g., a person who doesn't smoke because they forget to bring their cigarettes with them).
- Suspension: The voluntary interruption/cessation of a behavior or use of a product for a pre-determined length of time, typically done with the intent to reconsider resuming or actually resuming the behavior in the future (e.g., a person who stops smoking while visiting family).
- Disadoption: The voluntary cessation of a valued and adopted behavior done with the intent that the cessation be permanent (e.g., a person who decides to quit smoking permanently).

Thus, disadoption is a special case (subset) of behavior suspension which is itself a special case of behavior discontinuance. We focus on disadoption because it involves conscious consumer decision-making, is a complex decision process, and is the most consequential. Formally, we define disadoption as *the* ***volitional*** *ceasing* ***of a valued and adopted behavior (including but not limited to product use)*** *with the* ***intent of not resuming that behavior*** *in the future*. We discuss these components in greater detail next.

Volitional

Disadoption is a conscious choice or decision on the part of the consumer. Involuntary behavior cessations imposed upon the consumer are not disadoptions. Products being discontinued (Broniarczyk et al. 1998; Homburg et al. 2010), brands going out of business, firm terminating contracts (Lepthien and Clement 2012), and inoperable products (called quality obsolescence; Packard 1960) all cause involuntary behavior changes, not disadoptions. Likewise, unintentional behavioral cessations are not disadoptions. For example, while leaving one's house and job may be intentional elements of relocating, the collateral cessations of the use of local eateries and retailers (East et al. 2012) generally are not, and may be done only reluctantly.

The distinction between volitional and involuntary/unintentional cessations of valued behaviors is related to the distinction between attitudinal and behavioral brand loyalty (Jacoby and Kyner 1973). Volitional behavior changes and attitudinal loyalty are conscious (cognitive) phenomena and, therefore, are likely to be informed by central-route cues (Petty and Cacioppo 1986) such as elaborating on strong arguments.

Valued and adopted

In order for a possession or a behavior to be disadopted, it must first have been valued and used or performed over time and/or choice occasions; that is, it must have been adopted rather than merely sampled or tried. Behaviors intended to be performed on a single or only a few occasions (e.g., sky diving) cannot be disadopted: there is no consequence for no longer doing something one never intended to do again in the first place. To be disadopted, a product or behavior must be (or at least have been) valued and adopted by the user. Thus, parting with an unwanted gift is an example of disposal but not disadoption. Of course, the value of any product or behavior may diminish over time, which is a major impetus for disadoption.

The consequences of stopping a valued behavior can take at least two forms: (i) psychological and (ii) material. Psychological consequences can be cognitive (e.g., to adopt a substitute or maintain the disadoption) and/or emotional (e.g., sadness, relief). Material consequences come in numerous forms. Ceasing smoking can result in increased stamina and an extended lifespan as well as withdrawal symptoms and weight gain. Importantly, most disadoptions have multiple consequences. For instance, dieting often results in hunger, a physiological (material) consequence, as well as feelings of irritability, anger, and stress in the short term. We discuss consequences of disadoption in more detail later in the paper.

Intended permanence

By permanent we mean for the rest of a person's life. A consumer who stops smoking for a weekend has not disadopted smoking: Rather, he has temporarily suspended the behavior (see Kozinets 2002). Similarly, a person who chooses a different brand for the sake of variety has not disadopted the old brand. Of course, not all intended disadoptions turn out to be permanent (e.g., the person who quits smoking only to resume it later on). Conversely, some discontinuances intended to be short-term ultimately become permanent. If a behavior cessation is not intended to be permanent, then that behavior cessation is a suspension, not a disadoption.

Intent and permanence are both critical aspects of disadoption. If "intended" was removed, disadoption could only be determined after a consumer dies (i.e., once it is known to have been permanent). Further, restricting the concept of disadoption to instances of successful disadoptions (i.e., replacing intended with actual) seems overly restrictive.

If permanence is not required, it is unclear how long a discontinuance needs to persist in order for it to qualify as a disadoption. The answer to this question would depend, at a minimum, on qualities of the behavior or product being disadopted (e.g., its

Table 2 Classifying specific behavior cessations

Ceased Behavior(s)	Volitional	Consequential	Intended Permanence	Type of Cessation
Home Sale	Y	Y	Y	**Disadoption**
Foreclosure Sale	N	Y	Y	Discontinuance
Lost/Misplaced Item	N	?	N	Discontinuance
Discarded in favor of Superior Option	Y	Y	Y	**Disadoption**
Stock-Out/Discontinued Option	N	?	N	Discontinuance
Variety-Seeking based Switching	Y	Y	N	Suspension
Self-Initiated Relationship Breakup	Y	Y	Y	**Disadoption**
Other-Initiated Relationship Breakup	N	Y	Y	Discontinuance

inter-purchase time). Importantly, the psychological experience of knowingly suspending a behavior for a predetermined amount of time is different than that of intending to permanently cease it. For instance, knowing there is a finite horizon for a discontinuance may help the consumer accept it and overcome short-term consequences more readily (e.g., withdrawal symptoms), as well as reduce the incentive to search for substitutes.

Of course, a downside of this view is that disadoption cannot be conclusively determined from observed behavior alone and, thus, is essentially a latent construct; albeit one that can be modeled based on observable data or assessed in surveys like many other constructs in marketing (e.g., brand loyalty, attitude, and price sensitivity). Nonetheless, including intended permanence as a component of disadoption identifies it as a cognitive decision with clear behavioral consequences.

Delineating disadoption from related concepts

At some level a decision to disadopt may seem to be not that different from an adoption decision. However, there are important distinctions between them. For example, adoptions are not necessarily intended to be permanent. In addition, an adoption decision often does not have to overcome habit, possession utility, and loss aversion (i.e., involve self-control). Information system/technology research has paid considerable attention to the concept of habit (e.g., Polites 2013) and when a habit is broken (disadopted). For example, Polites and Karahanna (2012) examined the roles that habit, switching costs, and inertia play in dissuading users from replacing (disadopting) an incumbent system. This work follows earlier efforts to examine why users continue to use information systems; that is, not disadopt them (Bhattacherjee 2001). In essence, this stream of research focuses on the role habit plays in deterring disadoptions.

Disadoption and adoption also differ in terms of uncertainty. Whereas adoption often involves uncertainty related to the usefulness, performance, and desirability of a new product or behavior, disadoption involves the abandonment of familiar, well-understood products or behaviors. Indeed, it is the well-defined, often visceral, understanding of the consequences of disadoption that frequently prevent it. We discuss these points further later.

Importantly, considering disadoption (vs. adoption) is likely to generate concerns about loss. Thus, disadoption and adoption decisions will differ to the extent to which consumers evaluate potential losses versus potential gains (Kahneman and Tversky 1979), similar to the extent to which decision processes differ between rejecting and accepting options (Park et al. 2000; Shafir 1993).

In sum, the considerations and decision processes for adoption and disadoption are often quite different. Thus, defining disadoption as "the adoption of a non-behavior" (i.e., as another adoption decision) masks important theoretical and practical implications.

Another related, but distinct, concept is customer defection. Maintaining customer relationships is a key tenet of marketing (e.g., Jackson 1988; Rust et al. 2004). In that context, customer defection (i.e., non-retention) is an example of disadoption. However, they are different concepts. A customer can disadopt a product (e.g., Cheerios) without defecting from a brand (e.g., by buying Honey Nut Cheerios instead), or stop using the store where they buy it but continue to buy the same product from a different source. Further, one can disadopt behaviors that do not involve specific purchases without defecting as a customer from a specific brand or store (e.g., one can quit running for exercise, but continue to purchase exercise clothing from the same brands as before). Basically, customer defection is a special case of suspension when it is intended to last for a fixed period of time (i.e., dropping a gym membership while spending a sabbatical in another city) and a special case of disadoption when the intent is to be "gone for good."

Key aspects of disadoption

No two disadoptions are identical, but all can be defined in terms of a common set of key aspects. Here, we discuss three aspects that we see as particularly useful and fruitful to explore.

Scope of the disadoption

Disadoptions can be very specific/narrow (e.g., stopping drinking Coke or running wind sprints), more general (e.g.,

stopping drinking soft drinks or running), or quite general/broad (e.g., stopping consuming unhealthy products or exercising). Consequently, brand and category disadoptions are likely to have meaningful differences. For instance, switching from one brand to another (e.g., from Coke to Pepsi) is important for the companies involved, but not necessarily to the customer (who may just want a caffeinated cola) or a retailer that sells both brands.

While general disadoptions are typically more dramatic and consequential, specific disadoptions (e.g., of a trusted brand) can also be high-involvement and have noticeable affective and cognitive consequences since consumers use brand names to infer quality (Rao and Monroe 1989) and make choices (Grewal et al. 1998), and often form attachments to (Park et al. 2010) or relationships with (Fournier 1998) brands. As with human relationships, closeness can make a breakup (i.e., disadoption) painful and consequential. Thus, disadopting a particular brand within a category can be as or more difficult than disadopting the category as a whole.

The scope of a disadoption is linked to the specificity of the goal motivating the behavior. The goal can be very specific (e.g., to use a specific product), related to a relatively narrow category of behaviors (e.g., lifting weights), related to a broad category of behaviors (exercising), or pertain to an even more general outcome (being healthy). The broader the goal that is being pursued, the more behaviors and/or possessions will be disadopted if it is abandoned.

Abrupt versus gradual disadoptions

Disadoption is complete (fully enacted) only when the use of a product or engagement in a behavior completely ceases. When the decision to disadopt and the behavioral cessation occur simultaneously, the time of disadoption is clear (although it is often not directly observable by a researcher). Yet, ceasing a behavior first (including being a customer of a firm) may only later lead to a conscious and volitional decision to disadopt (e.g., as one realizes "I don't really need to do that anymore."). Similarly, a person can decide to never buy a product again but still continue use up their current inventory of it. In other words, the decision to disadopt and the actual behavioral cessation can occur at different times.

It is useful to distinguish between disadoptions that occur abruptly (e.g., going "cold turkey") versus more gradually (e.g., reducing coffee consumption from five cups a day to zero by having one less cup each week over five weeks; Kruglanski 1996). For example, often a person decides (strategically) to gradually and systematically disadopt something. Examples include protocols for being weaned from medicines, drugs, and other addictive substances, as well as other more general phased withdrawals. Because of the potential importance of phased disadoptions to disadoption success, we consider the entire process of disadoption (from decision to beginning implementation to complete cessation) under the broad umbrella of disadoption.

Importantly, abruptly enacting versus gradually phasing in a disadoption can influence the likelihood the disadoption will be successful (i.e., permanent). Indeed, the path to successful disadoption may be through a sequence of smaller, more specific disadoptions. In essence, this breaks a larger goal into smaller sub-goals, which can facilitate or hamper reaching the larger goal (Fishbach et al. 2006).

Abrupt and gradual disadoptions differ in terms of the timing of their benefits and consequences. Abrupt disadoptions typically have the majority of their negative consequences front-loaded. Examples include withdrawal symptoms associated with abrupt disadoptions of drugs, cigarettes, and caffeine; boredom stemming from not knowing how to fill time that was recently dedicated to work (e.g., post retirement), TV viewing, or game playing; and sadness or loneliness arising from a breakup with a significant other. The benefits of abrupt disadoptions, however, are often delayed (e.g., the benefits of quitting smoking do not appear for several weeks). When the negative consequences precede the benefits of abrupt disadoptions, consumers may be motivated to return to their previous behavior.

In contrast, both the benefits and costs arising from phased disadoptions tend to be less obvious and spread over time. Thus, the gradual onset of negative consequences may facilitate the permanence of the disadoption. Alternatively, the lack of positive feedback in the form of noticeable benefits may give rise to considering reversing the disadoption. Which of these two factors is dominant for any given disadoption is likely to be related to many of the antecedents of disadoption, some of which we discuss later.

Prior and co-occurring disadoptions

In terms of behavior, disadoption typically requires self-control because something (at least once) valued is being discontinued. The self-control literature identifies two opposite processes: using up a reservoir of self-control or building up a self-control muscle (Baumeister et al. 1998). This suggests that one disadoption could make further ones either more or less likely.

The role that the interdependence of concurrent or sequential disadoptions plays, in terms of any given disadoption being successful (i.e., permanent), will vary in response to numerous factors. For instance, one disadoption following another may be less likely to succeed the closer it is in time to the first disadoption, and to the extent the first disadoption exhausted the self-control resources necessary to execute subsequent disadoptions. Alternatively, one disadoption could spur others via a momentum effect. Similarly, two disadoptions within the same general domain (e.g., sugars and fatty foods) could either facilitate each other or, alternatively, draw on the same self-control resources and consequently reduce the likelihood of either succeeding. Related

to this, if a consumer considers two seemingly independent disadoptions more abstractly as serving a single, broader goal, each might have a greater chance of succeeding.

The broader point, hence, is that treating disadoptions as one-off instances may lead to erroneous conclusions. At a minimum, future empirical work should consider the impact of concurrent and antecedent disadoptions on the disadoption of interest. Eventually, a formal model characterizing the relationships between disadoptions should be developed and examined.

Reasons to and not to disadopt

Antecedents of disadoption can be divided into reasons for and against disadopting (see Fig. 1). As we discuss in this section, these reasons are often, but not always, related. While there are essentially innumerable antecedents to disadoption, we discuss several that have been examined in the marketing literature as antecedents to other dependent variables such as adoption, variety-seeking, satisfaction, complaining, and word of mouth. These antecedents were specifically chosen because many marketing researchers are familiar with them in relation to other important topics.

Product-related reasons

Many reasons for disadopting products stem from the products themselves. One concept of particular relevance is obsolescence. There are three categories of obsolescence-related reasons for disadoption (Packard 1960). The first relates to decreased product performance (called quality obsolescence). Shoes becoming worn and TV pictures becoming less sharp encourage the disadoption of those products. (Should a product completely fail, the discontinuance of its use is essentially imposed on the consumer and, thus, not disadoption because it is involuntary.) On the other hand, comfort, compatibility, continued functionality, and nostalgia work against disadoption. Importantly, performance decay need not occur gradually. A single particularly bad experience can lead to disadoption as can the cumulative influence of several less severe experiences. By contrast, a single, especially positive experience (or several good ones) can make a person reluctant to give up something (i.e., be loyal to it).

A second reason for disadoption occurs when a product becomes "worn out" because of trends such as changing styles (called desirability obsolescence; Packard 1960). In this case, the product itself and its performance has not changed; rather the consumer's preferences have evolved, often in response to exogenous factors. The more stable a consumer's preferences are, the less likely desirability obsolescence will arise and disadoption will occur.

The final reason arises from the appearance of new and better substitutes/alternatives (called functional obsolescence; Packard 1960), which drive the technological substitution process (Fisher and Pry 1971). Finding a superior potential substitute can drive consumers to disadopt still useful products or behaviors, while the absence of a better alternative leads people to hold onto old and poorly functioning items. Notably, the impact of functional obsolescence is moderated by internal drivers such as the consumer's need for innovativeness (Donthu and Garcia 1999). For highly innovative consumers, even a small discrepancy between what is and what could be may induce an upgrade to the new product and the disadoption of the old one. Indeed, such consumers may consider the mere possession of obsolete options to be aversive.

Another way to classify product-related reasons for disadoption is to modify Rogers' (2003) work on innovation adoption. Essentially, the relative advantage of other options (including freeing up resources such as time, money, and space), trialability, and communicability (i.e., having a single clear reason for disadopting) encourage disadoption as does an aspect not included in Rogers' typology, disposability. In addition, many consumers become overwhelmed with technological complexity and, as a consequence, disadopt certain products (Mick and Fournier 1998). On the other hand, incompatibility with current behavior plus the risk and complexity of whatever is seen as a replacement for it tend to discourage disadoption. We expand upon this reasoning in Appendix 1. The ability to adapt Rogers' framework demonstrates that, although adoption and disadoption are distinct behaviors, learnings about adoption can inform investigations into disadoption.

Personal circumstances

One major impetus for disadoption is changing needs, which are often driven by life transitions (e.g., aging, moving, marriage, and having children; Andreasen 1984). Most people give up some activities as they age. Similarly, moving inspires people to consider disadopting (and disposing of) things they would not have were it not for the move. Downsizing is a particularly strong motive for disadopting possessions. On the other hand, a reluctance to accept aging and moving to a larger house make disadoption less appealing and/or likely.

Andreasen (pg. 790) suggests that the greater the change in lifestyle, the more brand disadoptions (and, perhaps, new brand adoptions/substitutions) one would expect to see. Further, "lifestyle change is negatively associated with changes in overall purchase satisfaction" (pg.793). Because satisfaction is positively associated with brand preference, Andreasen argues that consumers who do not shift their brand preferences in accordance with their lifestyle changes experience a sense of frustration.

Tastes, like needs, also change over time, often in response to either satiation or maturation. Previously valued possessions and behaviors can become (unexpectedly) less valued (e.g., a weekend at a particular resort can become routine or even a chore over time). On the other hand, they can become important symbols of a previous time/relationship, evoke

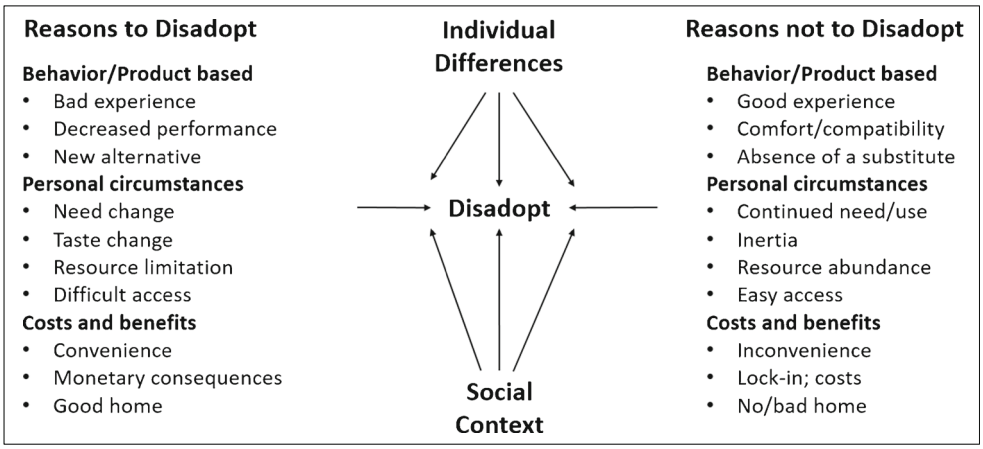

Fig. 1 Reasons for and against disadoption

nostalgia (Holbrook 1993), and become more valued and less likely to be disadopted. Similarly, things associated with some recently terminated personal relationships (e.g., ex-spouses or employers) are strong candidates for disadoption, while things associated with a lost loved one are resistant to disadoption (Price et al. 2000).

Of course, resource changes are also critical. Decreased discretionary time, money, or space encourages disadoptions, whereas additional time, money, and space discourages them.

Availability

While easy product availability encourages continued use or consumption (e.g., for cookies), increased difficulty in obtaining products or services can motivate disadoption as the cost to obtain them increases (e.g., when a favorite product is no longer available in the store where a person normally shops). One consequence of the internet is that the widespread availability of legal goods removes this reason to disadopt them. By contrast, laws limiting access to products such as guns, ammunition, and alcohol are explicitly designed to encourage disadoption. In general, decreased access (e.g., crowding at a gym) encourages disadoption. Convenience and ready availability, on the other hand, discourages disadoption (which is one reason companies promote automatic renewal programs).

Costs and benefits

The most obvious example here is monetary consequences. When it is easy and not costly to divest a product or behavior (or it is costly to retain the product or behavior), it is more likely to be disadopted—although research on the sunk cost effect (Heath 1995) suggests this is not always the case. On the other hand, greater inconvenience and cost (e.g., of getting rid of old asbestos siding) discourages disadoption (and can lead to undesirable disposal methods).

Social

Others influence what we adopt and disadopt (Nitzan and Libai 2011) via social norms and mores (e.g., the green movement). Of course, many consumers continue using products or engaging in behaviors either implicitly or explicitly forbidden by society. Laws or other attempts to force disadoption (or, more accurately, discontinuance) may result in reactance (Brehm 1966), thereby ironically lowering the likelihood of disadoption by some people, as in the case of Prohibition. However, many consumers have a strong need for affiliation (Shipley and Veroff 1952) or tendency to comply with social pressure (Asch 1955; Bearden and Rose 1990). One example of social influence on disadoption is the voluntary simplicity movement (Leonard-Barton 1981; Shaw and Newholm 2002). Overall, the social context provides reasons both for and against disadoption.

The extent to which the social context influences disadoption decisions is a function of (i) the degree to which consumers care about what others think of them (Berger and Heath 2008; Mick 1996), (ii) the degree to which consumers wish to be distinct from others (Tian et al. 2001), (iii) how similar consumers are to relevant others (Gilly et al. 1998), (iv) whether the product is consumed (behavior is enacted) conspicuously/publicly or inconspicuously/privately (Ordabayeva and Chandon 2011), and (v) the severity of the consequences associated with not disadopting (Horai and Tedeschi 1969).

Overall, when friends and others to which one is exposed (and wishes to emulate) disadopt a behavior, it encourages disadoption of that behavior. On the other hand, when friends fail to disadopt (e.g., continue to play tennis or bridge), or others one wants to distance oneself from do disadopt, a person is less likely to disadopt.

Individual differences

Many basic psychological phenomena discourage disadoption. These include the status quo bias (Samuelson and Zeckhauser 1988), the endowment effect (Kahneman et al. 1991), habit

(Polites 2013), and the influence of default options (Johnson and Goldstein 2003), as well as general inertia. The list of psychological states and traits that could influence disadoption is essentially innumerable. Here we highlight three.

Affective states (i.e., moods) are generally transient and researchers have primarily examined their short-term influence on behavior. Affect can be a source of information (Forgas 1995; Pham 1998), influence memory (Bower 1981; Isen et al. 1978), impact reasoning (Mueller 1977, 1978), and increase the importance of hedonic attributes (Shiv and Fedorikhin 1999). Importantly, consumers tend to attribute their current moods to whatever they are currently focused on (Schwartz and Clore 1996). If a consumer associates a behavior or product with a positive mood, it is less likely that the consumer will disadopt that behavior. Conversely, consumers are likely to consider disadopting behaviors associated with negative moods.

One's regulatory focus can also significantly alter the general propensity to disadopt. Consumers who are promotion focused are more concerned with hopes and maximizing potential gains, while those who are prevention focused are more concerned with safety and minimizing potential losses (Higgins 1997). Thus, one who is (either chronically or transiently) promotion orientated may be more likely to adopt a given product, while one who is prevention focused might be less likely to disadopt that product.

Importantly, it is likely that there is a "disadoption tendency." Although related to other individual differences such as retention tendency (Haws et al. 2012), adoption tendency, the need for closure (Kruglanski 2004), the tendency to conform (Asch 1955), and ego depletion tendencies (Baumeister et al. 1998), disadoption tendency is a distinct construct/individual difference for which a measurement scale can be developed. Importantly, one may have both high adoption and disadoption tendencies. Moreover, some people rarely if ever disadopt. While the people that rarely adopt are of limited interest to sellers of new products, reluctant disadopters may be important targets for initiatives related to smoking cessation as well as customer acquisition given their loyalty and resistance to defection.

Summary

There are a number of reasons to and not to disadopt. Understanding those reasons, their relative salience across various disadoption decisions, and their relative weights in those decisions is a crucial component of understanding disadoption behavior.

Consequences of disadoption

The consequences of disadoption are many and varied. In general, they fall into four distinct but related categories: cognitive, emotional, behavioral, and social. In turn, each of these can be either anticipated (and factored into the decision to disadopt) or unanticipated, as well as positive or negative.

Consider the disadoption of smoking. A person stopping smoking may (or may not) anticipate the withdrawal symptoms, increased appetite (and weight gain), extra money saved from not purchasing cigarettes, changes in how others view them, or health consequences for those around them. Further, the person may correctly under- (or over-) estimate those consequences. Table 3 provides a sample of consequences, which raise several key issues.

When a disadoption is seen as desirable, the cognitive reactions are likely to be acceptance, a sense of closure, and satisfaction. By contrast, if the disadoption occurs reluctantly (e.g., is influenced by a shortage of money or time), dissatisfaction, cognitive dissonance, and regret are likely outcomes. Similarly, a desirable disadoption may trigger positive emotions such as relief, pride, and joy. By contrast, undesirable or reluctant disadoptions often trigger negative emotions such as shame, sense of loss, resentment, or even depression. Cognitive reflection and nostalgia may arise as relatively neutral reactions. Of course, many consequences have multiple effects. For example, satisfaction and regret can both be thought of (i.e., be a cognition) and felt (i.e., be an emotion). Consequently, Table 3 merely suggests the most likely category into which a specific consequence falls.

Two broader consequences, which we discuss next in greater detail, are that disadoptions often (i) either impose or encourage the selection of substitute behavior or product and (ii) require the consumer to determine how to dispose of or otherwise deal with the disadopted product or behavior and its associated products.

Substitutes and disadoption

When something is disadopted, a substitute often takes its place (e.g., having fruit vs. brownies for desert). Substitutes may be similar to, or quite different from, that which will be or was disadopted. Table 4 describes several types of substitutes, which form a hierarchy from identical to very dissimilar, and relates them to goal abandonment at the relevant level of abstraction.

As disadoption specificity increases, so does the likelihood that the disadopted behavior will be replaced with a specific substitute. For instance, brand disadoptions often involve brand substitutions. In such cases, category-level behavior remains relatively unchanged (e.g., drinking beer), while the specific manner in which that behavior is enacted changes (e.g., drinking Heineken instead of Budweiser). In contrast, if a consumer disadopts an entire product category (e.g., beer), they are disadopting a set of options. Substitute product categories or behaviors (e.g., exercising) may meet some of the needs previously satisfied by the category (e.g., stress reduction) but not others (e.g., complementing a meal, smoothing social interactions, etc.).

Table 3 Individual-level consequences of disadoption

	Positive	Neutral/Mixed	Negative
Emotional	Pride	Nostalgia	Shame
	Relief		Frustration
	Sense of gain		Sense of loss
	Joy/euphoria		Depression/ deprivation
	Acceptance		Regret
Cognitive	Satisfaction	Reflection	Dissatisfaction
	Acceptance		Dissonance
	Closure		
Behavioral	Proselytizing for disadoption	Substitution Additional Disadoptions	Negative WOM
Social	Approval	Acceptance	Disapproval

While many disadoptions lead to the replacement of the disadopted behavior with specific substitutes, this is not always the case. For instance, although models of technological substitution assume that an old behavior or product is replaced by a newer one, disadoption neither requires, nor is it limited to, cases where a substitute is adopted. Moreover, deciding to disadopt an old behavior may occur before or after deciding to adopt a new one, and the motives for substitution can relate to either aspects of the current behavior (e.g., the current product has become less effective) or the new one (e.g., improved functionality or style; see Kim and Srinivasan 2009 and Hamilton et al. 2014).

Of course, the availability of an acceptable substitute (e.g., nicotine gum) makes it easier to consider disadopting a given behavior (smoking). Conversely, resource constraints may render the adoption of a new behavior (e.g., a gym membership) possible only once a suitable disadoption is identified (e.g., cancelling one's cable TV service to save money). Not choosing a substitute for a disadopted product or behavior leads to increased resources of some type (e.g., time, money, space, or energy), which can then be spent otherwise. Thus, an interesting question is how disadoption and adoption decisions influence each other.

Table 4 The relationship between substitutes and disadoptions via goals

Substitute	Goal	Purpose
Same option	Same specific	Upgrade/replacement
Similar alternative	Same specific	Brand disadoption
Related category	Same general	Category disadoption
Unrelated category	Different general	Goal disadoption
No specific substitute	None; generating resource surplus (space, time, money)	Goal abandonment

Disposition of the disadopted

Some disadoptions involve retained access. For instance, storage companies provide access to possessions which are no longer used, and can serve as a hedge against permanent disadoption (i.e., a suspension may be a trial to see if disadoption is desirable and doable). A consumer may also keep an app on their phone, which they never intend to access or use again. Importantly, many possessions have special meanings (e.g., because of who previously possessed them) which makes them "sacred" (Belk 1989) and resistant to disposal (Belk et al. 1988).

Other disadoptions involve some form of *disposal* (see Table 5). Disposal often incurs costs (time, monetary, opportunity, or other) and generates benefits (e.g., income from sales). Of course, there can also be emotional, switching, or inconvenience costs incurred when disadopting a long-used product or service: Some customers are loyal even to poor service providers. Generally speaking, the disposal decision has three aspects: (i) ease/convenience, (ii) monetary impact (price received minus the cost of disposal), and (iii) destination (i.e., where it goes: for instance, to a good home vs. recycling bin vs. land fill/dump). These criteria influence both if and how one disadopts.

Contractual relationships (formal or informal), which are common in the cell phone, gym, natural gas, and cable/satellite TV industries (Lambrecht and Tucker 2012), are often costly (although never impossible) to break. Typically, a contract can be ended by paying fees for early termination, which discourages disadoption (a primary function of contracts).

Pre-bought services (e.g., tickets) can sometimes be redeemed at a cost or transferred to others (for example, tickets to athletic or cultural events via Stubhub.com), as can physical products (though often at the cost of having the warranty voided). If an object has monetary value, the consumer may sell it, for example at a yard/garage sale. This method of disposal has boomed with the creation of websites like eBay and Craigslist. Beyond options to effectively "sell" a contract or object/product, a large number of other options exist for what to do with it.

One obvious way to get rid of things is to give them to someone else. Common examples include re-gifting fruit cakes and birthday and wedding gifts (which, in the latter cases, runs some social risk). Frequently, this form of disposal often involves finding a "good home" for a product (Brough and Isaac 2012): Consumers often care where, or to whom, their disadopted products go. For valued possessions, the identity of the succeeding owner matters, with family members, neighbors, and charities generally viewed positively. By contrast, the absence of a convenient good home discourages disadoption. One example of this is the reluctance to dispose of possessions in the hope that "someday the kids might want it" (and, hence, the motive to put them into storage). Similarly, consumers selling cherished possessions (as opposed to less personal possessions such as stocks) are more likely to sell to, and more willing to accept a lower price from, a buyer whom

Table 5 Disposition of disadopted products, contracts/obligations, and services

Products	Contracts/Obligations
Store	Postpone/Not fulfill
Re-purpose	Renegotiate
Sell	Subcontract (e.g., Sublet)
• Yard sale	Transfer
• Craigslist, eBay	Ignore
Gift	
• Close friend/relative	
• Acquaintance	Services
• Anyone (put on the curb)	
• Charity	Not use
Recycle	Sell/Gift/Transfer
• For free	Abandon
• For a fee	
Throw out	
• Pick-up service	
• Own effort	
Abandon	

they believe will care for the product (Walker and Irwin 2005; Brough and Isaac 2012).

Disadopted items ranging from a car to a ticket to an event can be donated to charity (e.g., to Kars for Kids), and clothes and furniture can be given to Goodwill, the Salvation Army, or specific disaster relief funds. Donating to charity makes one feel better about disposal, and hence disadoption, and may well inspire one to consider disadoption (e.g., in response to phone solicitations of charities saying "we will be in your neighborhood to collect…" or scheduled church yard sales). Disposing of no longer wanted goods by donating them to others ("social recycling") provides utility/happiness to the disadopting donor (Donnelly et al. 2017).

Of course, one can simply discard items, which has environmental consequences. While many items can be recycled and/or picked up for free, others must be taken to a special location and/or a fee paid to dispose of them (e.g., a per pound charge at a town dump). Items which require effort or money to dispose of are more likely to be thrown in the trash or simply abandoned. Here again, having a "good way" to dispose of an item can serve as both a way to make disadoption seem more desirable and an impetus to consider disadopting it.

Repurposing products is an alternative to disposal (see www.myrepurposedlife.com). Finding another use for a product is likely to reduce the pain of disadopting its current use. Storage and repurposing are both rich areas for future examination. For services, the options are more limited than, and essentially a subset of, those for products. The main options are to not use the service, transfer it to someone else, or resell it.

Disposal can also induce permanence in the disadoption (i.e., facilitate self-control). This assigns another role to disposal: disadoption enforcer. Thus, disposal may be most important to those who fear they will be unable to sustain the disadoption.

Importantly, disposal methods are offered by firms. Examples include Home Depot's haul-away services when a new appliance is purchased, auto service centers that recycle used oil and batteries, and car dealerships with guaranteed trade-in values. These firms link the disadoption of one or more goods to the adoption of another by facilitating disposal.

Is a disadoption good?

Whether a disadoption is good can be a surprisingly complex question. Often there is a tradeoff between short- and long-run consequences. For example, stopping lifting heavy weights may decrease back pain in the short run, but may also reduce muscle mass and bone density in the long run. Additionally, whether disadoption is good depends on whose/which perspective you take. A person may think a disadoption is bad (i.e., not desirable) even when someone else (e.g., a doctor) believes it is good for them. Alternatively, a person can see a disadoption as good (desirable) even when other parties think it is bad, as in the case of discontinuing a drug therapy.

The previous discussion has concentrated on the consequences to an individual. Another aspect relates to assessing whether the disadoption is good if "adopted" by a large number of people (mass disadoption). Consider foregoing driving to work. If suddenly a large number of people switch to mass transportation (e.g., trains), in the short run this can overwhelm the system and lead former mass transit users to switch to cars/driving to work. Similarly, in the long run, this could not only reduce pollution but also create inconvenience and budget increases for several years. A mass movement to a meat free diet would put some cattle and pig farmers and food processors out of business as well as firms that supply them. Thus, it is important to take a long-term (strategic) view to understand the consequences of mass disadoption and its implications for the broad area of policy analysis.

General discussion

The goal of this paper is to motivate research on the thus far under-researched topic of disadoption. As a first step in that direction, we have (i) defined disadoption and delineated it from other forms of behavioral cessation, (ii) discussed important aspects on which disadoptions can be characterized, (iii) identified potentially important antecedents (reasons for and against it), and (iv) explored the consequences of disadoption. It is our hope that future researchers consider refining the definition, extend the list of relevant aspects on which disadoptions can be characterized, and empirically examine

the antecedents and consequences of disadoption. Beyond these broad directions, there is an effectively infinite number of research questions related to disadoption that can and, in many cases, should be examined. Here, we identify two broader areas and discuss specific hypotheses related to each.

Area 1: Predicting the aggregate pattern of disadoption

While the discussion here has primarily focused on the individual's decision to disadopt or not, population-level patterns of disadoption are important to firms and policy-makers alike. To this end, several research questions center on the shape of the aggregate disadoption curve, its parameters, and its relationship to aggregate adoption curves. Consequently, much of the research effort in this domain will focus on statistical modeling. This research will be critical to developing a generalized understanding of disadoption. Since the empirical complexities of such work are outside the scope of the current discussion, we offer some specific hypotheses for future researchers to consider.

1. The aggregate pattern of disadoption for a given product or behavior will be related to the aggregate adoption pattern of that product or behavior (see Golder and Tellis 2004). In other words, it is likely that the parameters of disadoption can be linked to and partially predicted by the parameters of adoption for a given product.
2. Broadly speaking, ceteris paribus, not *disadopting* a socially dis-preferred behavior will be viewed as a more severe violation of social norms than not *adopting* a socially preferred behavior. For instance, those wearing dated fashions are more likely to be explicitly mocked or teased than is one who has not adopted a new, trending fashion. Hence, the rate of disadoption (vs. adoption) may be significantly greater. In other words, adapting Rogers' (2003) taxonomy, the slope of the disadoption curve as one progresses from disadoption-innovators, to early disadopters, to early majority will be steeper than that for adoption. How much steeper it will be will depend on the extent to which the behavior or product use is easily viewed by others (i.e., is public vs. private).
3. Social influence will play a stronger role in disadoption diffusion than in adoption diffusion. While both are influenced by social networks, adoptions also tend to be fostered by firms' advertising and promotions. In contrast, disadoptions tend to be driven mainly by consumers and communities. Hence, the relative influence of other consumers (as opposed to firms) should be greater for disadoptions. This leads to a related prediction: firm communications (ads, public service announcements, etc.) will be less effective in fostering or impeding aggregate disadoption (vs. adoption).
4. Substitute decisions will differ depending on whether the adoption decision precedes or follows the disadoption. An adoption *following* a disadoption might focus the consumer on their newfound resources (e.g. time and money) and the options they facilitate. Conversely, adopting a substitute prior to disadopting will focus the consumer on replacing the soon to be disadopted behavior or product. Hence, the similarity of substitutes to the disadopted behavior or product should be greater when the adoption precedes (vs. follows) the disadoption. This hypothesis can also be examined at the individual level.
5. A number of specific warning signs will help predict (impending) disadoption. These include (i) outright announcements either in person or via social networking outlets, (ii) reduced use of the product or engagement in the behavior, (iii) reduced care for or maintenance of the product or means necessary to engage in the behavior, and (iv) disadoptions by similar and valued others (e.g., role models, aspirational group members).

Area 2: Understanding individuals' propensity to disadopt

As the preceding discussion on antecedents mentioned, any particular disadoption can be facilitated by both momentary (transient) factors and more lasting (chronic) individual differences. Here we offer some testable hypotheses and questions about such factors.

1. There exists an identifiable and discriminately valid disadoption tendency.
2. The likelihood of disadopting and adopting will be correlated with one's chronic and transient regulatory focus. Specifically, the likelihood of disadopting (but not adopting) will be negatively related to the extent to which one is prevention oriented. Conversely, the likelihood of adopting (but not disadopting) will be positively related to the extent to which one is promotion oriented.
3. The abruptness of a disadoption will be significantly related to the affective intensity (but not the rational arguments) associated with disadopting the current behavior or adopting the replacement behavior. In other words, affect will nudge people away from hedging their bets and toward quitting a behavior cold turkey.

In addition to these two broader areas of inquiry, many additional research questions are worth exploring, including:

1. What other individual characteristics influence both specific disadoption decisions and a more general propensity to disadopt?
2. How do the cognitive and emotional consequences of disadoption vary across individuals and the behaviors or products being disadopted?
3. Which antecedents and/or disadoption aspects determine (best predict) when disadoptions will succeed (i.e., will

actually be permanent)? Are affect- or emotion-based disadoptions more likely to be permanent?
4. What are the long-term or downstream effects of disadoptions? Does one disadoption bolster or deter subsequent disadoptions? What determines which substitutes, if any, are adopted after a disadoption?
5. What leads an individual to intentionally suspend versus disadopt a behavior?
6. How are the reasons for and consequences of disadoption related to those of behavior suspension?
7. What do people do with items or time no longer needed because of a disadoption?
8. How prevalent are unanticipated consequences of disadoption and to what extent does making them salient alter behavior? Alternatively, what are the unanticipated consequences of not disadopting and how does highlighting them influence behavior?
9. Do goal changes lead to disadoption or do disadoptions lead to goal changes or abandonment?

In terms of managerial relevance, the most obvious questions beyond forecasting (Area I above) relate to how to influence disadoption. Two specific aspects of this are:

1. What methods of intervention have the greatest influence on disadoption decisions?
2. How can social media, monetary incentives, and/or social norms be used to either dissuade or encourage disadoption?

Beyond these questions, important issues surround the social consequences (individual and societal) of disadoption as well as the failure to disadopt (e.g., cigarettes, coal as a fuel). Importantly, a core consideration in many public policy decisions is (or at least should be) not just the adoptions it creates but also the disadoptions it generates. Hopefully this paper will spur research in these and other directions.

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Appendix 1 A framework for understanding disadoption

One way to understand how, when, and why consumers consider disadoption is to adapt Rogers' (2003) work on characteristics of adoption. Table 6 summarizes this. Essentially, the relative advantage of other options (including simply not engaging in the behavior), trialability, and communicability (i.e., having a single clear reason for disadopting) encourage disadoption as does an aspect not included in Rogers' typology, disposability. In addition, the greater the residual value, the less likely one is to dispose of, and therefore disadopt, something. On the other hand, incompatibility with current behavior, risk, and complexity of whatever is seen as a replacement for it tend to discourage it. Here, we integrate the characteristics of disadoption discussed in the main text into Rogers' typology as a step toward developing a framework for understanding disadoption and its distinction from adoption. (How Rogers' factors apply to specific disadoptions is examined in appendix 2 Table 7).

The *relative advantages* of current and substitute behaviors will influence the likelihood of disadoption. Cost savings, the potential sale price (of the to-be disadopted product), and improved performance from adopting a better option encourage disadoption, as does the psychological benefit of feeling up to date (or not feeling out of date). More broadly, the relative disadvantage of what is currently done versus other available options drives disadoption. This is the essence of technological substitution and what Packard (1960) called functional obsolescence.

The *ability to try* something or acculturate to it gradually generally increases the likelihood of the adoption of an innovation. Whether this is true for disadoption is less clear. Having to go through multiple steps (i.e., a phased withdrawal) may make disadoption more unappealing if each step is viewed as a separate loss. Hence rather than building momentum, phased disadoption may be more likely to be abandoned. Of course, going "cold turkey" is particularly undesirable for some products, which explains the use of nicotine patches and e-cigarettes. Whether phased or abrupt disadoptions are more effective (i.e., maintained) will vary over the course of the disadoption process. While abrupt disadoptions seem more likely to be abandoned early on, it is unclear which method is more effective in the long-run. However, being unable to "sample" a disadoption will generally inhibit disadoption.

The ability to identify, *observe and communicate* the consequences of a decision are critical to that decision. In the case of disadoption, these relate to both the disadoption itself and, if a preceding/subsequent adoption is involved, the substitute. Disadoption is most likely when the benefits of disadoption (and any linked adoption) are salient and easily communicated and the costs are less clear or hidden (i.e., when it is easy to justify), which is especially relevant for those with a high need for justification. On the other hand, the easier it is to verbalize the costs of disadoption (i.e., counter-arguments), the less likely disadoption will occur. Related to this, a single strong reason (similar to a unique selling proposition) may be more likely to drive (or forestall) disadoption than a number of less compelling ones: That is, the disadoption decision may not be a compensatory process.

While some disadoptions have no consequences in terms of *disposability*, many do. Even selling a stock has a cost (going to a broker or on the internet) not to mention tax consequences. Ceasing to use a tool has an implicit storage cost if it is retained. Disposing of a valued possession is facilitated

when (i) there is a secondary market for it, (ii) the physical and monetary cost of disposal is low (or, better still, if the consumer gains in some way from selling or donating it), and (iii) when the item can be re-purposed in a desirable way (e.g., a ticket given to a friend, clothing or stock donated to charity). More broadly, the easier it is to dispose of things, the more likely they are to be disadopted and disposed of.

How *compatible* a disadoption is with the consumer's current lifestyle directly impacts its likelihood. The cost (effort) of integrating a replacement with other possessions and learning how to use it discourages disadoption of older products and services. In addition, habit (conscious or not) and a network of users of the same product inhibits disadoption as does a variety of psychological considerations (e.g., sunk costs, possession utility, loss aversion, nostalgia/loyalty). By definition, an existing product or behavior is compatible (consistent) with a person's current way of doing things. Inertia, often driven by past successful use (i.e., reinforcement learning and operant conditioning), discourages change, as does nostalgia. Similarly, superstition driven by (possibly false) causal attributions can be a barrier to disadoption. Overestimations of demand for new products are often due to the failure to recognize the reluctance of people to disadopt old patterns of behavior.

Adopting a new product entails several *risks* including financial, performance, psychological, and social. By contrast, with exceptions (e.g., when one must pay to dispose of something), disadoption has less significant direct financial consequences. Similarly, while one is not sure how a new product will operate (performance risk), one is quite sure how an existing one works. The only question is will its performance deteriorate over time and, if so, how fast? The psychological factors involved in disadoption are largely related to risk aversion and include the status quo bias and possession utility. The social risk involved centers on being seen as outdated, the sensitivity to which varies across individuals. Anticipated regret at not continuing something (physical space limits aside) leads to hoarding behavior.

Finally, the more *complex* a current behavior/product/service and the simpler a substitute (including not doing/owning anything), the more likely the disadoption. By contrast, many behaviors/products/services tend to be "sticky" and resistant to disadoption (e.g., many people still have calculators and flip phones). A significant complexity (complication) in many disadoptions involves how to disengage from the old. This may include contract renegotiation or abrogation, as well as issues related to the disposal of old products. These complexities are exacerbated when "finding a good home" for it is important.

While mapping adoption and disadoption is a useful exercise to help understand the latter behavior, there are limitations to the insight that can be gained. As discussed in the main text, there are many motivational, cognitive, and affective differences between disadopting and adopting. Hence, while compatibility, for instance, may be relevant to both processes, how it is relevant is meaningfully different.

Table 6 Disadoption through the Rogers' perspective

Characteristic	Specific Examples of Influence on Disadoption Decision
Relative Advantage	**Economic**: sale price of substitute (+), cost savings (+)
	Functional: better option available (+)
	Psychological: feeling up to date (+)
	Resources: freed up space, time (+)
Divisibility/trialability (+)	
Observability / communicability	**Self-justification (+)**
	Justification to others (+)
Disposability	**Ease** (+)
	Financial, social, and environmental consequences (+/−)
Compatibility	**Economic**: integration costs (−)
	Functional: acculturation/habit (−), network effects (+/−)
	Psychological: sunk cost (−), possession utility (−), loss aversion (−), nostalgia/loyalty (−)
Risk	**Economic**: uncertain repairs (−)
	Functional: performance risk (−)
	Psychological: social pressure – users of current (−) vs. new (+)
Complexity	**Current behavior/product/service** (+)
	Substitute behavior/product/service (−)

+ = positive influence and - = negative influence on likelihood of disadoption

Appendix 2

Table 7 Rogers' typology and specific disadoptions

Specific Disadoption	Relative advantage	Compatibility	Risk	Divisibility	Communicability	Complexity
Bank	More convenient physical (or online) location Better terms/deal More appealing options (e.g., EFT's) Bad service encounter	Moved personnel relation	Identity theft	Move only some accounts	May be hard to justify to current bank personnel	Depends on account type
Good habit (church attending, saving, exercise)	Time, money freed up	Guilt, contrary to habit	Damage to soul and body	Scaling back	Hard to justify to others	Reaction of others
Bad habit (smoking, over eating)	Improved health	Contrary to habit	Withdrawal symptoms	Phased withdrawal	Fairly easy	Withdrawal symptoms
Consumer durable (sneakers, furniture, appliance)	Better model if trade up, simpler life if not	Memories, behavior patterns	Cost, uncertainty about substitute	Generally not an option	Easy if performance has deteriorated	Selecting a replacement
Service (lawn care)	Monetary savings	Requires personal effort, time	Personal injury	Generally not divisible	Only if replaced with good alternative	Adopting an alternative

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